

# Absorption Values



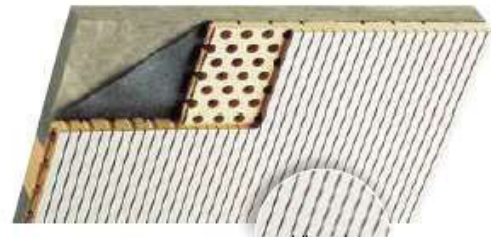
All datas from the brochure 2017 listed according page number of brochure.

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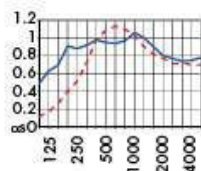
7

Type 8/3 M **NEW!**

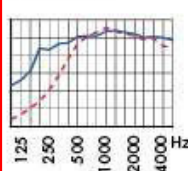
Type 9/2 M



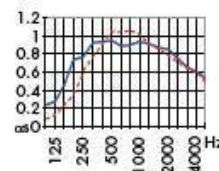
8/3 M-9.5%



8/3 M-19%



9/2 M-6%



Type 8/3+9/2:  
please respect  
10.66mm for  
planification

| $\alpha_w$ | Euro | NRC  |
|------------|------|------|
| 0.85 L     | B    | 0.92 |
| 0.8 M      | B    | 0.85 |

| $\alpha_w$ | Euro | NRC  |
|------------|------|------|
| 1.00       | A    | 1    |
| 0.7 MH     | C    | 0.87 |

| $\alpha_w$ | Euro | NRC  |
|------------|------|------|
| 0.75 L     | C    | 0.82 |
| 0.75 M     | C    | 0.85 |

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EU -Patent No. 0 504 629

US -Patent N o. 5 362 931

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**Sound absorption in accordance with ISO 354: 1985**  
**Rating in acc. with ISO 11654:1997E and NRC acc. ASTM C423 (USA)**

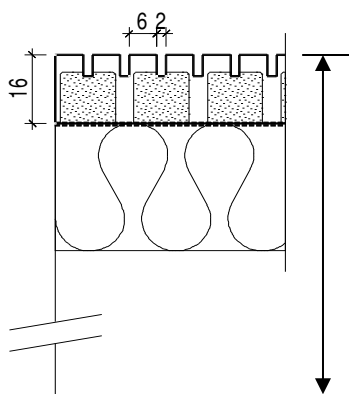
All datas from the brochure 2017 listed according page number of brochure

| Brochure 2017<br>Page | File sheet<br>NH A+D AG | Type        | %         | Absorber     | Suspension<br>height | NRC  | Euro | a <sub>w</sub> |
|-----------------------|-------------------------|-------------|-----------|--------------|----------------------|------|------|----------------|
| 6                     | 2.3.1                   | 6/2 M       | 7%        | MW 30 mm     | 216 mm               | 0.91 | B    | 0.85           |
|                       |                         | 6/2 M       | 7%        | MW 30 mm     | 76 mm                | 0.87 | B    | 0.8 M          |
|                       | 2.3.3                   | 6/2 M       | 7%        | MW 30 mm     | 56 mm                | 0.86 | B    | 0.8 M          |
|                       | 2.3.10                  | 6/2 T       | 30 / 2%   | MW 30 mm     | 56 mm                | 0.62 | D    | 0.4 LM         |
|                       | 2.3.11                  | 6/2 T       | 30 / 2%   | MW 30 mm     | 216 mm               | 0.57 | D    | 0.4 LM         |
| 7                     |                         | 6/2 T       | 30 / 2%   | MW 30 mm     | 76 mm                | 0.61 | D    | 0.35 LM        |
|                       | 2.4.1                   | 9/2 M       | 6%        | MW 30 mm     | 216 mm               | 0.82 | C    | 0.75 L         |
|                       |                         | 9/2 M       | 6%        | MW 30 mm     | 76 mm                | 0.86 | C    | 0.75 M         |
|                       | 2.4.2                   | 9/2 M       | 6%        | MW 30 mm     | 56 mm                | 0.85 | C    | 0.75 M         |
|                       | 1.4.1                   | 8/3 M       | 19%       | MW 30 mm     | 200 mm               | 1.00 | D    | 0.55 LM        |
|                       |                         | 8/3 M       | 19%       | MW 30 mm     | 56 mm                | 0.87 | D    | 0.45 LM        |
| 8                     | 1.4.2                   | 8/3 M       | 9.5%      | MW 30 mm     | 200 mm               | 0.92 | D    | 0.45 LM        |
|                       |                         | 8/3 M       | 9.5%      | MW 30 mm     | 56 mm                | 0.85 | D    | 0.4 LM         |
|                       | 3.9.3                   | 14/2 M      | 7%        | MW 30 mm     | 216 mm               | 0.89 | A    | 0.90           |
|                       |                         | 14/2 M      | 7%        | MW 30 mm     | 76 mm                | 0.86 | B    | 0.85 M         |
|                       | 3.12.1                  | 14/2 M      | 3.5%      | MW 30 mm     | 216 mm               | 0.74 | C    | 0.75 LM        |
| 9                     |                         | 14/2 M      | 3.5%      | MW 30 mm     | 56 mm                | 0.79 | C    | 0.65 LM        |
|                       | 3.6.1                   | 13/3 M      | 12%       | MW 30 mm     | 246 mm               | 0.86 | C    | 0.75 L         |
|                       |                         | 13/3 M      | 12%       | MW 30 mm     | 96 mm                | 0.84 | C    | 0.75 M         |
|                       | 3.6.3                   | 13/3 M      | 12%       | MW 30 mm     | 56 mm                | 0.88 | C    | 0.75 M         |
|                       | 3.7.1                   | 13/3 M      | 6%        | MW 30 mm     | 216 mm               | 0.71 | C    | 0.65 L         |
|                       |                         | 13/3 M      | 6%        | MW 30 mm     | 76 mm                | 0.78 | C    | 0.65 LM        |
|                       | 3.7.2                   | 13/3 M      | 6%        | MW 30 mm     | 56 mm                | 0.76 | C    | 0.6 LM         |
|                       | 3.8.1                   | 13/3 T      | 30 / 3%   | MW 30 mm     | 56 mm                | 0.62 | D    | 0.35 LM        |
|                       | 3.8.2                   | 13/3 T      | 30 / 3%   | MW 30 mm     | 216 mm               | 0.57 | D    | 0.35 LM        |
|                       |                         | 13/3 T      | 30 / 3%   | MW 30 mm     | 76 mm                | 0.62 | D    | 0.35 LM        |
| 10                    | 3.4.1                   | 12/4 M      | 15%       | MW 30 mm     | 246 mm               | 0.89 | B    | 0.8            |
|                       |                         | 12/4 M      | 15%       | MW 30 mm     | 96 mm                | 0.86 | B    | 0.8 M          |
| 11                    | 4.7.1                   | 19/2 M      | 6%        | MW 30 mm     | 216 mm               | 0.82 | B    | 0.85           |
|                       |                         | 19/2 M      | 6%        | MW 30 mm     | 56 mm                | 0.85 | B    | 0.80           |
|                       | 4.8.1                   | 28/4 M      | 7.5%      | MW 30 mm     | 216 mm               | 0.78 | D    | 0.55 LM        |
|                       |                         | 28/4 M      | 7.5%      | MW 30 mm     | 46 mm                | 0.72 | D    | 0.55 M         |
|                       | 4.8.3                   | 28/4 M      | 3.8%      | MW 30 mm     | 216 mm               | 0.63 | D    | 0.5 LM         |
|                       |                         | 28/4 M      | 3.8%      | MW 30 mm     | 76 mm                | 0.69 | D    | 0.5 LM         |
|                       | 4.9.1                   | 28/4 T      | 15 / 1.4% | MW 30 mm     | 56 mm                | 0.47 | E    | 0.25 LM        |
|                       | 4.9.2                   | 28/4 T      | 15 / 1.4% | MW 30 mm     | 216 mm               | 0.41 | E    | 0.25 LM        |
|                       |                         | 28/4 T      | 15 / 1.4% | MW 30 mm     | 76 mm                | 0.47 | E    | 0.2 LM         |
|                       | 4.11.1                  | 29/3 M      | 5.9%      | MW 30 mm     | 216 mm               | 0.73 | C    | 0.65 L         |
|                       |                         | 29/3 M      | 5.9%      | MW 30 mm     | 76 mm                | 0.78 | C    | 0.6 LM         |
|                       | 4.11.2                  | 29/3 M      | 5.9%      | MW 30 mm     | 56 mm                | 0.76 | C    | 0.6 LM         |
| 14                    | 4.12.1                  | 30/2 M      | 3.5%      | MW 30 mm     | 216 mm               | 0.68 | D    | 0.55 LM        |
|                       |                         | 30/2 M      | 3.5%      | MW 30 mm     | 76 mm                | 0.73 | D    | 0.5 LM         |
|                       | 4.12.2                  | 30/2 M      | 3.5%      | MW 30 mm     | 56 mm                | 0.72 | D    | 0.5 LM         |
|                       | 4.11.10                 | Caro 29/3M  | 10.5%     | MW 30 mm     | 216 mm               | 0.84 | B    | 0.85           |
|                       |                         | Caro 29/3M  | 10.5%     | MW 30 mm     | 76 mm                | 0.86 | B    | 0.8 M          |
|                       | 4.11.11                 | Caro 29/3M  | 10.5%     | MW 30 mm     | 56 mm                | 0.85 | B    | 0.8 M          |
|                       | 4.4.1                   | 9/2 HR      | 6%        | MW 30 mm     | 216 mm               | 0.82 | C    | 0.75 L         |
|                       |                         | 9/2 HR      | 6%        | MW 30 mm     | 76 mm                | 0.86 | C    | 0.75 M         |
| 16                    | 4.4.2                   | 9/2 HR      | 6%        | MW 30 mm     | 56 mm                | 0.85 | C    | 0.75 M         |
|                       | 4.15.1                  | 61/3 M      | 3.0%      | MW 30 mm     | 226 mm               | 0.49 | D    | 0.50 L         |
|                       |                         | 61/3 M      | 3.0%      | MW 30 mm     | 66 mm                | 0.51 | D    | 0.45 L         |
|                       | 4.16.1                  | 93/3 M      | 2.0%      | MW 30 mm     | 226 mm               | 0.38 | D    | 0.35 L         |
|                       |                         | 93/3 M      | 2.0%      | MW 30 mm     | 66 mm                | 0.39 | D    | 0.35 L         |
|                       | 3.4.1                   | 12/4 M Aria | 15%       | MW 30 mm     | 246 mm               | 0.89 | B    | 0.8            |
| 19                    |                         | 12/4 M Aria | 15%       | MW 30 mm     | 96 mm                | 0.86 | B    | 0.8 M          |
|                       | 4.8.1                   | 28/4 M Aria | 7.5%      | MW 30 mm     | 216 mm               | 0.78 | D    | 0.55 LM        |
|                       |                         | 28/4 M Aria | 7.5%      | MW 30 mm     | 46 mm                | 0.72 | D    | 0.55 M         |
|                       | 4.8.3                   | 28/4 M Aria | 3.8%      | MW 30 mm     | 216 mm               | 0.63 | D    | 0.5 LM         |
|                       |                         | 28/4 M Aria | 3.8%      | MW 30 mm     | 76 mm                | 0.69 | D    | 0.5 LM         |
| 19                    | 3.5.1                   | 12/4 M      | 12.0%     | Sasmox/Resap | 216 mm               | 0.85 | A    | 0.9            |
|                       |                         | 12/4 M      | 12.0%     | Sasmox/Resap | 56 mm                | 0.86 | B    | 0.85           |
|                       | 3.6.5                   | 13/3 M      | 9.0%      | Sasmox/Resap | 58mm                 | 0.83 | C    | 0.75 M         |
|                       |                         | 13/3 M      | 9.0%      | Sasmox/Resap | 218mm                | 0.81 | C    | 0.75 L         |

**Acoustical Absorption Coefficient according to ISO 354**

Object: TOPAKUSTIK® wall- and ceiling panelling  
Type TOPAKUSTIK® **6/2 M 7%**

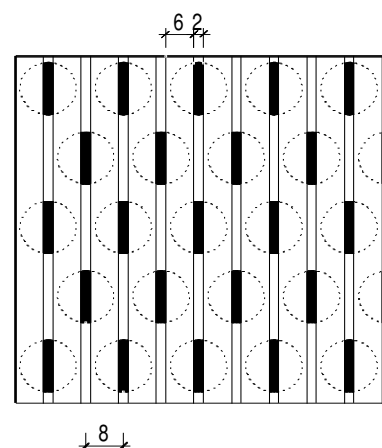
Research: Laboratory: SWISSCOM AG 03.02.2004  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 29.8%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 19.9 degrees



TOPAKUSTIK® 6/2 M  
Acoustic fleece

Mineral wool 30 mm

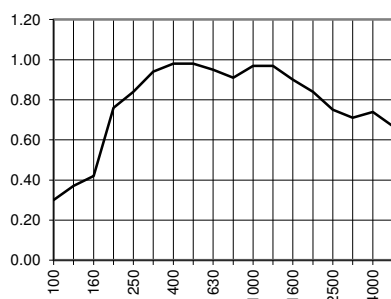
**Suspension heights:**  
**216/76 mm**  
Cavity 170 / 30 mm

**Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz): 0.61  
Medium frequency range: (400-1250 Hz): 0.96  
High frequency range: (1600-5000 Hz): 0.77

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.30 |
| 125  | 0.37 |
| 160  | 0.42 |
| 200  | 0.76 |
| 250  | 0.84 |
| 315  | 0.94 |
| 400  | 0.98 |
| 500  | 0.98 |
| 630  | 0.95 |
| 800  | 0.91 |
| 1000 | 0.97 |
| 1250 | 0.97 |
| 1600 | 0.90 |
| 2000 | 0.84 |
| 2500 | 0.75 |
| 3150 | 0.71 |
| 4000 | 0.74 |
| 5000 | 0.67 |

**Suspension height 216 mm**

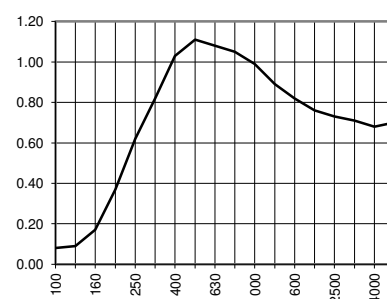
**EN B**  
**a<sub>w</sub> 0.85**  
**NRC 0.91**

**Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz): 0.36  
Medium frequency range: (400-1250 Hz): 1.03  
High frequency range: (1600-5000 Hz): 0.73

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.08 |
| 125  | 0.09 |
| 160  | 0.17 |
| 200  | 0.37 |
| 250  | 0.62 |
| 315  | 0.82 |
| 400  | 1.03 |
| 500  | 1.11 |
| 630  | 1.08 |
| 800  | 1.05 |
| 1000 | 0.99 |
| 1250 | 0.89 |
| 1600 | 0.82 |
| 2000 | 0.76 |
| 2500 | 0.73 |
| 3150 | 0.71 |
| 4000 | 0.68 |
| 5000 | 0.70 |

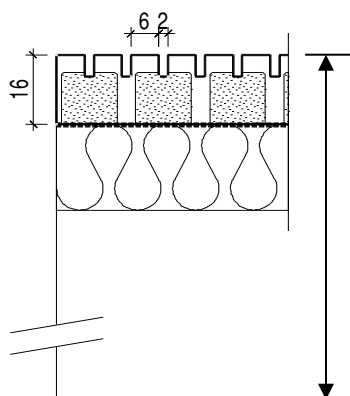
**Suspension height 76 mm**

**EN B**  
**a<sub>w</sub> 0.8 M**  
**NRC 0.87**

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPAKUSTIK® Wand- und Deckenverkleidung  
Typ TOPAKUSTIK® 6/2 M 7%

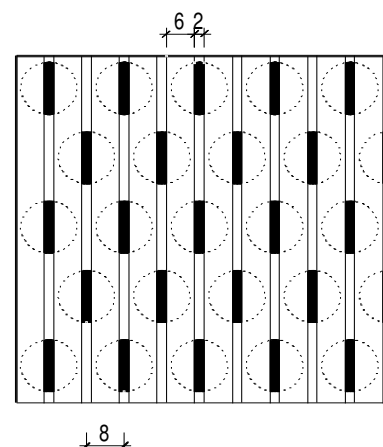
Research: Laboratory: SWISSCOM AG 03.02.2004  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 29.2%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 19.4 degrees



TOPAKUSTIK® 6/2 M  
Acoustic fleece

Mineral wool 30 mm

**Suspension height:**  
**56 mm**  
Cavity 10 mm

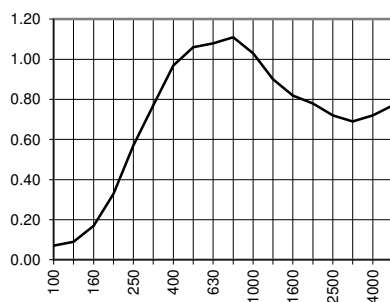


## Acoustical Absorption - Medium values

Low frequency range (100-315 Hz): 0.33  
Medium frequency range (400-1250 Hz): 1.03  
High frequency range (1600-5000 Hz): 0.75

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.07 |
| 125  | 0.09 |
| 160  | 0.17 |
| 200  | 0.33 |
| 250  | 0.57 |
| 315  | 0.77 |
| 400  | 0.97 |
| 500  | 1.06 |
| 630  | 1.08 |
| 800  | 1.11 |
| 1000 | 1.03 |
| 1250 | 0.90 |
| 1600 | 0.82 |
| 2000 | 0.78 |
| 2500 | 0.72 |
| 3150 | 0.69 |
| 4000 | 0.72 |
| 5000 | 0.77 |

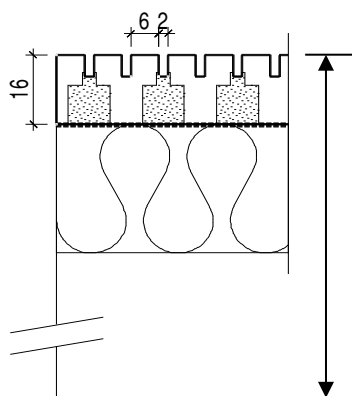
**Suspension height 56 mm**

**EN B**  
**a<sub>w</sub> 0.8 M**  
**NRC 0.86**

## Acoustical Absorption Coefficient according to ISO 354

Objet: TOPAKUSTIK® wall- and ceiling panelling  
Type TOPAKUSTIK® 6/2 T

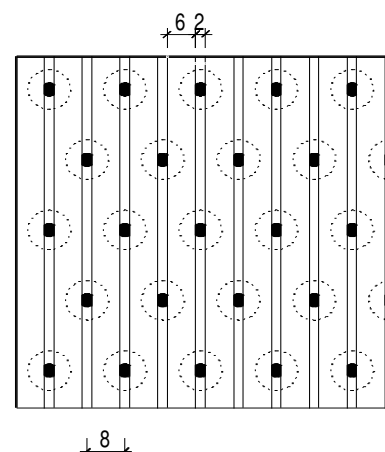
Research: Laboratory: SWISSCOM AG 11.08.2000  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 57%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 19 degrees



TOPAKUSTIK® 6/2 T  
Acoustic fleece

Mineral wool 30 mm

**Suspension height:**  
**56 mm**  
Cavity 10 mm



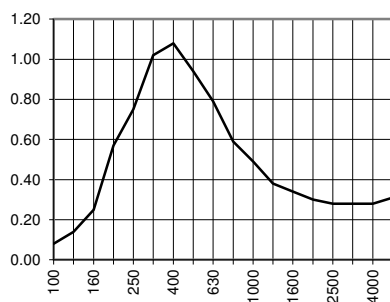
## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.47  
Medium frequency range: (400-1250 Hz): 0.71  
High frequency range: (1600-5000 Hz): 0.30

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.08 |
| 125  | 0.14 |
| 160  | 0.25 |
| 200  | 0.57 |
| 250  | 0.75 |
| 315  | 1.02 |
| 400  | 1.08 |
| 500  | 0.94 |
| 630  | 0.79 |
| 800  | 0.59 |
| 1000 | 0.49 |
| 1250 | 0.38 |
| 1600 | 0.34 |
| 2000 | 0.30 |
| 2500 | 0.28 |
| 3150 | 0.28 |
| 4000 | 0.28 |
| 5000 | 0.31 |

**Suspension height 56 mm**

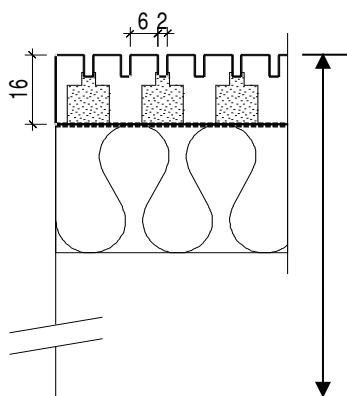


**EN D**  
**a<sub>w</sub>** 0.4 LM  
**NRC** 0.62

## Acoustical Absorption Coefficient according to ISO 354

Objet: TOPAKUSTIK® wall- and ceiling panelling  
Type TOPAKUSTIK® 6/2 T

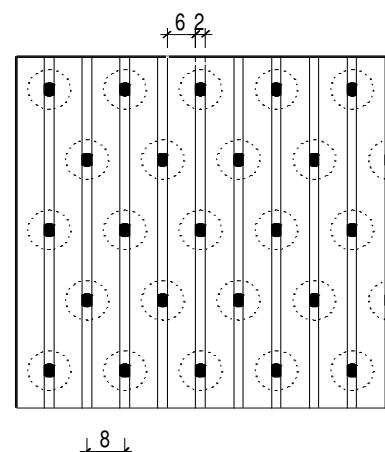
Research: Laboratory: SWISSCOM AG 11.08.2000  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 58%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 19 degrees



TOPAKUSTIK® 6/2 T  
Acoustic fleece

Mineral wool 30 mm

**Suspension heights:**  
**216/76 mm**  
Cavity 170/30 mm



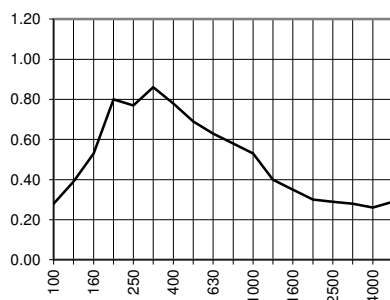
## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.61  
Medium frequency range: (400-1250 Hz): 0.60  
High frequency range: (1600-5000 Hz): 0.30

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.28 |
| 125  | 0.39 |
| 160  | 0.53 |
| 200  | 0.80 |
| 250  | 0.77 |
| 315  | 0.86 |
| 400  | 0.78 |
| 500  | 0.69 |
| 630  | 0.63 |
| 800  | 0.58 |
| 1000 | 0.53 |
| 1250 | 0.40 |
| 1600 | 0.35 |
| 2000 | 0.30 |
| 2500 | 0.29 |
| 3150 | 0.28 |
| 4000 | 0.26 |
| 5000 | 0.29 |

## Suspension height 216 mm



**EN D**  
**a<sub>w</sub> 0.4 LM**  
**NRC 0.57**

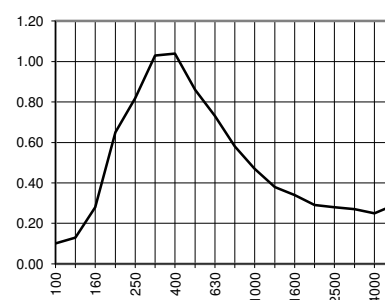
## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.50  
Medium frequency range: (400-1250 Hz): 0.68  
High frequency range: (1600-5000 Hz): 0.29

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.10 |
| 125  | 0.13 |
| 160  | 0.28 |
| 200  | 0.65 |
| 250  | 0.82 |
| 315  | 1.03 |
| 400  | 1.04 |
| 500  | 0.86 |
| 630  | 0.73 |
| 800  | 0.58 |
| 1000 | 0.47 |
| 1250 | 0.38 |
| 1600 | 0.34 |
| 2000 | 0.29 |
| 2500 | 0.28 |
| 3150 | 0.27 |
| 4000 | 0.25 |
| 5000 | 0.29 |

## Suspension height 76 mm



**EN D**  
**a<sub>w</sub> 0.35 LM**  
**NRC 0.61**

**Sound absorption in accordance with ISO 354: 1985**  
**Rating in acc. with ISO 11654:1997E and NRC acc. ASTM C423 (USA)**

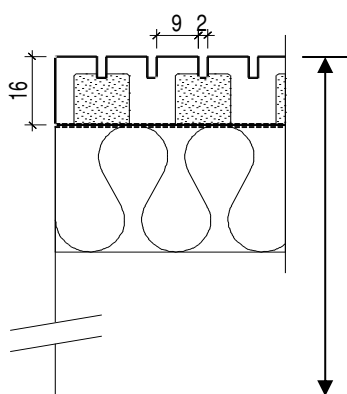
All datas from the brochure 2017 listed according page number of brochure

| Brochure 2017<br>Page | File sheet<br>NH A+D AG | Type        | %         | Absorber     | Suspension<br>height | NRC  | Euro    | a <sub>w</sub> |
|-----------------------|-------------------------|-------------|-----------|--------------|----------------------|------|---------|----------------|
| TOPAKUSTIK®           |                         |             |           |              |                      |      |         |                |
| 6                     | 2.3.1                   | 6/2 M       | 7%        | MW 30 mm     | 216 mm               | 0.91 | B       | 0.85           |
|                       |                         | 6/2 M       | 7%        | MW 30 mm     | 76 mm                | 0.87 | B       | 0.8 M          |
|                       | 2.3.3                   | 6/2 M       | 7%        | MW 30 mm     | 56 mm                | 0.86 | B       | 0.8 M          |
|                       | 2.3.10                  | 6/2 T       | 30 / 2%   | MW 30 mm     | 56 mm                | 0.62 | D       | 0.4 LM         |
|                       | 2.3.11                  | 6/2 T       | 30 / 2%   | MW 30 mm     | 216 mm               | 0.57 | D       | 0.4 LM         |
|                       |                         | 6/2 T       | 30 / 2%   | MW 30 mm     | 76 mm                | 0.61 | D       | 0.35 LM        |
| 7                     | 2.4.1                   | 9/2 M       | 6%        | MW 30 mm     | 216 mm               | 0.82 | C       | 0.75 L         |
|                       |                         | 9/2 M       | 6%        | MW 30 mm     | 76 mm                | 0.86 | C       | 0.75 M         |
|                       | 2.4.2                   | 9/2 M       | 6%        | MW 30 mm     | 56 mm                | 0.85 | C       | 0.75 M         |
|                       | 1.4.1                   | 8/3 M       | 19%       | MW 30 mm     | 200 mm               | 1.00 | D       | 0.55 LM        |
|                       |                         | 8/3 M       | 19%       | MW 30 mm     | 56 mm                | 0.87 | D       | 0.45 LM        |
|                       | 1.4.2                   | 8/3 M       | 9.5%      | MW 30 mm     | 200 mm               | 0.92 | D       | 0.45 LM        |
| 8/3 M                 |                         | 9.5%        | MW 30 mm  | 56 mm        | 0.85                 | D    | 0.4 LM  |                |
| 8                     | 3.9.3                   | 14/2 M      | 7%        | MW 30 mm     | 216 mm               | 0.89 | A       | 0.90           |
|                       |                         | 14/2 M      | 7%        | MW 30 mm     | 76 mm                | 0.86 | B       | 0.85 M         |
|                       | 3.12.1                  | 14/2 M      | 3.5%      | MW 30 mm     | 216 mm               | 0.74 | C       | 0.75 LM        |
|                       |                         | 14/2 M      | 3.5%      | MW 30 mm     | 56 mm                | 0.79 | C       | 0.65 LM        |
| 9                     | 3.6.1                   | 13/3 M      | 12%       | MW 30 mm     | 246 mm               | 0.86 | C       | 0.75 L         |
|                       |                         | 13/3 M      | 12%       | MW 30 mm     | 96 mm                | 0.84 | C       | 0.75 M         |
|                       | 3.6.3                   | 13/3 M      | 12%       | MW 30 mm     | 56 mm                | 0.88 | C       | 0.75 M         |
|                       | 3.7.1                   | 13/3 M      | 6%        | MW 30 mm     | 216 mm               | 0.71 | C       | 0.65 L         |
|                       |                         | 13/3 M      | 6%        | MW 30 mm     | 76 mm                | 0.78 | C       | 0.65 LM        |
|                       | 3.7.2                   | 13/3 M      | 6%        | MW 30 mm     | 56 mm                | 0.76 | C       | 0.6 LM         |
|                       | 3.8.1                   | 13/3 T      | 30 / 3%   | MW 30 mm     | 56 mm                | 0.62 | D       | 0.35 LM        |
|                       | 3.8.2                   | 13/3 T      | 30 / 3%   | MW 30 mm     | 216 mm               | 0.57 | D       | 0.35 LM        |
|                       |                         | 13/3 T      | 30 / 3%   | MW 30 mm     | 76 mm                | 0.62 | D       | 0.35 LM        |
|                       | 3.4.1                   | 12/4 M      | 15%       | MW 30 mm     | 246 mm               | 0.89 | B       | 0.8            |
| 12/4 M                |                         | 15%         | MW 30 mm  | 96 mm        | 0.86                 | B    | 0.8 M   |                |
| 10                    | 4.7.1                   | 19/2 M      | 6%        | MW 30 mm     | 216 mm               | 0.82 | B       | 0.85           |
|                       |                         | 19/2 M      | 6%        | MW 30 mm     | 56 mm                | 0.85 | B       | 0.80           |
| 11                    | 4.8.1                   | 28/4 M      | 7.5%      | MW 30 mm     | 216 mm               | 0.78 | D       | 0.55 LM        |
|                       |                         | 28/4 M      | 7.5%      | MW 30 mm     | 46 mm                | 0.72 | D       | 0.55 M         |
|                       | 4.8.3                   | 28/4 M      | 3.8%      | MW 30 mm     | 216 mm               | 0.63 | D       | 0.5 LM         |
|                       |                         | 28/4 M      | 3.8%      | MW 30 mm     | 76 mm                | 0.69 | D       | 0.5 LM         |
|                       | 4.9.1                   | 28/4 T      | 15 / 1.4% | MW 30 mm     | 56 mm                | 0.47 | E       | 0.25 LM        |
|                       |                         | 28/4 T      | 15 / 1.4% | MW 30 mm     | 216 mm               | 0.41 | E       | 0.25 LM        |
|                       | 4.9.2                   | 28/4 T      | 15 / 1.4% | MW 30 mm     | 76 mm                | 0.47 | E       | 0.2 LM         |
|                       |                         | 29/3 M      | 5.9%      | MW 30 mm     | 216 mm               | 0.73 | C       | 0.65 L         |
|                       | 4.11.1                  | 29/3 M      | 5.9%      | MW 30 mm     | 76 mm                | 0.78 | C       | 0.6 LM         |
|                       |                         | 29/3 M      | 5.9%      | MW 30 mm     | 56 mm                | 0.76 | C       | 0.6 LM         |
| 4.12.1                | 30/2 M                  | 3.5%        | MW 30 mm  | 216 mm       | 0.68                 | D    | 0.55 LM |                |
|                       | 30/2 M                  | 3.5%        | MW 30 mm  | 76 mm        | 0.73                 | D    | 0.5 LM  |                |
|                       | 30/2 M                  | 3.5%        | MW 30 mm  | 56 mm        | 0.72                 | D    | 0.5 LM  |                |
| 14                    | 4.11.10                 | Caro 29/3M  | 10.5%     | MW 30 mm     | 216 mm               | 0.84 | B       | 0.85           |
|                       |                         | Caro 29/3M  | 10.5%     | MW 30 mm     | 76 mm                | 0.86 | B       | 0.8 M          |
|                       | 4.11.11                 | Caro 29/3M  | 10.5%     | MW 30 mm     | 56 mm                | 0.85 | B       | 0.8 M          |
|                       |                         | 9/2 HR      | 6%        | MW 30 mm     | 216 mm               | 0.82 | C       | 0.75 L         |
|                       | 4.4.1                   | 9/2 HR      | 6%        | MW 30 mm     | 76 mm                | 0.86 | C       | 0.75 M         |
|                       |                         | 9/2 HR      | 6%        | MW 30 mm     | 56 mm                | 0.85 | C       | 0.75 M         |
|                       | 4.15.1                  | 61/3 M      | 3.0%      | MW 30 mm     | 226 mm               | 0.49 | D       | 0.50 L         |
|                       |                         | 61/3 M      | 3.0%      | MW 30 mm     | 66 mm                | 0.51 | D       | 0.45 L         |
| 4.16.1                | 93/3 M                  | 2.0%        | MW 30 mm  | 226 mm       | 0.38                 | D    | 0.35 L  |                |
|                       | 93/3 M                  | 2.0%        | MW 30 mm  | 66 mm        | 0.39                 | D    | 0.35 L  |                |
| 16                    | 3.4.1                   | 12/4 M Aria | 15%       | MW 30 mm     | 246 mm               | 0.89 | B       | 0.8            |
|                       |                         | 12/4 M Aria | 15%       | MW 30 mm     | 96 mm                | 0.86 | B       | 0.8 M          |
|                       | 4.8.1                   | 28/4 M Aria | 7.5%      | MW 30 mm     | 216 mm               | 0.78 | D       | 0.55 LM        |
|                       |                         | 28/4 M Aria | 7.5%      | MW 30 mm     | 46 mm                | 0.72 | D       | 0.55 M         |
|                       | 4.8.3                   | 28/4 M Aria | 3.8%      | MW 30 mm     | 216 mm               | 0.63 | D       | 0.5 LM         |
| 28/4 M Aria           |                         | 3.8%        | MW 30 mm  | 76 mm        | 0.69                 | D    | 0.5 LM  |                |
| 19                    | 3.5.1                   | 12/4 M      | 12.0%     | Sasmox/Resap | 216 mm               | 0.85 | A       | 0.9            |
|                       |                         | 12/4 M      | 12.0%     | Sasmox/Resap | 56 mm                | 0.86 | B       | 0.85           |
|                       | 3.6.5                   | 13/3 M      | 9.0%      | Sasmox/Resap | 58mm                 | 0.83 | C       | 0.75 M         |
|                       |                         | 13/3 M      | 9.0%      | Sasmox/Resap | 218mm                | 0.81 | C       | 0.75 L         |

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPAKUSTIK® wall- and ceiling panelling  
Type TOPAKUSTIK® 9/2 M 6%

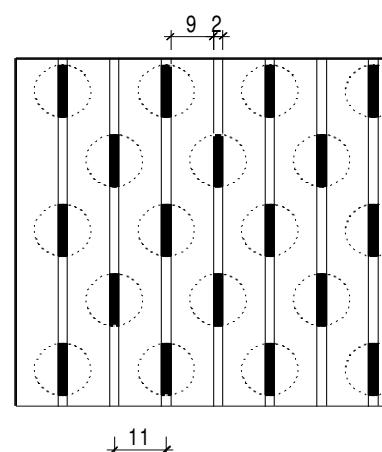
Research: Laboratory: SWISSCOM AG 03.05.1999  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 55%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 20 degrees



TOPAKUSTIK® 9/2 M  
Acoustic fleece

Mineral wool 30 mm

**Suspension heights:**  
**216/76 mm**  
Cavity 170/30 mm



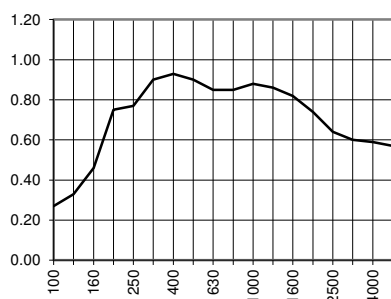
## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.58  
Medium frequency range: (400-1250 Hz): 0.88  
High frequency range: (1600-5000 Hz): 0.66

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.27 |
| 125  | 0.33 |
| 160  | 0.46 |
| 200  | 0.75 |
| 250  | 0.77 |
| 315  | 0.90 |
| 400  | 0.93 |
| 500  | 0.90 |
| 630  | 0.85 |
| 800  | 0.85 |
| 1000 | 0.88 |
| 1250 | 0.86 |
| 1600 | 0.82 |
| 2000 | 0.74 |
| 2500 | 0.64 |
| 3150 | 0.60 |
| 4000 | 0.59 |
| 5000 | 0.57 |

## Suspension height 216 mm



**EN C**  
**a<sub>w</sub> 0.75 L**  
**NRC 0.82**

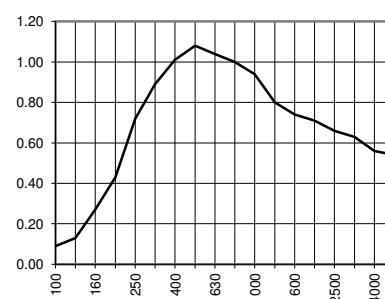
## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.42  
Medium frequency range: (400-1250 Hz): 0.98  
High frequency range: (1600-5000 Hz): 0.64

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.09 |
| 125  | 0.13 |
| 160  | 0.27 |
| 200  | 0.43 |
| 250  | 0.72 |
| 315  | 0.89 |
| 400  | 1.01 |
| 500  | 1.08 |
| 630  | 1.04 |
| 800  | 1.00 |
| 1000 | 0.94 |
| 1250 | 0.80 |
| 1600 | 0.74 |
| 2000 | 0.71 |
| 2500 | 0.66 |
| 3150 | 0.63 |
| 4000 | 0.56 |
| 5000 | 0.54 |

## Suspension height 76 mm

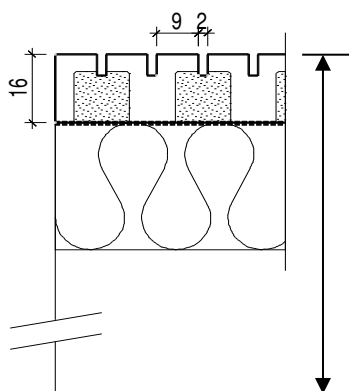


**EN C**  
**a<sub>w</sub> 0.75 M**  
**NRC 0.86**

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPAKUSTIK® wall- and ceiling panelling  
Type TOPAKUSTIK® 9/2 M 6%

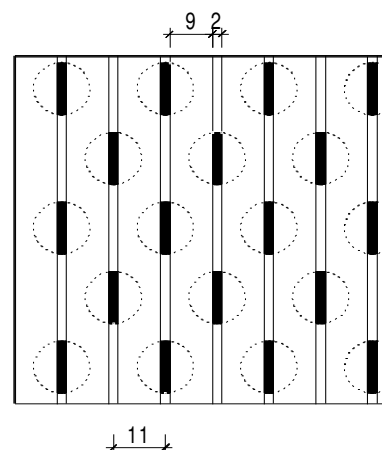
Research: Laboratory: SWISSCOM AG 03.05.1999  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 55%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 20 degrees



TOPAKUSTIK® 9/2 M  
Acoustic fleece

Mineral wool 30 mm

**Suspension height:**  
**56 mm**  
Cavity 10 mm



## Acoustical Absorption - Medium values

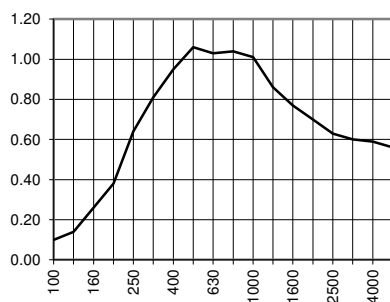
Low frequency range: (100-315 Hz): 0.39  
Medium frequency range: (400-1250 Hz): 0.99  
High frequency range: (1600-5000 Hz): 0.64

Freq.

[Hz] Terz

|      |      |
|------|------|
| 100  | 0.10 |
| 125  | 0.14 |
| 160  | 0.26 |
| 200  | 0.38 |
| 250  | 0.64 |
| 315  | 0.81 |
| 400  | 0.95 |
| 500  | 1.06 |
| 630  | 1.03 |
| 800  | 1.04 |
| 1000 | 1.01 |
| 1250 | 0.86 |
| 1600 | 0.77 |
| 2000 | 0.70 |
| 2500 | 0.63 |
| 3150 | 0.60 |
| 4000 | 0.59 |
| 5000 | 0.56 |

## Suspension height 56 mm

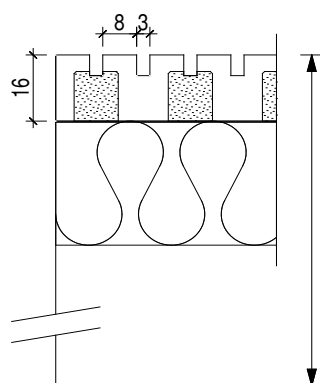


**EN C**  
**a<sub>w</sub> 0.75 M**  
**NRC 0.85**

Acoustical Absorption Coefficient according to ISO 354

Object: TOPAKUSTIK® wall- and ceiling panelling  
 Type TOPAKUSTIK® 8/3 M **19.0%**

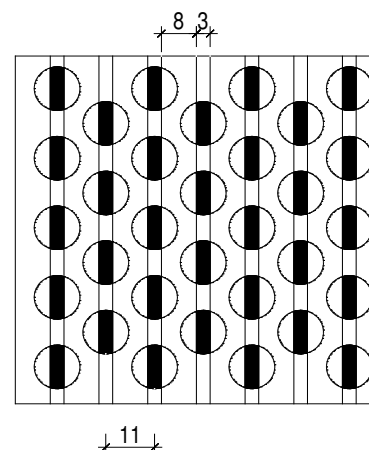
Research: Laboratory: ITA, Germany 22.01.2014  
 Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 46%  
 Echo space volume: 217.5 m<sup>3</sup> Temperature: 20 degrees



**TOPAKUSTIK® 8/3 M**  
 Acoustic fleece SP 60

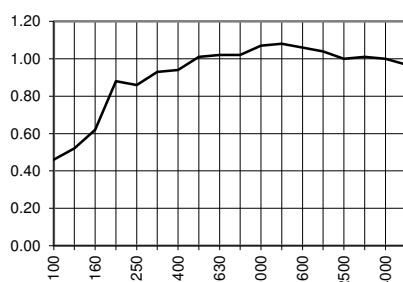
Mineral wool Flumroc Type 3  
 30 mm - 60 kg/m<sup>3</sup>

**Suspension heights: 200/56 mm**  
 Cavity 154/10 mm

**Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz): 0.71  
 Medium frequency range: (400-1250 Hz): 1.02  
 High frequency range: (1600-5000 Hz): 1.01

| Freq. |      |
|-------|------|
| [Hz]  | Terz |
| 100   | 0.46 |
| 125   | 0.52 |
| 160   | 0.62 |
| 200   | 0.88 |
| 250   | 0.86 |
| 315   | 0.93 |
| 400   | 0.94 |
| 500   | 1.01 |
| 630   | 1.02 |
| 800   | 1.02 |
| 1000  | 1.07 |
| 1250  | 1.08 |
| 1600  | 1.06 |
| 2000  | 1.04 |
| 2500  | 1.00 |
| 3150  | 1.01 |
| 4000  | 1.00 |
| 5000  | 0.97 |

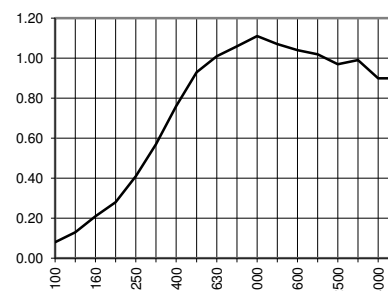
**Suspension height 200 mm**

**EN A**  
**a<sub>w</sub> 1.00**  
**NRC 1.00**

**Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz): 0.28  
 Medium frequency range: (400-1250 Hz): 0.99  
 High frequency range: (1600-5000 Hz): 0.97

| Freq. |      |
|-------|------|
| [Hz]  | Terz |
| 100   | 0.08 |
| 125   | 0.13 |
| 160   | 0.21 |
| 200   | 0.28 |
| 250   | 0.41 |
| 315   | 0.57 |
| 400   | 0.76 |
| 500   | 0.93 |
| 630   | 1.01 |
| 800   | 1.06 |
| 1000  | 1.11 |
| 1250  | 1.07 |
| 1600  | 1.04 |
| 2000  | 1.02 |
| 2500  | 0.97 |
| 3150  | 0.99 |
| 4000  | 0.90 |
| 5000  | 0.90 |

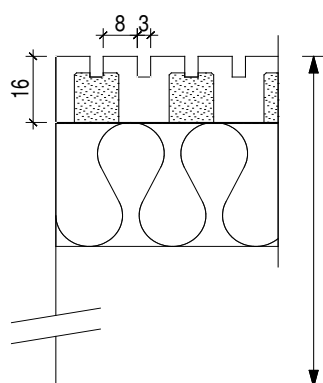
**Suspension height 56 mm**

**EN C**  
**a<sub>w</sub> 0.70 (MH)**  
**NRC 0.85**

Acoustical Absorption Coefficient according to ISO 354

Object: TOPAKUSTIK® wall- and ceiling panelling  
 Type TOPAKUSTIK® 8/3 M 9.5%

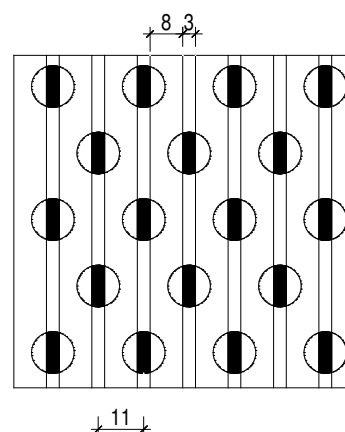
Research: Laboratory: ITA, Germany 22.01.2014  
 Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 46%  
 Echo space volume: 217.5 m<sup>3</sup> Temperature: 20 degrees



TOPAKUSTIK® 8/3 M  
 Acoustic fleece SP 60

Mineral wool Flumroc type 3  
 30 mm - 60 kg/m<sup>3</sup>

**Suspension heights: 200/56 mm**  
 Cavity 154/10 mm

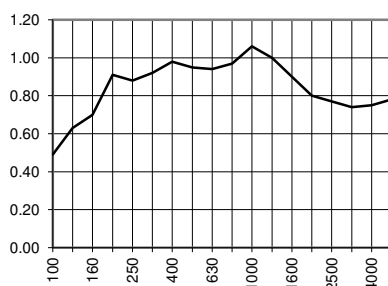


## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.76  
 Medium frequency range: (400-1250 Hz): 0.98  
 High frequency range: (1600-5000 Hz): 0.79

| Freq. |      |
|-------|------|
| [Hz]  | Terz |
| 100   | 0.49 |
| 125   | 0.63 |
| 160   | 0.70 |
| 200   | 0.91 |
| 250   | 0.88 |
| 315   | 0.92 |
| 400   | 0.98 |
| 500   | 0.95 |
| 630   | 0.94 |
| 800   | 0.97 |
| 1000  | 1.06 |
| 1250  | 1.00 |
| 1600  | 0.90 |
| 2000  | 0.80 |
| 2500  | 0.77 |
| 3150  | 0.74 |
| 4000  | 0.75 |
| 5000  | 0.78 |

## Suspension heights 200 mm



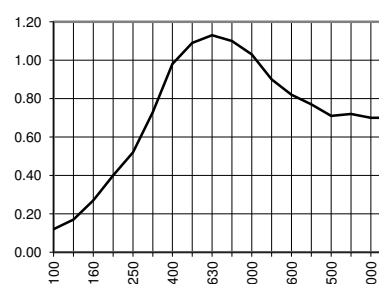
EN B  
 a<sub>w</sub> 0.85 (L)  
 NRC 0.90

## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.37  
 Medium frequency range: (400-1250 Hz): 1.04  
 High frequency range: (1600-5000 Hz): 0.74

| Freq. |      |
|-------|------|
| [Hz]  | Terz |
| 100   | 0.12 |
| 125   | 0.17 |
| 160   | 0.27 |
| 200   | 0.40 |
| 250   | 0.52 |
| 315   | 0.73 |
| 400   | 0.98 |
| 500   | 1.09 |
| 630   | 1.13 |
| 800   | 1.10 |
| 1000  | 1.03 |
| 1250  | 0.90 |
| 1600  | 0.82 |
| 2000  | 0.77 |
| 2500  | 0.71 |
| 3150  | 0.72 |
| 4000  | 0.70 |
| 5000  | 0.70 |

## Suspension heights 56 mm



EN B  
 a<sub>w</sub> 0.80 (M)  
 NRC 0.85

**Sound absorption in accordance with ISO 354: 1985**  
**Rating in acc. with ISO 11654:1997E and NRC acc. ASTM C423 (USA)**

All datas from the brochure 2017 listed according page number of brochure

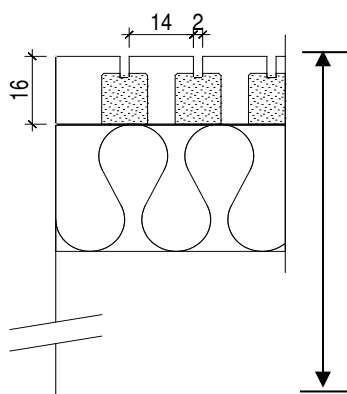
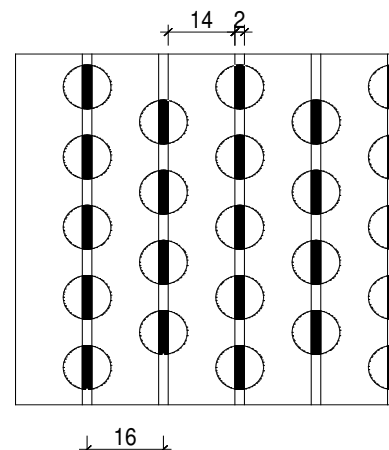
| Brochure 2017<br>Page | File sheet<br>NH A+D AG | Type        | %         | Absorber     | Suspension<br>height | NRC  | Euro    | a <sub>w</sub> |
|-----------------------|-------------------------|-------------|-----------|--------------|----------------------|------|---------|----------------|
| TOPAKUSTIK®           |                         |             |           |              |                      |      |         |                |
| 6                     | 2.3.1                   | 6/2 M       | 7%        | MW 30 mm     | 216 mm               | 0.91 | B       | 0.85           |
|                       |                         | 6/2 M       | 7%        | MW 30 mm     | 76 mm                | 0.87 | B       | 0.8 M          |
|                       | 2.3.3                   | 6/2 M       | 7%        | MW 30 mm     | 56 mm                | 0.86 | B       | 0.8 M          |
|                       | 2.3.10                  | 6/2 T       | 30 / 2%   | MW 30 mm     | 56 mm                | 0.62 | D       | 0.4 LM         |
|                       |                         | 6/2 T       | 30 / 2%   | MW 30 mm     | 216 mm               | 0.57 | D       | 0.4 LM         |
| 7                     | 2.4.1                   | 9/2 M       | 6%        | MW 30 mm     | 216 mm               | 0.82 | C       | 0.75 L         |
|                       |                         | 9/2 M       | 6%        | MW 30 mm     | 76 mm                | 0.86 | C       | 0.75 M         |
|                       | 2.4.2                   | 9/2 M       | 6%        | MW 30 mm     | 56 mm                | 0.85 | C       | 0.75 M         |
|                       |                         | 8/3 M       | 19%       | MW 30 mm     | 200 mm               | 1.00 | D       | 0.55 LM        |
|                       | 1.4.1                   | 8/3 M       | 19%       | MW 30 mm     | 56 mm                | 0.87 | D       | 0.45 LM        |
| 1.4.2                 |                         | 8/3 M       | 9.5%      | MW 30 mm     | 200 mm               | 0.92 | D       | 0.45 LM        |
|                       |                         | 8/3 M       | 9.5%      | MW 30 mm     | 56 mm                | 0.85 | D       | 0.4 LM         |
| 8                     | 3.9.3                   | 14/2 M      | 7%        | MW 30 mm     | 216 mm               | 0.89 | A       | 0.90           |
|                       |                         | 14/2 M      | 7%        | MW 30 mm     | 76 mm                | 0.86 | B       | 0.85 M         |
|                       | 3.12.1                  | 14/2 M      | 3.5%      | MW 30 mm     | 216 mm               | 0.74 | C       | 0.75 LM        |
|                       |                         | 14/2 M      | 3.5%      | MW 30 mm     | 56 mm                | 0.79 | C       | 0.65 LM        |
| 9                     | 3.6.1                   | 13/3 M      | 12%       | MW 30 mm     | 246 mm               | 0.86 | C       | 0.75 L         |
|                       |                         | 13/3 M      | 12%       | MW 30 mm     | 96 mm                | 0.84 | C       | 0.75 M         |
|                       | 3.6.3                   | 13/3 M      | 12%       | MW 30 mm     | 56 mm                | 0.88 | C       | 0.75 M         |
|                       |                         | 13/3 M      | 6%        | MW 30 mm     | 216 mm               | 0.71 | C       | 0.65 L         |
|                       | 3.7.1                   | 13/3 M      | 6%        | MW 30 mm     | 76 mm                | 0.78 | C       | 0.65 LM        |
|                       |                         | 13/3 M      | 6%        | MW 30 mm     | 56 mm                | 0.76 | C       | 0.6 LM         |
|                       | 3.7.2                   | 13/3 M      | 6%        | MW 30 mm     | 56 mm                | 0.76 | C       | 0.6 LM         |
|                       |                         | 13/3 T      | 30 / 3%   | MW 30 mm     | 56 mm                | 0.62 | D       | 0.35 LM        |
|                       | 3.8.1                   | 13/3 T      | 30 / 3%   | MW 30 mm     | 216 mm               | 0.57 | D       | 0.35 LM        |
|                       |                         | 13/3 T      | 30 / 3%   | MW 30 mm     | 76 mm                | 0.62 | D       | 0.35 LM        |
| 3.8.2                 | 12/4 M                  | 15%         | MW 30 mm  | 246 mm       | 0.89                 | B    | 0.8     |                |
|                       | 12/4 M                  | 15%         | MW 30 mm  | 96 mm        | 0.86                 | B    | 0.8 M   |                |
| 10                    | 4.7.1                   | 19/2 M      | 6%        | MW 30 mm     | 216 mm               | 0.82 | B       | 0.85           |
|                       |                         | 19/2 M      | 6%        | MW 30 mm     | 56 mm                | 0.85 | B       | 0.80           |
| 11                    | 4.8.1                   | 28/4 M      | 7.5%      | MW 30 mm     | 216 mm               | 0.78 | D       | 0.55 LM        |
|                       |                         | 28/4 M      | 7.5%      | MW 30 mm     | 46 mm                | 0.72 | D       | 0.55 M         |
|                       | 4.8.3                   | 28/4 M      | 3.8%      | MW 30 mm     | 216 mm               | 0.63 | D       | 0.5 LM         |
|                       |                         | 28/4 M      | 3.8%      | MW 30 mm     | 76 mm                | 0.69 | D       | 0.5 LM         |
|                       | 4.9.1                   | 28/4 T      | 15 / 1.4% | MW 30 mm     | 56 mm                | 0.47 | E       | 0.25 LM        |
|                       |                         | 28/4 T      | 15 / 1.4% | MW 30 mm     | 216 mm               | 0.41 | E       | 0.25 LM        |
|                       | 4.9.2                   | 28/4 T      | 15 / 1.4% | MW 30 mm     | 76 mm                | 0.47 | E       | 0.2 LM         |
|                       |                         | 29/3 M      | 5.9%      | MW 30 mm     | 216 mm               | 0.73 | C       | 0.65 L         |
|                       | 4.11.1                  | 29/3 M      | 5.9%      | MW 30 mm     | 76 mm                | 0.78 | C       | 0.6 LM         |
|                       |                         | 29/3 M      | 5.9%      | MW 30 mm     | 56 mm                | 0.76 | C       | 0.6 LM         |
| 4.12.1                | 30/2 M                  | 3.5%        | MW 30 mm  | 216 mm       | 0.68                 | D    | 0.55 LM |                |
|                       | 30/2 M                  | 3.5%        | MW 30 mm  | 76 mm        | 0.73                 | D    | 0.5 LM  |                |
| 4.12.2                | 30/2 M                  | 3.5%        | MW 30 mm  | 56 mm        | 0.72                 | D    | 0.5 LM  |                |
|                       | 30/2 M                  | 3.5%        | MW 30 mm  | 56 mm        | 0.72                 | D    | 0.5 LM  |                |
| 14                    | 4.11.10                 | Caro 29/3M  | 10.5%     | MW 30 mm     | 216 mm               | 0.84 | B       | 0.85           |
|                       |                         | Caro 29/3M  | 10.5%     | MW 30 mm     | 76 mm                | 0.86 | B       | 0.8 M          |
|                       | 4.11.11                 | Caro 29/3M  | 10.5%     | MW 30 mm     | 56 mm                | 0.85 | B       | 0.8 M          |
|                       |                         | 9/2 HR      | 6%        | MW 30 mm     | 216 mm               | 0.82 | C       | 0.75 L         |
|                       | 4.4.1                   | 9/2 HR      | 6%        | MW 30 mm     | 76 mm                | 0.86 | C       | 0.75 M         |
|                       |                         | 9/2 HR      | 6%        | MW 30 mm     | 56 mm                | 0.85 | C       | 0.75 M         |
|                       | 4.15.1                  | 61/3 M      | 3.0%      | MW 30 mm     | 226 mm               | 0.49 | D       | 0.50 L         |
|                       |                         | 61/3 M      | 3.0%      | MW 30 mm     | 66 mm                | 0.51 | D       | 0.45 L         |
| 4.16.1                | 93/3 M                  | 2.0%        | MW 30 mm  | 226 mm       | 0.38                 | D    | 0.35 L  |                |
|                       | 93/3 M                  | 2.0%        | MW 30 mm  | 66 mm        | 0.39                 | D    | 0.35 L  |                |
| 16                    | 3.4.1                   | 12/4 M Aria | 15%       | MW 30 mm     | 246 mm               | 0.89 | B       | 0.8            |
|                       |                         | 12/4 M Aria | 15%       | MW 30 mm     | 96 mm                | 0.86 | B       | 0.8 M          |
|                       | 4.8.1                   | 28/4 M Aria | 7.5%      | MW 30 mm     | 216 mm               | 0.78 | D       | 0.55 LM        |
|                       |                         | 28/4 M Aria | 7.5%      | MW 30 mm     | 46 mm                | 0.72 | D       | 0.55 M         |
|                       | 4.8.3                   | 28/4 M Aria | 3.8%      | MW 30 mm     | 216 mm               | 0.63 | D       | 0.5 LM         |
| 28/4 M Aria           |                         | 3.8%        | MW 30 mm  | 76 mm        | 0.69                 | D    | 0.5 LM  |                |
| 19                    | 3.5.1                   | 12/4 M      | 12.0%     | Sasmox/Resap | 216 mm               | 0.85 | A       | 0.9            |
|                       |                         | 12/4 M      | 12.0%     | Sasmox/Resap | 56 mm                | 0.86 | B       | 0.85           |
|                       | 3.6.5                   | 13/3 M      | 9.0%      | Sasmox/Resap | 58mm                 | 0.83 | C       | 0.75 M         |
|                       |                         | 13/3 M      | 9.0%      | Sasmox/Resap | 218mm                | 0.81 | C       | 0.75 L         |

This datasheet replaces 3.9.1 + 3.9.2

Acoustical Absorption Coefficient according to ISO 354

Object: TOPAKUSTIK® wall- and ceiling panelling  
type TOPAKUSTIK® 14/2 M 7%

Research: Laboratory: Hochschule Luzern 14.07.2015/27.07.2016  
 Test area: 12 m<sup>2</sup>/ 12 m<sup>2</sup> Relative atmospheric humidity: 59.7%/67.8%  
 Echo space volume: 214.5 m<sup>3</sup> / 210.3 m<sup>3</sup> Temperature: 23.8 degrees/ 21.9 degrees

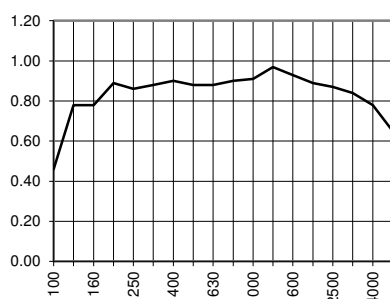
TOPAKUSTIK® 14/2 M, 7 %  
Acoustic fleece SP 60 FMineral wool 30 mm  
60 kg/ m<sup>3</sup> (suspension height 216mm)Isover PBF 30 mm  
40 kg/ m<sup>3</sup> (suspension height 56mm)**Suspension heights:**  
**216/56 mm**

Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.78  
 Medium frequency range: (400-1250 Hz): 0.91  
 High frequency range: (1600-5000 Hz): 0.83

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.46 |
| 125  | 0.78 |
| 160  | 0.78 |
| 200  | 0.89 |
| 250  | 0.86 |
| 315  | 0.88 |
| 400  | 0.90 |
| 500  | 0.88 |
| 630  | 0.88 |
| 800  | 0.90 |
| 1000 | 0.91 |
| 1250 | 0.97 |
| 1600 | 0.93 |
| 2000 | 0.89 |
| 2500 | 0.87 |
| 3150 | 0.84 |
| 4000 | 0.78 |
| 5000 | 0.65 |

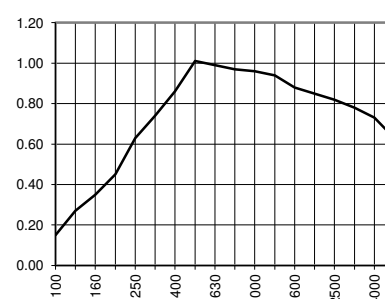
**Suspension height 216 mm****a<sub>w</sub> 0.9 (A)**  
**NRC 0.89**

Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.43  
 Medium frequency range: (400-1250 Hz): 0.96  
 High frequency range: (1600-5000 Hz): 0.78

Freq.

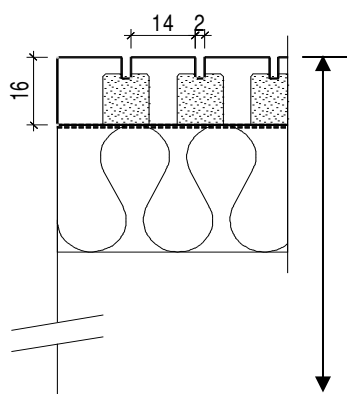
| [Hz] | Terz |
|------|------|
| 100  | 0.15 |
| 125  | 0.27 |
| 160  | 0.35 |
| 200  | 0.45 |
| 250  | 0.63 |
| 315  | 0.74 |
| 400  | 0.86 |
| 500  | 1.01 |
| 630  | 0.99 |
| 800  | 0.97 |
| 1000 | 0.96 |
| 1250 | 0.94 |
| 1600 | 0.88 |
| 2000 | 0.85 |
| 2500 | 0.82 |
| 3150 | 0.78 |
| 4000 | 0.73 |
| 5000 | 0.63 |

**Suspension height 56 mm****a<sub>w</sub> 0.85 M (B)**  
**NRC 0.86**

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPAKUSTIK® wall- and ceiling panelling  
type TOPAKUSTIK® 14/2 M 3.5%

Research: Laboratory: Hochschule Luzern 14.07.2015  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 54.3%  
Echo space volume: 214.5 m<sup>3</sup> Temperature: 23.9 degrees

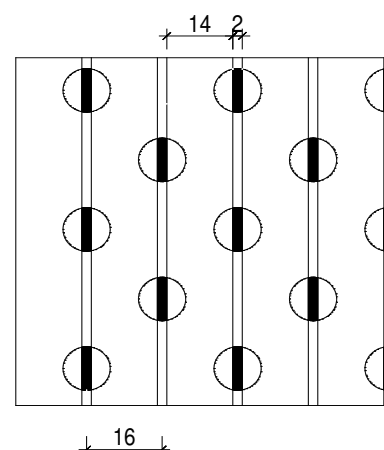


TOPAKUSTIK® 14/2 M, 3.5 %

Acoustic fleece SP 60 F

Mineral wool 30 mm  
60 kg / m<sup>3</sup>

**Suspension heights:**  
**216/56 mm**  
Cavity 170/10 mm



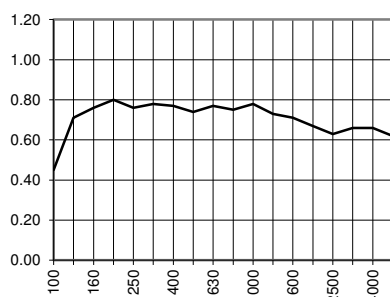
## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.71  
Medium frequency range: (400-1250 Hz): 0.76  
High frequency range: (1600-5000 Hz): 0.66

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.45 |
| 125  | 0.71 |
| 160  | 0.76 |
| 200  | 0.80 |
| 250  | 0.76 |
| 315  | 0.78 |
| 400  | 0.77 |
| 500  | 0.74 |
| 630  | 0.77 |
| 800  | 0.75 |
| 1000 | 0.78 |
| 1250 | 0.73 |
| 1600 | 0.71 |
| 2000 | 0.67 |
| 2500 | 0.63 |
| 3150 | 0.66 |
| 4000 | 0.66 |
| 5000 | 0.62 |

## Suspension height 216 mm



**a<sub>w</sub> 0.75 L (C)**  
**NRC 0.74**

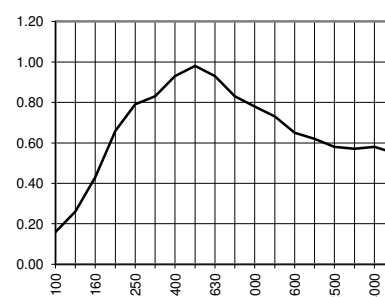
## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.52  
Medium frequency range: (400-1250 Hz): 0.86  
High frequency range: (1600-5000 Hz): 0.59

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.16 |
| 125  | 0.26 |
| 160  | 0.43 |
| 200  | 0.66 |
| 250  | 0.79 |
| 315  | 0.83 |
| 400  | 0.93 |
| 500  | 0.98 |
| 630  | 0.93 |
| 800  | 0.83 |
| 1000 | 0.78 |
| 1250 | 0.73 |
| 1600 | 0.65 |
| 2000 | 0.62 |
| 2500 | 0.58 |
| 3150 | 0.57 |
| 4000 | 0.58 |
| 5000 | 0.55 |

## Suspension height 56 mm



**a<sub>w</sub> 0.65 LM (C)**  
**NRC 0.79**

**Sound absorption in accordance with ISO 354: 1985**  
**Rating in acc. with ISO 11654:1997E and NRC acc. ASTM C423 (USA)**

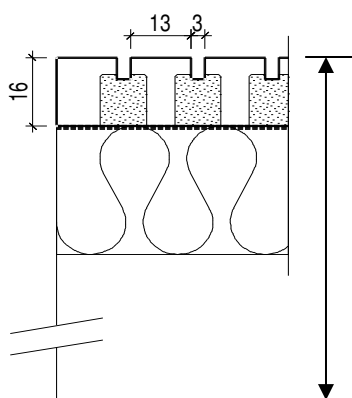
All datas from the brochure 2017 listed according page number of brochure

| Brochure 2017<br>Page | File sheet<br>NH A+D AG | Type        | %         | Absorber     | Suspension<br>height | NRC  | Euro | a <sub>w</sub> |
|-----------------------|-------------------------|-------------|-----------|--------------|----------------------|------|------|----------------|
| <b>TOPAKUSTIK®</b>    |                         |             |           |              |                      |      |      |                |
| 6                     | 2.3.1                   | 6/2 M       | 7%        | MW 30 mm     | 216 mm               | 0.91 | B    | 0.85           |
|                       |                         | 6/2 M       | 7%        | MW 30 mm     | 76 mm                | 0.87 | B    | 0.8 M          |
|                       | 2.3.3                   | 6/2 M       | 7%        | MW 30 mm     | 56 mm                | 0.86 | B    | 0.8 M          |
|                       | 2.3.10                  | 6/2 T       | 30 / 2%   | MW 30 mm     | 56 mm                | 0.62 | D    | 0.4 LM         |
|                       | 2.3.11                  | 6/2 T       | 30 / 2%   | MW 30 mm     | 216 mm               | 0.57 | D    | 0.4 LM         |
| 7                     |                         | 6/2 T       | 30 / 2%   | MW 30 mm     | 76 mm                | 0.61 | D    | 0.35 LM        |
|                       | 2.4.1                   | 9/2 M       | 6%        | MW 30 mm     | 216 mm               | 0.82 | C    | 0.75 L         |
|                       |                         | 9/2 M       | 6%        | MW 30 mm     | 76 mm                | 0.86 | C    | 0.75 M         |
|                       | 2.4.2                   | 9/2 M       | 6%        | MW 30 mm     | 56 mm                | 0.85 | C    | 0.75 M         |
|                       | 1.4.1                   | 8/3 M       | 19%       | MW 30 mm     | 200 mm               | 1.00 | D    | 0.55 LM        |
|                       |                         | 8/3 M       | 19%       | MW 30 mm     | 56 mm                | 0.87 | D    | 0.45 LM        |
|                       | 1.4.2                   | 8/3 M       | 9.5%      | MW 30 mm     | 200 mm               | 0.92 | D    | 0.45 LM        |
| 8                     |                         | 8/3 M       | 9.5%      | MW 30 mm     | 56 mm                | 0.85 | D    | 0.4 LM         |
|                       | 3.9.3                   | 14/2 M      | 7%        | MW 30 mm     | 216 mm               | 0.89 | A    | 0.90           |
|                       |                         | 14/2 M      | 7%        | MW 30 mm     | 76 mm                | 0.86 | B    | 0.85 M         |
|                       | 3.12.1                  | 14/2 M      | 3.5%      | MW 30 mm     | 216 mm               | 0.74 | C    | 0.75 LM        |
| 9                     |                         | 14/2 M      | 3.5%      | MW 30 mm     | 56 mm                | 0.79 | C    | 0.65 LM        |
|                       | 3.6.1                   | 13/3 M      | 12%       | MW 30 mm     | 246 mm               | 0.86 | C    | 0.75 L         |
|                       |                         | 13/3 M      | 12%       | MW 30 mm     | 96 mm                | 0.84 | C    | 0.75 M         |
|                       | 3.6.3                   | 13/3 M      | 12%       | MW 30 mm     | 56 mm                | 0.88 | C    | 0.75 M         |
|                       | 3.7.1                   | 13/3 M      | 6%        | MW 30 mm     | 216 mm               | 0.71 | C    | 0.65 L         |
|                       |                         | 13/3 M      | 6%        | MW 30 mm     | 76 mm                | 0.78 | C    | 0.65 LM        |
|                       | 3.7.2                   | 13/3 M      | 6%        | MW 30 mm     | 56 mm                | 0.76 | C    | 0.6 LM         |
|                       | 3.8.1                   | 13/3 T      | 30 / 3%   | MW 30 mm     | 56 mm                | 0.62 | D    | 0.35 LM        |
|                       | 3.8.2                   | 13/3 T      | 30 / 3%   | MW 30 mm     | 216 mm               | 0.57 | D    | 0.35 LM        |
|                       |                         | 13/3 T      | 30 / 3%   | MW 30 mm     | 76 mm                | 0.62 | D    | 0.35 LM        |
| 10                    | 3.4.1                   | 12/4 M      | 15%       | MW 30 mm     | 246 mm               | 0.89 | B    | 0.8            |
|                       |                         | 12/4 M      | 15%       | MW 30 mm     | 96 mm                | 0.86 | B    | 0.8 M          |
| 11                    | 4.7.1                   | 19/2 M      | 6%        | MW 30 mm     | 216 mm               | 0.82 | B    | 0.85           |
|                       |                         | 19/2 M      | 6%        | MW 30 mm     | 56 mm                | 0.85 | B    | 0.80           |
|                       | 4.8.1                   | 28/4 M      | 7.5%      | MW 30 mm     | 216 mm               | 0.78 | D    | 0.55 LM        |
|                       |                         | 28/4 M      | 7.5%      | MW 30 mm     | 46 mm                | 0.72 | D    | 0.55 M         |
|                       | 4.8.3                   | 28/4 M      | 3.8%      | MW 30 mm     | 216 mm               | 0.63 | D    | 0.5 LM         |
|                       |                         | 28/4 M      | 3.8%      | MW 30 mm     | 76 mm                | 0.69 | D    | 0.5 LM         |
|                       | 4.9.1                   | 28/4 T      | 15 / 1.4% | MW 30 mm     | 56 mm                | 0.47 | E    | 0.25 LM        |
|                       | 4.9.2                   | 28/4 T      | 15 / 1.4% | MW 30 mm     | 216 mm               | 0.41 | E    | 0.25 LM        |
|                       |                         | 28/4 T      | 15 / 1.4% | MW 30 mm     | 76 mm                | 0.47 | E    | 0.2 LM         |
|                       | 4.11.1                  | 29/3 M      | 5.9%      | MW 30 mm     | 216 mm               | 0.73 | C    | 0.65 L         |
|                       |                         | 29/3 M      | 5.9%      | MW 30 mm     | 76 mm                | 0.78 | C    | 0.6 LM         |
|                       | 4.11.2                  | 29/3 M      | 5.9%      | MW 30 mm     | 56 mm                | 0.76 | C    | 0.6 LM         |
| 14                    | 4.12.1                  | 30/2 M      | 3.5%      | MW 30 mm     | 216 mm               | 0.68 | D    | 0.55 LM        |
|                       |                         | 30/2 M      | 3.5%      | MW 30 mm     | 76 mm                | 0.73 | D    | 0.5 LM         |
|                       | 4.12.2                  | 30/2 M      | 3.5%      | MW 30 mm     | 56 mm                | 0.72 | D    | 0.5 LM         |
|                       | 4.11.10                 | Caro 29/3M  | 10.5%     | MW 30 mm     | 216 mm               | 0.84 | B    | 0.85           |
|                       |                         | Caro 29/3M  | 10.5%     | MW 30 mm     | 76 mm                | 0.86 | B    | 0.8 M          |
|                       | 4.11.11                 | Caro 29/3M  | 10.5%     | MW 30 mm     | 56 mm                | 0.85 | B    | 0.8 M          |
|                       | 4.4.1                   | 9/2 HR      | 6%        | MW 30 mm     | 216 mm               | 0.82 | C    | 0.75 L         |
|                       |                         | 9/2 HR      | 6%        | MW 30 mm     | 76 mm                | 0.86 | C    | 0.75 M         |
| 16                    | 4.4.2                   | 9/2 HR      | 6%        | MW 30 mm     | 56 mm                | 0.85 | C    | 0.75 M         |
|                       | 4.15.1                  | 61/3 M      | 3.0%      | MW 30 mm     | 226 mm               | 0.49 | D    | 0.50 L         |
|                       |                         | 61/3 M      | 3.0%      | MW 30 mm     | 66 mm                | 0.51 | D    | 0.45 L         |
|                       | 4.16.1                  | 93/3 M      | 2.0%      | MW 30 mm     | 226 mm               | 0.38 | D    | 0.35 L         |
|                       |                         | 93/3 M      | 2.0%      | MW 30 mm     | 66 mm                | 0.39 | D    | 0.35 L         |
|                       | 3.4.1                   | 12/4 M Aria | 15%       | MW 30 mm     | 246 mm               | 0.89 | B    | 0.8            |
| 19                    |                         | 12/4 M Aria | 15%       | MW 30 mm     | 96 mm                | 0.86 | B    | 0.8 M          |
|                       | 4.8.1                   | 28/4 M Aria | 7.5%      | MW 30 mm     | 216 mm               | 0.78 | D    | 0.55 LM        |
|                       |                         | 28/4 M Aria | 7.5%      | MW 30 mm     | 46 mm                | 0.72 | D    | 0.55 M         |
|                       | 4.8.3                   | 28/4 M Aria | 3.8%      | MW 30 mm     | 216 mm               | 0.63 | D    | 0.5 LM         |
|                       |                         | 28/4 M Aria | 3.8%      | MW 30 mm     | 76 mm                | 0.69 | D    | 0.5 LM         |
| 19                    | 3.5.1                   | 12/4 M      | 12.0%     | Sasmox/Resap | 216 mm               | 0.85 | A    | 0.9            |
|                       |                         | 12/4 M      | 12.0%     | Sasmox/Resap | 56 mm                | 0.86 | B    | 0.85           |
|                       | 3.6.5                   | 13/3 M      | 9.0%      | Sasmox/Resap | 58mm                 | 0.83 | C    | 0.75 M         |
|                       |                         | 13/3 M      | 9.0%      | Sasmox/Resap | 218mm                | 0.81 | C    | 0.75 L         |

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPAKUSTIK® wall- and ceiling panelling  
Type TOPAKUSTIK® 13/3 M 12%

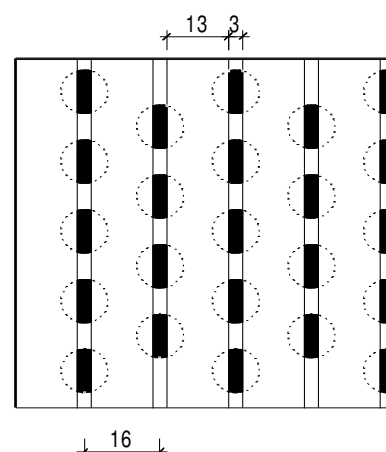
Research: Laboratory: EMPA 06.06.1991  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 52%  
Echo space volume: 211 m<sup>3</sup> Temperature: 21 degrees



TOPAKUSTIK® 13/3 M  
Acoustic fleece

Mineral wool 30 mm

**Suspension heights:**  
**246/96 mm**  
Cavity 200/50 mm



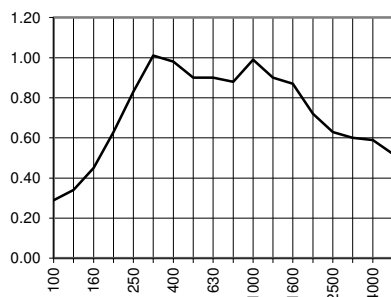
## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.59  
Medium frequency range: (400-1250 Hz): 0.93  
High frequency range: (1600-5000 Hz): 0.66

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.29 |
| 125  | 0.34 |
| 160  | 0.45 |
| 200  | 0.63 |
| 250  | 0.83 |
| 315  | 1.01 |
| 400  | 0.98 |
| 500  | 0.90 |
| 630  | 0.90 |
| 800  | 0.88 |
| 1000 | 0.99 |
| 1250 | 0.90 |
| 1600 | 0.87 |
| 2000 | 0.72 |
| 2500 | 0.63 |
| 3150 | 0.60 |
| 4000 | 0.59 |
| 5000 | 0.52 |

## Suspension height 246 mm



**EN C**  
**a<sub>w</sub> 0.75 L**  
**NRC 0.86**

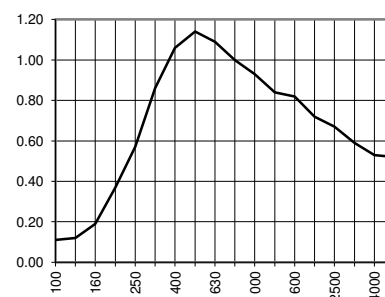
## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.37  
Medium frequency range: (400-1250 Hz): 1.01  
High frequency range: (1600-5000 Hz): 0.64

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.11 |
| 125  | 0.12 |
| 160  | 0.19 |
| 200  | 0.37 |
| 250  | 0.57 |
| 315  | 0.86 |
| 400  | 1.06 |
| 500  | 1.14 |
| 630  | 1.09 |
| 800  | 1.00 |
| 1000 | 0.93 |
| 1250 | 0.84 |
| 1600 | 0.82 |
| 2000 | 0.72 |
| 2500 | 0.67 |
| 3150 | 0.59 |
| 4000 | 0.53 |
| 5000 | 0.52 |

## Suspension height 96 mm

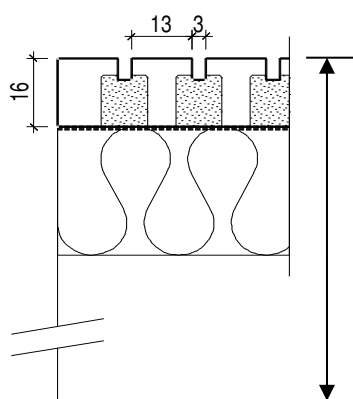


**EN C**  
**a<sub>w</sub> 0.75 M**  
**NRC 0.84**

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPAKUSTIK® wall- and ceiling panelling  
Type TOPAKUSTIK® **13/3 M 12%**

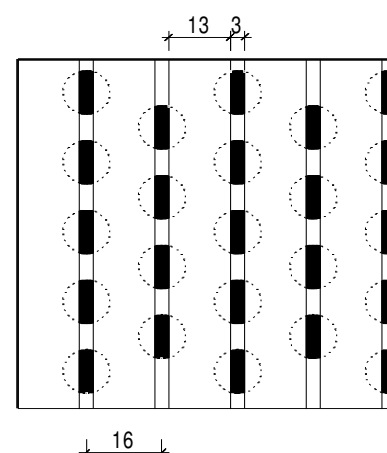
Research: Laboratory: Telecom PTT 26.10.1996  
Test area: 3 m<sup>2</sup> Relative atmospheric humidity: 55%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 20 degrees



TOPAKUSTIK® 13/3 M  
Acoustic fleece

Mineral wool 30 mm

**Suspension height:**  
**56 mm**  
Cavity 10 mm



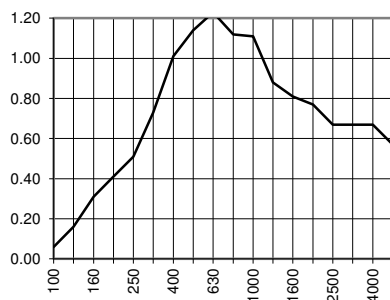
## Acoustical Absorption - Medium values

Low frequency range (100-315 Hz): 0.36  
Medium frequency range (400-1250 Hz): 1.08  
High frequency range (1600-5000 Hz): 0.69

Freq.

[Hz] Terz

|      |      |
|------|------|
| 100  | 0.06 |
| 125  | 0.16 |
| 160  | 0.31 |
| 200  | 0.41 |
| 250  | 0.51 |
| 315  | 0.73 |
| 400  | 1.01 |
| 500  | 1.14 |
| 630  | 1.23 |
| 800  | 1.12 |
| 1000 | 1.11 |
| 1250 | 0.88 |
| 1600 | 0.81 |
| 2000 | 0.77 |
| 2500 | 0.67 |
| 3150 | 0.67 |
| 4000 | 0.67 |
| 5000 | 0.57 |

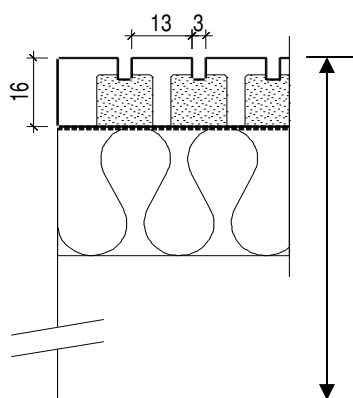
**Suspension height 56 mm**

**EN C**  
**a<sub>w</sub> 0.75 M**  
**NRC 0.88**

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPAKUSTIK® wall- and ceiling panelling  
Type TOPAKUSTIK® **13/3 M 6%**

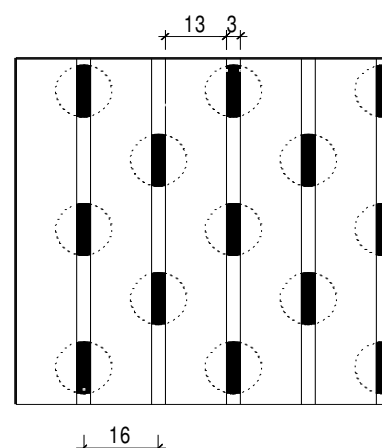
Research: Laboratory: SWISSCOM AG 03.05.1999  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 55%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 20 degrees



TOPAKUSTIK® 13/3 M  
Acoustic fleece

Mineral wool 30 mm

**Suspension heights:**  
**216/76 mm**  
Cavity 170/30 mm



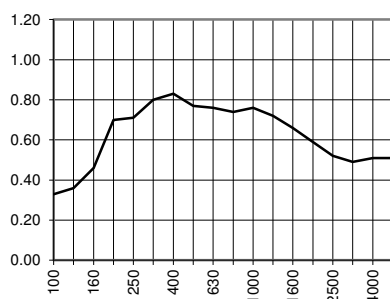
## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.56  
Medium frequency range: (400-1250 Hz): 0.76  
High frequency range: (1600-5000 Hz): 0.55

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.33 |
| 125  | 0.36 |
| 160  | 0.46 |
| 200  | 0.70 |
| 250  | 0.71 |
| 315  | 0.80 |
| 400  | 0.83 |
| 500  | 0.77 |
| 630  | 0.76 |
| 800  | 0.74 |
| 1000 | 0.76 |
| 1250 | 0.72 |
| 1600 | 0.66 |
| 2000 | 0.59 |
| 2500 | 0.52 |
| 3150 | 0.49 |
| 4000 | 0.51 |
| 5000 | 0.51 |

## Suspension height 216 mm



**EN C**  
**a<sub>w</sub> 0.65 L**  
**NRC 0.71**

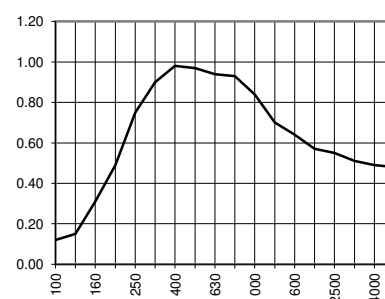
## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.45  
Medium frequency range: (400-1250 Hz): 0.89  
High frequency range: (1600-5000 Hz): 0.54

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.12 |
| 125  | 0.15 |
| 160  | 0.31 |
| 200  | 0.49 |
| 250  | 0.75 |
| 315  | 0.90 |
| 400  | 0.98 |
| 500  | 0.97 |
| 630  | 0.94 |
| 800  | 0.93 |
| 1000 | 0.84 |
| 1250 | 0.70 |
| 1600 | 0.64 |
| 2000 | 0.57 |
| 2500 | 0.55 |
| 3150 | 0.51 |
| 4000 | 0.49 |
| 5000 | 0.48 |

## Suspension height 76 mm

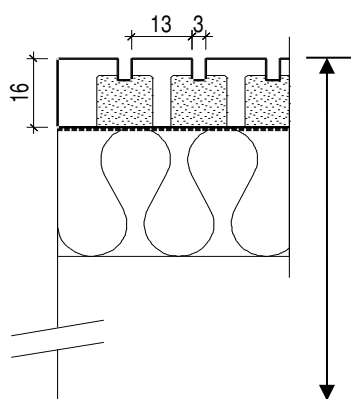


**EN C**  
**a<sub>w</sub> 0.65 M**  
**NRC 0.78**

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPAKUSTIK® wall- and ceiling panelling  
Type TOPAKUSTIK® **13/3 M 6%**

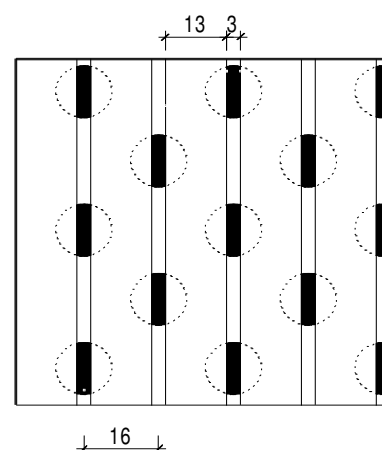
Research: Laboratory: SWISSCOM AG 03.05.1999  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 55%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 20 degrees



TOPAKUSTIK® 13/3 M  
Acoustic fleece

Mineral wool 30 mm

**Suspension height:**  
**56 mm**  
Cavity 10 mm

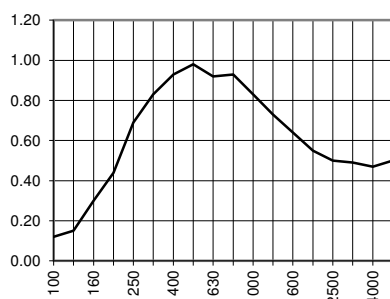


## Acoustical Absorption - Medium values

Low frequency range (100-315 Hz): 0.42  
Medium frequency range (400-1250 Hz): 0.89  
High frequency range (1600-5000 Hz): 0.53

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.12 |
| 125  | 0.15 |
| 160  | 0.30 |
| 200  | 0.44 |
| 250  | 0.69 |
| 315  | 0.83 |
| 400  | 0.93 |
| 500  | 0.98 |
| 630  | 0.92 |
| 800  | 0.93 |
| 1000 | 0.83 |
| 1250 | 0.73 |
| 1600 | 0.64 |
| 2000 | 0.55 |
| 2500 | 0.50 |
| 3150 | 0.49 |
| 4000 | 0.47 |
| 5000 | 0.50 |

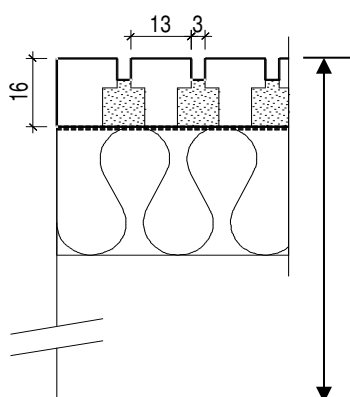
**Suspension height 56 mm**

**EN C**  
**a<sub>w</sub> 0.6 LM**  
**NRC 0.76**

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPAKUSTIK® wall- and ceiling panelling  
type TOPAKUSTIK® 13/3 T 30 / 3 %

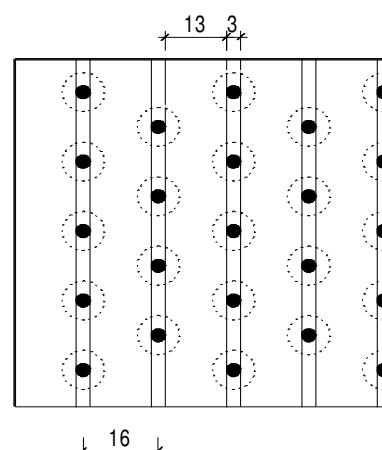
Research: Laboratory: SWISSCOM AG 11.08.2000  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 57%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 19 degrees



TOPAKUSTIK® 13/3 T  
Acoustic fleece

Mineral wool 30 mm

**Suspension height:**  
**56 mm**  
Cavity 10 mm



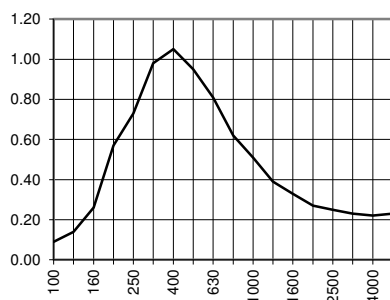
## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.46  
Medium frequency range: (400-1250 Hz): 0.72  
High frequency range: (1600-5000 Hz): 0.26

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.09 |
| 125  | 0.14 |
| 160  | 0.26 |
| 200  | 0.57 |
| 250  | 0.73 |
| 315  | 0.98 |
| 400  | 1.05 |
| 500  | 0.95 |
| 630  | 0.81 |
| 800  | 0.62 |
| 1000 | 0.51 |
| 1250 | 0.39 |
| 1600 | 0.33 |
| 2000 | 0.27 |
| 2500 | 0.25 |
| 3150 | 0.23 |
| 4000 | 0.22 |
| 5000 | 0.23 |

**Suspension height 56 mm**

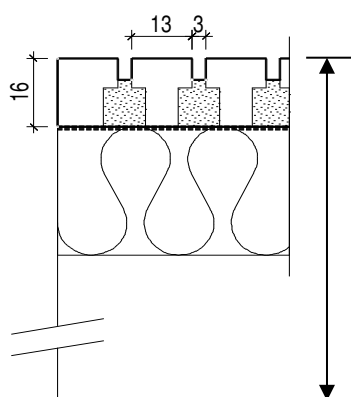


**EN D**  
**a<sub>w</sub>** 0.35 LM  
**NRC** 0.62

## Acoustical Absorption Coefficient according to ISO 354

Objet: TOPAKUSTIK® wall- and ceiling panelling  
Type TOPAKUSTIK® 13/3 T 30 / 3 %

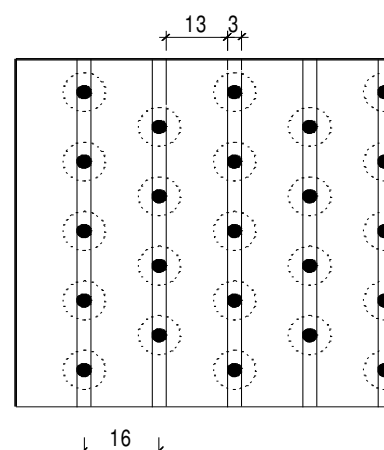
Research: Laboratory: SWISSCOM AG 11.08.2000  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 57%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 19 degrees



TOPAKUSTIK® 13/3 T  
Acoustic fleece

Mineral wool 30 mm

**Suspension heights:**  
**216/76 mm**  
Cavity 170/30 mm



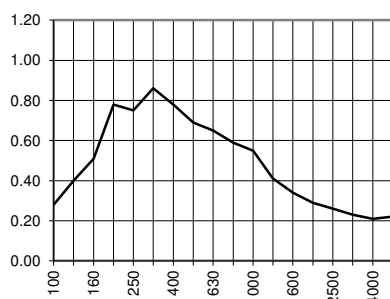
## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.60  
Medium frequency range: (400-1250 Hz): 0.61  
High frequency range: (1600-5000 Hz): 0.26

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.28 |
| 125  | 0.40 |
| 160  | 0.51 |
| 200  | 0.78 |
| 250  | 0.75 |
| 315  | 0.86 |
| 400  | 0.78 |
| 500  | 0.69 |
| 630  | 0.65 |
| 800  | 0.59 |
| 1000 | 0.55 |
| 1250 | 0.41 |
| 1600 | 0.34 |
| 2000 | 0.29 |
| 2500 | 0.26 |
| 3150 | 0.23 |
| 4000 | 0.21 |
| 5000 | 0.22 |

## Suspension height 216 mm



**EN D**  
**a<sub>w</sub>** 0.35 LM  
**NRC** 0.57

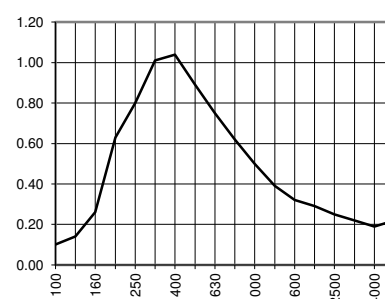
## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.49  
Medium frequency range: (400-1250 Hz): 0.70  
High frequency range: (1600-5000 Hz): 0.25

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.10 |
| 125  | 0.14 |
| 160  | 0.26 |
| 200  | 0.63 |
| 250  | 0.80 |
| 315  | 1.01 |
| 400  | 1.04 |
| 500  | 0.89 |
| 630  | 0.75 |
| 800  | 0.62 |
| 1000 | 0.50 |
| 1250 | 0.39 |
| 1600 | 0.32 |
| 2000 | 0.29 |
| 2500 | 0.25 |
| 3150 | 0.22 |
| 4000 | 0.19 |
| 5000 | 0.22 |

## Suspension height 76 mm

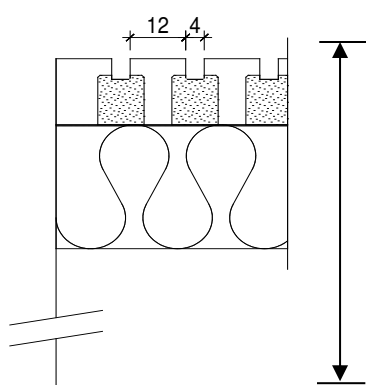


**EN D**  
**a<sub>w</sub>** 0.35 LM  
**NRC** 0.62

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPAKUSTIK® wall- and ceiling panelling  
 Type TOPAKUSTIK® **12/4 M - 15 %**  
**12/4 M - 15 % Aria Plus**

Research: Laboratory: EMPA 07.06.1991  
 Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 52%  
 Echo space volume: 211 m<sup>3</sup> Temperature: 21 degrees

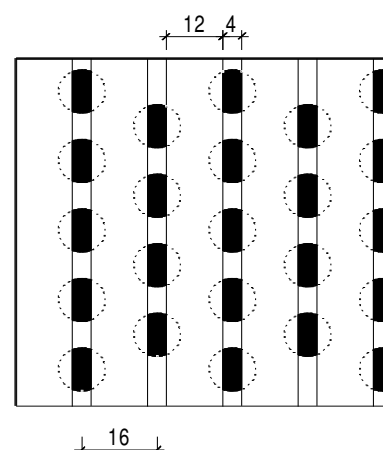


TOPAKUSTIK® 12/4 M

Acoustic fleece

Mineral wool 30 mm

**Suspension heights:**  
**246/96 mm**



## Acoustical Absorption - Medium values

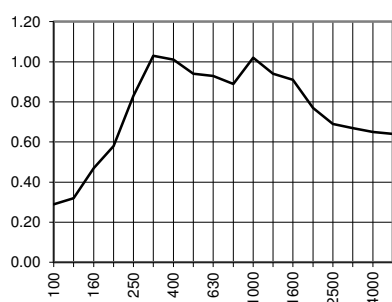
Low frequency range: (100-315 Hz): 0.59  
 Medium frequency range: (400-1250 Hz): 0.96  
 High frequency range: (1600-5000 Hz): 0.72

Freq.

[Hz]

Terz

|      |      |
|------|------|
| 100  | 0.29 |
| 125  | 0.32 |
| 160  | 0.47 |
| 200  | 0.58 |
| 250  | 0.83 |
| 315  | 1.03 |
| 400  | 1.01 |
| 500  | 0.94 |
| 630  | 0.93 |
| 800  | 0.89 |
| 1000 | 1.02 |
| 1250 | 0.94 |
| 1600 | 0.91 |
| 2000 | 0.77 |
| 2500 | 0.69 |
| 3150 | 0.67 |
| 4000 | 0.65 |
| 5000 | 0.64 |

**Suspension height 246 mm**

**EN B**  
**a<sub>w</sub> 0.8**  
**NRC 0.89**

## Acoustical Absorption - Medium values

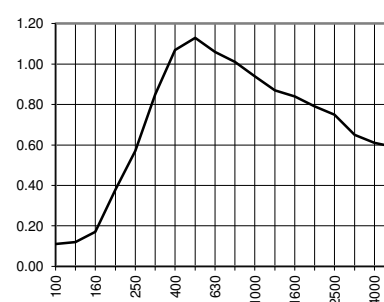
Low frequency range: (100-315 Hz): 0.37  
 Medium frequency range: (400-1250 Hz): 1.01  
 High frequency range: (1600-5000 Hz): 0.71

Freq.

[Hz]

Terz

|      |      |
|------|------|
| 100  | 0.11 |
| 125  | 0.12 |
| 160  | 0.17 |
| 200  | 0.38 |
| 250  | 0.57 |
| 315  | 0.85 |
| 400  | 1.07 |
| 500  | 1.13 |
| 630  | 1.06 |
| 800  | 1.01 |
| 1000 | 0.94 |
| 1250 | 0.87 |
| 1600 | 0.84 |
| 2000 | 0.79 |
| 2500 | 0.75 |
| 3150 | 0.65 |
| 4000 | 0.61 |
| 5000 | 0.59 |

**Suspension height 96 mm**

**EN B**  
**a<sub>w</sub> 0.8 M**  
**NRC 0.86**

**Sound absorption in accordance with ISO 354: 1985**  
**Rating in acc. with ISO 11654:1997E and NRC acc. ASTM C423 (USA)**

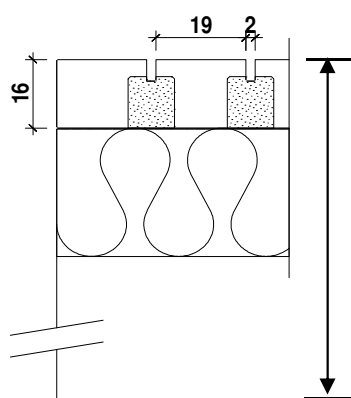
All datas from the brochure 2017 listed according page number of brochure

| Brochure 2017<br>Page | File sheet<br>NH A+D AG | Type        | %         | Absorber     | Suspension<br>height | NRC  | Euro | a <sub>w</sub> |
|-----------------------|-------------------------|-------------|-----------|--------------|----------------------|------|------|----------------|
| <b>TOPAKUSTIK®</b>    |                         |             |           |              |                      |      |      |                |
| 6                     | 2.3.1                   | 6/2 M       | 7%        | MW 30 mm     | 216 mm               | 0.91 | B    | 0.85           |
|                       |                         | 6/2 M       | 7%        | MW 30 mm     | 76 mm                | 0.87 | B    | 0.8 M          |
|                       | 2.3.3                   | 6/2 M       | 7%        | MW 30 mm     | 56 mm                | 0.86 | B    | 0.8 M          |
|                       | 2.3.10                  | 6/2 T       | 30 / 2%   | MW 30 mm     | 56 mm                | 0.62 | D    | 0.4 LM         |
|                       | 2.3.11                  | 6/2 T       | 30 / 2%   | MW 30 mm     | 216 mm               | 0.57 | D    | 0.4 LM         |
| 7                     |                         | 6/2 T       | 30 / 2%   | MW 30 mm     | 76 mm                | 0.61 | D    | 0.35 LM        |
|                       | 2.4.1                   | 9/2 M       | 6%        | MW 30 mm     | 216 mm               | 0.82 | C    | 0.75 L         |
|                       |                         | 9/2 M       | 6%        | MW 30 mm     | 76 mm                | 0.86 | C    | 0.75 M         |
|                       | 2.4.2                   | 9/2 M       | 6%        | MW 30 mm     | 56 mm                | 0.85 | C    | 0.75 M         |
|                       | 1.4.1                   | 8/3 M       | 19%       | MW 30 mm     | 200 mm               | 1.00 | D    | 0.55 LM        |
|                       |                         | 8/3 M       | 19%       | MW 30 mm     | 56 mm                | 0.87 | D    | 0.45 LM        |
|                       | 1.4.2                   | 8/3 M       | 9.5%      | MW 30 mm     | 200 mm               | 0.92 | D    | 0.45 LM        |
| 8                     |                         | 8/3 M       | 9.5%      | MW 30 mm     | 56 mm                | 0.85 | D    | 0.4 LM         |
|                       | 3.9.3                   | 14/2 M      | 7%        | MW 30 mm     | 216 mm               | 0.89 | A    | 0.90           |
|                       |                         | 14/2 M      | 7%        | MW 30 mm     | 76 mm                | 0.86 | B    | 0.85 M         |
|                       | 3.12.1                  | 14/2 M      | 3.5%      | MW 30 mm     | 216 mm               | 0.74 | C    | 0.75 LM        |
| 9                     |                         | 14/2 M      | 3.5%      | MW 30 mm     | 56 mm                | 0.79 | C    | 0.65 LM        |
|                       | 3.6.1                   | 13/3 M      | 12%       | MW 30 mm     | 246 mm               | 0.86 | C    | 0.75 L         |
|                       |                         | 13/3 M      | 12%       | MW 30 mm     | 96 mm                | 0.84 | C    | 0.75 M         |
|                       | 3.6.3                   | 13/3 M      | 12%       | MW 30 mm     | 56 mm                | 0.88 | C    | 0.75 M         |
|                       | 3.7.1                   | 13/3 M      | 6%        | MW 30 mm     | 216 mm               | 0.71 | C    | 0.65 L         |
|                       |                         | 13/3 M      | 6%        | MW 30 mm     | 76 mm                | 0.78 | C    | 0.65 LM        |
|                       | 3.7.2                   | 13/3 M      | 6%        | MW 30 mm     | 56 mm                | 0.76 | C    | 0.6 LM         |
|                       | 3.8.1                   | 13/3 T      | 30 / 3%   | MW 30 mm     | 56 mm                | 0.62 | D    | 0.35 LM        |
|                       | 3.8.2                   | 13/3 T      | 30 / 3%   | MW 30 mm     | 216 mm               | 0.57 | D    | 0.35 LM        |
|                       |                         | 13/3 T      | 30 / 3%   | MW 30 mm     | 76 mm                | 0.62 | D    | 0.35 LM        |
|                       | 3.4.1                   | 12/4 M      | 15%       | MW 30 mm     | 246 mm               | 0.89 | B    | 0.8            |
| 10                    |                         | 12/4 M      | 15%       | MW 30 mm     | 96 mm                | 0.86 | B    | 0.8 M          |
|                       | 4.7.1                   | 19/2 M      | 6%        | MW 30 mm     | 216 mm               | 0.82 | B    | 0.85           |
| 11                    |                         | 19/2 M      | 6%        | MW 30 mm     | 56 mm                | 0.85 | B    | 0.80           |
|                       | 4.8.1                   | 28/4 M      | 7.5%      | MW 30 mm     | 216 mm               | 0.78 | D    | 0.55 LM        |
|                       |                         | 28/4 M      | 7.5%      | MW 30 mm     | 46 mm                | 0.72 | D    | 0.55 M         |
|                       | 4.8.3                   | 28/4 M      | 3.8%      | MW 30 mm     | 216 mm               | 0.63 | D    | 0.5 LM         |
|                       |                         | 28/4 M      | 3.8%      | MW 30 mm     | 76 mm                | 0.69 | D    | 0.5 LM         |
|                       | 4.9.1                   | 28/4 T      | 15 / 1.4% | MW 30 mm     | 56 mm                | 0.47 | E    | 0.25 LM        |
|                       | 4.9.2                   | 28/4 T      | 15 / 1.4% | MW 30 mm     | 216 mm               | 0.41 | E    | 0.25 LM        |
|                       |                         | 28/4 T      | 15 / 1.4% | MW 30 mm     | 76 mm                | 0.47 | E    | 0.2 LM         |
|                       | 4.11.1                  | 29/3 M      | 5.9%      | MW 30 mm     | 216 mm               | 0.73 | C    | 0.65 L         |
|                       |                         | 29/3 M      | 5.9%      | MW 30 mm     | 76 mm                | 0.78 | C    | 0.6 LM         |
|                       | 4.11.2                  | 29/3 M      | 5.9%      | MW 30 mm     | 56 mm                | 0.76 | C    | 0.6 LM         |
|                       | 4.12.1                  | 30/2 M      | 3.5%      | MW 30 mm     | 216 mm               | 0.68 | D    | 0.55 LM        |
|                       |                         | 30/2 M      | 3.5%      | MW 30 mm     | 76 mm                | 0.73 | D    | 0.5 LM         |
| 14                    | 4.12.2                  | 30/2 M      | 3.5%      | MW 30 mm     | 56 mm                | 0.72 | D    | 0.5 LM         |
|                       | 4.11.10                 | Caro 29/3M  | 10.5%     | MW 30 mm     | 216 mm               | 0.84 | B    | 0.85           |
|                       |                         | Caro 29/3M  | 10.5%     | MW 30 mm     | 76 mm                | 0.86 | B    | 0.8 M          |
|                       | 4.11.11                 | Caro 29/3M  | 10.5%     | MW 30 mm     | 56 mm                | 0.85 | B    | 0.8 M          |
|                       | 4.4.1                   | 9/2 HR      | 6%        | MW 30 mm     | 216 mm               | 0.82 | C    | 0.75 L         |
|                       |                         | 9/2 HR      | 6%        | MW 30 mm     | 76 mm                | 0.86 | C    | 0.75 M         |
|                       | 4.4.2                   | 9/2 HR      | 6%        | MW 30 mm     | 56 mm                | 0.85 | C    | 0.75 M         |
|                       | 4.15.1                  | 61/3 M      | 3.0%      | MW 30 mm     | 226 mm               | 0.49 | D    | 0.50 L         |
| 16                    |                         | 61/3 M      | 3.0%      | MW 30 mm     | 66 mm                | 0.51 | D    | 0.45 L         |
|                       | 4.16.1                  | 93/3 M      | 2.0%      | MW 30 mm     | 226 mm               | 0.38 | D    | 0.35 L         |
|                       |                         | 93/3 M      | 2.0%      | MW 30 mm     | 66 mm                | 0.39 | D    | 0.35 L         |
|                       | 3.4.1                   | 12/4 M Aria | 15%       | MW 30 mm     | 246 mm               | 0.89 | B    | 0.8            |
|                       |                         | 12/4 M Aria | 15%       | MW 30 mm     | 96 mm                | 0.86 | B    | 0.8 M          |
| 19                    | 4.8.1                   | 28/4 M Aria | 7.5%      | MW 30 mm     | 216 mm               | 0.78 | D    | 0.55 LM        |
|                       |                         | 28/4 M Aria | 7.5%      | MW 30 mm     | 46 mm                | 0.72 | D    | 0.55 M         |
|                       | 4.8.3                   | 28/4 M Aria | 3.8%      | MW 30 mm     | 216 mm               | 0.63 | D    | 0.5 LM         |
|                       |                         | 28/4 M Aria | 3.8%      | MW 30 mm     | 76 mm                | 0.69 | D    | 0.5 LM         |
|                       | 3.5.1                   | 12/4 M      | 12.0%     | Sasmox/Resap | 216 mm               | 0.85 | A    | 0.9            |
| 19                    |                         | 12/4 M      | 12.0%     | Sasmox/Resap | 56 mm                | 0.86 | B    | 0.85           |
|                       | 3.6.5                   | 13/3 M      | 9.0%      | Sasmox/Resap | 58mm                 | 0.83 | C    | 0.75 M         |
|                       |                         | 13/3 M      | 9.0%      | Sasmox/Resap | 218mm                | 0.81 | C    | 0.75 L         |

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPAKUSTIK® wall- and ceiling panelling  
type TOPAKUSTIK® 19/2 M 6%

Research: Laboratory: Hochschule Luzern 14.07.2015  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 52.6%  
Echo space volume: 214.5 m<sup>3</sup> Temperature: 23.6 degrees



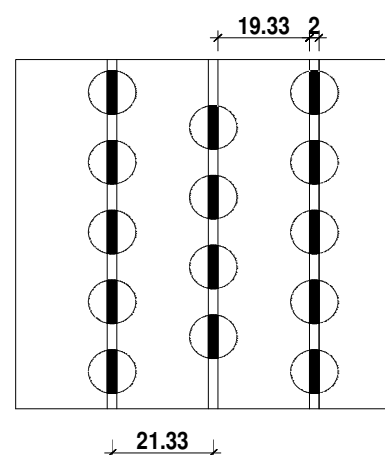
TOPAKUSTIK® 19/2 M, 6 %

Acoustic fleece SP 60 F

Mineral wool 30 mm

60 kg / m<sup>3</sup>

**Suspension heights:**  
**216/56 mm**



## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.72

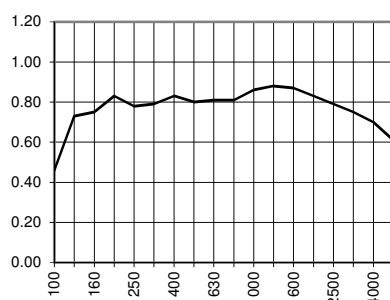
Medium frequency range: (400-1250 Hz): 0.83

High frequency range: (1600-5000 Hz): 0.76

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.46 |
| 125  | 0.73 |
| 160  | 0.75 |
| 200  | 0.83 |
| 250  | 0.78 |
| 315  | 0.79 |
| 400  | 0.83 |
| 500  | 0.80 |
| 630  | 0.81 |
| 800  | 0.81 |
| 1000 | 0.86 |
| 1250 | 0.88 |
| 1600 | 0.87 |
| 2000 | 0.83 |
| 2500 | 0.79 |
| 3150 | 0.75 |
| 4000 | 0.70 |
| 5000 | 0.61 |

## Suspension height 216 mm



**a<sub>w</sub> 0.85 (B)**  
**NRC 0.82**

## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.49

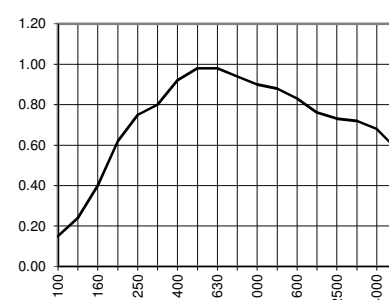
Medium frequency range: (400-1250 Hz): 0.93

High frequency range: (1600-5000 Hz): 0.72

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.15 |
| 125  | 0.24 |
| 160  | 0.40 |
| 200  | 0.62 |
| 250  | 0.75 |
| 315  | 0.80 |
| 400  | 0.92 |
| 500  | 0.98 |
| 630  | 0.98 |
| 800  | 0.94 |
| 1000 | 0.90 |
| 1250 | 0.88 |
| 1600 | 0.83 |
| 2000 | 0.76 |
| 2500 | 0.73 |
| 3150 | 0.72 |
| 4000 | 0.68 |
| 5000 | 0.58 |

## Suspension height 56 mm



**a<sub>w</sub> 0.80 M (B)**  
**NRC 0.85**

**Sound absorption in accordance with ISO 354: 1985**  
**Rating in acc. with ISO 11654:1997E and NRC acc. ASTM C423 (USA)**

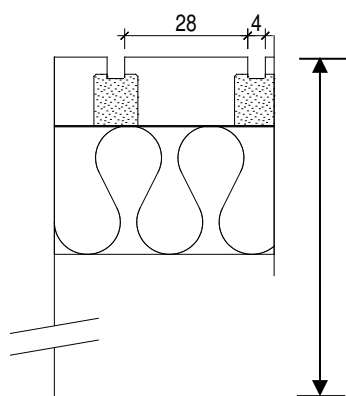
All datas from the brochure 2017 listed according page number of brochure

| Brochure 2017<br>Page | File sheet<br>NH A+D AG | Type        | %         | Absorber     | Suspension<br>height | NRC  | Euro | a <sub>w</sub> |
|-----------------------|-------------------------|-------------|-----------|--------------|----------------------|------|------|----------------|
| <b>TOPAKUSTIK®</b>    |                         |             |           |              |                      |      |      |                |
| 6                     | 2.3.1                   | 6/2 M       | 7%        | MW 30 mm     | 216 mm               | 0.91 | B    | 0.85           |
|                       |                         | 6/2 M       | 7%        | MW 30 mm     | 76 mm                | 0.87 | B    | 0.8 M          |
|                       | 2.3.3                   | 6/2 M       | 7%        | MW 30 mm     | 56 mm                | 0.86 | B    | 0.8 M          |
|                       | 2.3.10                  | 6/2 T       | 30 / 2%   | MW 30 mm     | 56 mm                | 0.62 | D    | 0.4 LM         |
|                       | 2.3.11                  | 6/2 T       | 30 / 2%   | MW 30 mm     | 216 mm               | 0.57 | D    | 0.4 LM         |
| 7                     |                         | 6/2 T       | 30 / 2%   | MW 30 mm     | 76 mm                | 0.61 | D    | 0.35 LM        |
|                       | 2.4.1                   | 9/2 M       | 6%        | MW 30 mm     | 216 mm               | 0.82 | C    | 0.75 L         |
|                       |                         | 9/2 M       | 6%        | MW 30 mm     | 76 mm                | 0.86 | C    | 0.75 M         |
|                       | 2.4.2                   | 9/2 M       | 6%        | MW 30 mm     | 56 mm                | 0.85 | C    | 0.75 M         |
|                       | 1.4.1                   | 8/3 M       | 19%       | MW 30 mm     | 200 mm               | 1.00 | D    | 0.55 LM        |
|                       |                         | 8/3 M       | 19%       | MW 30 mm     | 56 mm                | 0.87 | D    | 0.45 LM        |
|                       | 1.4.2                   | 8/3 M       | 9.5%      | MW 30 mm     | 200 mm               | 0.92 | D    | 0.45 LM        |
| 8                     |                         | 8/3 M       | 9.5%      | MW 30 mm     | 56 mm                | 0.85 | D    | 0.4 LM         |
|                       | 3.9.3                   | 14/2 M      | 7%        | MW 30 mm     | 216 mm               | 0.89 | A    | 0.90           |
|                       |                         | 14/2 M      | 7%        | MW 30 mm     | 76 mm                | 0.86 | B    | 0.85 M         |
|                       | 3.12.1                  | 14/2 M      | 3.5%      | MW 30 mm     | 216 mm               | 0.74 | C    | 0.75 LM        |
| 9                     |                         | 14/2 M      | 3.5%      | MW 30 mm     | 56 mm                | 0.79 | C    | 0.65 LM        |
|                       | 3.6.1                   | 13/3 M      | 12%       | MW 30 mm     | 246 mm               | 0.86 | C    | 0.75 L         |
|                       |                         | 13/3 M      | 12%       | MW 30 mm     | 96 mm                | 0.84 | C    | 0.75 M         |
|                       | 3.6.3                   | 13/3 M      | 12%       | MW 30 mm     | 56 mm                | 0.88 | C    | 0.75 M         |
|                       | 3.7.1                   | 13/3 M      | 6%        | MW 30 mm     | 216 mm               | 0.71 | C    | 0.65 L         |
|                       |                         | 13/3 M      | 6%        | MW 30 mm     | 76 mm                | 0.78 | C    | 0.65 LM        |
|                       | 3.7.2                   | 13/3 M      | 6%        | MW 30 mm     | 56 mm                | 0.76 | C    | 0.6 LM         |
|                       | 3.8.1                   | 13/3 T      | 30 / 3%   | MW 30 mm     | 56 mm                | 0.62 | D    | 0.35 LM        |
|                       | 3.8.2                   | 13/3 T      | 30 / 3%   | MW 30 mm     | 216 mm               | 0.57 | D    | 0.35 LM        |
|                       |                         | 13/3 T      | 30 / 3%   | MW 30 mm     | 76 mm                | 0.62 | D    | 0.35 LM        |
| 10                    | 3.4.1                   | 12/4 M      | 15%       | MW 30 mm     | 246 mm               | 0.89 | B    | 0.8            |
|                       |                         | 12/4 M      | 15%       | MW 30 mm     | 96 mm                | 0.86 | B    | 0.8 M          |
| 11                    | 4.7.1                   | 19/2 M      | 6%        | MW 30 mm     | 216 mm               | 0.82 | B    | 0.85           |
|                       |                         | 19/2 M      | 6%        | MW 30 mm     | 56 mm                | 0.85 | B    | 0.80           |
|                       | 4.8.1                   | 28/4 M      | 7.5%      | MW 30 mm     | 216 mm               | 0.78 | D    | 0.55 LM        |
|                       |                         | 28/4 M      | 7.5%      | MW 30 mm     | 46 mm                | 0.72 | D    | 0.55 M         |
|                       | 4.8.3                   | 28/4 M      | 3.8%      | MW 30 mm     | 216 mm               | 0.63 | D    | 0.5 LM         |
|                       |                         | 28/4 M      | 3.8%      | MW 30 mm     | 76 mm                | 0.69 | D    | 0.5 LM         |
|                       | 4.9.1                   | 28/4 T      | 15 / 1.4% | MW 30 mm     | 56 mm                | 0.47 | E    | 0.25 LM        |
|                       | 4.9.2                   | 28/4 T      | 15 / 1.4% | MW 30 mm     | 216 mm               | 0.41 | E    | 0.25 LM        |
|                       |                         | 28/4 T      | 15 / 1.4% | MW 30 mm     | 76 mm                | 0.47 | E    | 0.2 LM         |
|                       | 4.11.1                  | 29/3 M      | 5.9%      | MW 30 mm     | 216 mm               | 0.73 | C    | 0.65 L         |
|                       |                         | 29/3 M      | 5.9%      | MW 30 mm     | 76 mm                | 0.78 | C    | 0.6 LM         |
|                       | 4.11.2                  | 29/3 M      | 5.9%      | MW 30 mm     | 56 mm                | 0.76 | C    | 0.6 LM         |
| 14                    | 4.12.1                  | 30/2 M      | 3.5%      | MW 30 mm     | 216 mm               | 0.68 | D    | 0.55 LM        |
|                       |                         | 30/2 M      | 3.5%      | MW 30 mm     | 76 mm                | 0.73 | D    | 0.5 LM         |
|                       | 4.12.2                  | 30/2 M      | 3.5%      | MW 30 mm     | 56 mm                | 0.72 | D    | 0.5 LM         |
|                       | 4.11.10                 | Caro 29/3M  | 10.5%     | MW 30 mm     | 216 mm               | 0.84 | B    | 0.85           |
|                       |                         | Caro 29/3M  | 10.5%     | MW 30 mm     | 76 mm                | 0.86 | B    | 0.8 M          |
|                       | 4.11.11                 | Caro 29/3M  | 10.5%     | MW 30 mm     | 56 mm                | 0.85 | B    | 0.8 M          |
|                       | 4.4.1                   | 9/2 HR      | 6%        | MW 30 mm     | 216 mm               | 0.82 | C    | 0.75 L         |
|                       |                         | 9/2 HR      | 6%        | MW 30 mm     | 76 mm                | 0.86 | C    | 0.75 M         |
| 16                    | 4.4.2                   | 9/2 HR      | 6%        | MW 30 mm     | 56 mm                | 0.85 | C    | 0.75 M         |
|                       | 4.15.1                  | 61/3 M      | 3.0%      | MW 30 mm     | 226 mm               | 0.49 | D    | 0.50 L         |
|                       |                         | 61/3 M      | 3.0%      | MW 30 mm     | 66 mm                | 0.51 | D    | 0.45 L         |
|                       | 4.16.1                  | 93/3 M      | 2.0%      | MW 30 mm     | 226 mm               | 0.38 | D    | 0.35 L         |
|                       |                         | 93/3 M      | 2.0%      | MW 30 mm     | 66 mm                | 0.39 | D    | 0.35 L         |
|                       | 3.4.1                   | 12/4 M Aria | 15%       | MW 30 mm     | 246 mm               | 0.89 | B    | 0.8            |
| 19                    |                         | 12/4 M Aria | 15%       | MW 30 mm     | 96 mm                | 0.86 | B    | 0.8 M          |
|                       | 4.8.1                   | 28/4 M Aria | 7.5%      | MW 30 mm     | 216 mm               | 0.78 | D    | 0.55 LM        |
|                       |                         | 28/4 M Aria | 7.5%      | MW 30 mm     | 46 mm                | 0.72 | D    | 0.55 M         |
|                       | 4.8.3                   | 28/4 M Aria | 3.8%      | MW 30 mm     | 216 mm               | 0.63 | D    | 0.5 LM         |
|                       |                         | 28/4 M Aria | 3.8%      | MW 30 mm     | 76 mm                | 0.69 | D    | 0.5 LM         |
| 19                    | 3.5.1                   | 12/4 M      | 12.0%     | Sasmox/Resap | 216 mm               | 0.85 | A    | 0.9            |
|                       |                         | 12/4 M      | 12.0%     | Sasmox/Resap | 56 mm                | 0.86 | B    | 0.85           |
|                       | 3.6.5                   | 13/3 M      | 9.0%      | Sasmox/Resap | 58mm                 | 0.83 | C    | 0.75 M         |
|                       |                         | 13/3 M      | 9.0%      | Sasmox/Resap | 218mm                | 0.81 | C    | 0.75 L         |

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPAKUSTIK® wall- and ceiling panelling  
 type TOPAKUSTIK® **28/4 M - 7.5 %**  
**28/4 M - 7.5 % Aria Plus**

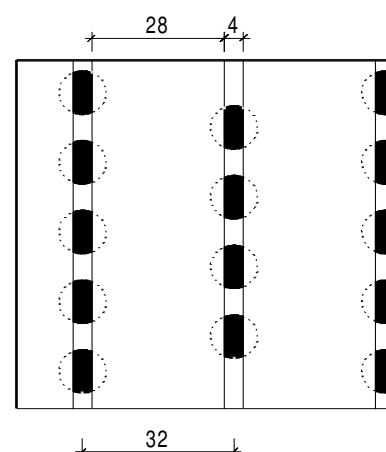
Research: Laboratory: ITA 19.12.1994  
 Test area: 10 m<sup>2</sup> Relative atmospheric humidity: 80%  
 Echo space volume: 218 m<sup>3</sup> Temperature: 13 degrees



TOPAKUSTIK® 28/4 M  
Acoustic fleece

Mineral wool 30 mm

**Suspension heights:**  
**216/46 mm**  
 Cavity 170/00 mm



## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.74  
 Medium frequency range: (400-1250 Hz): 0.83  
 High frequency range: (1600-5000 Hz): 0.48

Freq.

[Hz]

Terz

100

125

160

200

250

315

400

500

630

800

1000

1250

1600

2000

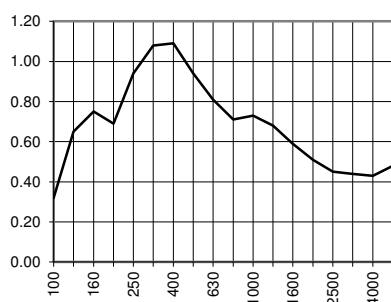
2500

3150

4000

5000

### Suspension height 216 mm



**EN D**  
**a<sub>w</sub> 0.55 LM**  
**NRC 0.78**

## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.32  
 Medium frequency range: (400-1250 Hz): 0.93  
 High frequency range: (1600-5000 Hz): 0.47

Freq.

[Hz]

Terz

100

125

160

200

250

315

400

500

630

800

1000

1250

1600

2000

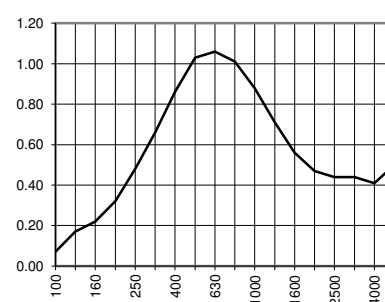
2500

3150

4000

5000

### Suspension height 46 mm

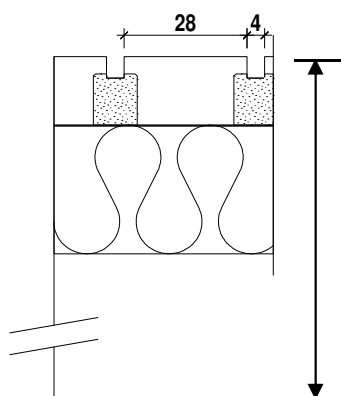


**EN D**  
**a<sub>w</sub> 0.55 M**  
**NRC 0.72**

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPAKUSTIK® wall- and ceiling panelling  
 Type TOPAKUSTIK® **28/4 M - 3.8 %**  
**28/4 M - 3.8 % Aria Plus**

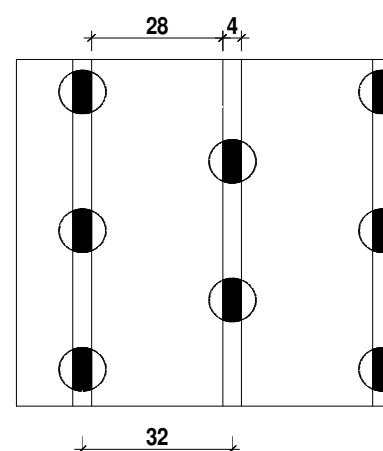
Research: Laboratory: SWISSCOM AG 03.02.2004  
 Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 29%  
 Echo space volume: 214.3 m<sup>3</sup> Temperature: 19.8 degrees



TOPAKUSTIK® 28/4 M  
Acoustic fleece

Mineral wool 30 mm

**Suspension heights:**  
**216/76 mm**  
 Cavity 170/30 mm



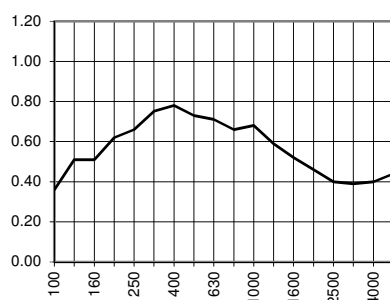
## Acoustical Absorption - Medium values

Low frequency range (100-315 Hz): 0.57  
 Medium frequency range (400-1250 Hz): 0.69  
 High frequency range (1600-5000 Hz): 0.44

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.36 |
| 125  | 0.51 |
| 160  | 0.51 |
| 200  | 0.62 |
| 250  | 0.66 |
| 315  | 0.75 |
| 400  | 0.78 |
| 500  | 0.73 |
| 630  | 0.71 |
| 800  | 0.66 |
| 1000 | 0.68 |
| 1250 | 0.59 |
| 1600 | 0.52 |
| 2000 | 0.46 |
| 2500 | 0.40 |
| 3150 | 0.39 |
| 4000 | 0.40 |
| 5000 | 0.44 |

## Suspension height 216 mm



**EN D**  
**a<sub>w</sub> 0.5 LM**  
**NRC 0.63**

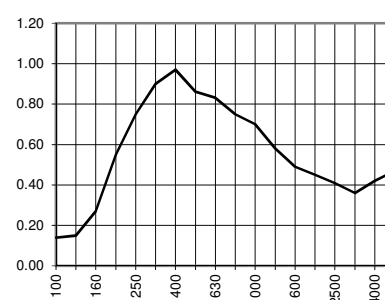
## Acoustical Absorption - Medium values

Low frequency range (100-315 Hz): 0.46  
 Medium frequency range (400-1250 Hz): 0.78  
 High frequency range (1600-5000 Hz): 0.43

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.14 |
| 125  | 0.15 |
| 160  | 0.27 |
| 200  | 0.55 |
| 250  | 0.75 |
| 315  | 0.90 |
| 400  | 0.97 |
| 500  | 0.86 |
| 630  | 0.83 |
| 800  | 0.75 |
| 1000 | 0.70 |
| 1250 | 0.58 |
| 1600 | 0.49 |
| 2000 | 0.45 |
| 2500 | 0.41 |
| 3150 | 0.36 |
| 4000 | 0.42 |
| 5000 | 0.47 |

## Suspension height 76 mm

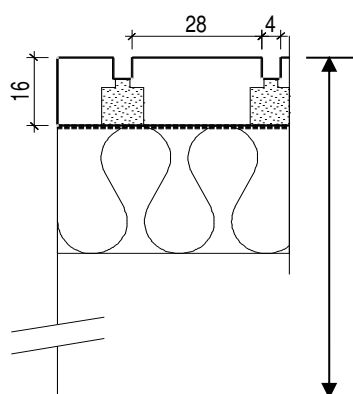


**EN D**  
**a<sub>w</sub> 0.5 LM**  
**NRC 0.69**

**Acoustical Absorption Coefficient according to ISO 354**

Object: TOPAKUSTIK® wall- and ceiling panelling  
Type TOPAKUSTIK® **28/4 T** **15 / 1.4 %**

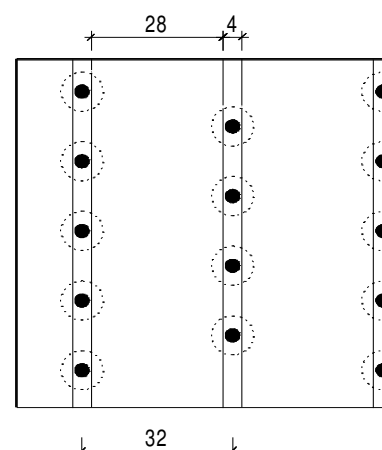
Research: Laboratory: SWISSCOM AG 11.08.2000  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 57%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 19 degrees



**TOPAKUSTIK® 28/4 T**  
Acoustic fleece

Mineral wool 30 mm

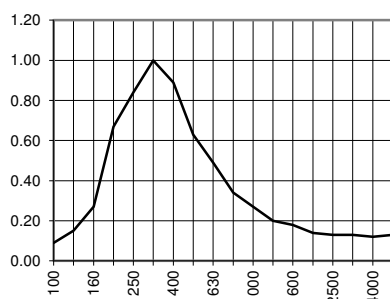
**Suspension height:**  
**56 mm**  
Cavity 10 mm

**Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz): 0.50  
Medium frequency range: (400-1250 Hz): 0.47  
High frequency range: (1600-5000 Hz): 0.14

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.09 |
| 125  | 0.15 |
| 160  | 0.27 |
| 200  | 0.67 |
| 250  | 0.84 |
| 315  | 1.00 |
| 400  | 0.89 |
| 500  | 0.63 |
| 630  | 0.49 |
| 800  | 0.34 |
| 1000 | 0.27 |
| 1250 | 0.20 |
| 1600 | 0.18 |
| 2000 | 0.14 |
| 2500 | 0.13 |
| 3150 | 0.13 |
| 4000 | 0.12 |
| 5000 | 0.13 |

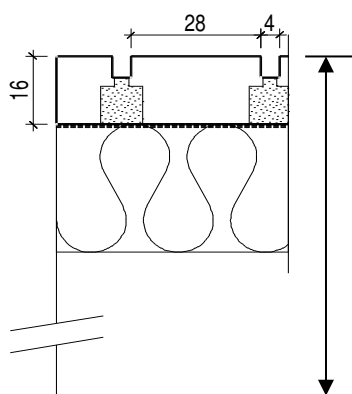
**Suspension height 56 mm**

**EN E**  
**a<sub>w</sub> 0.25 LM**  
**NRC 0.47**

## Acoustical Absorption Coefficient according to ISO 354

Objet: TOPAKUSTIK® wall- and ceiling panelling  
Type TOPAKUSTIK® 28/4 T 15 / 1.4 %

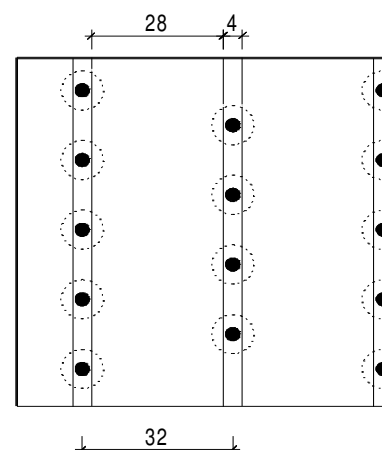
Research: Laboratory: SWISSCOM AG 11.08.2000  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 57%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 19 degrees



TOPAKUSTIK® 28/4 T  
Acoustic fleece

Mineral wool 30 mm

**Suspension heights:**  
**216/76 mm**  
Cavity 170/30 mm



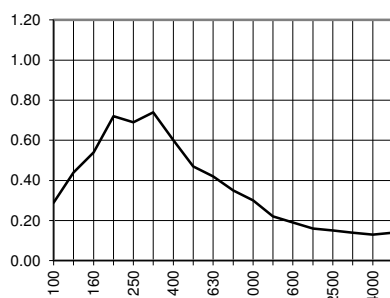
## Acoustical absorption - Medium values

Low frequency range: (100-315 Hz): 0.57  
Medium frequency range: (400-1250 Hz): 0.39  
High frequency range: (1600-5000 Hz): 0.15

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.29 |
| 125  | 0.44 |
| 160  | 0.54 |
| 200  | 0.72 |
| 250  | 0.69 |
| 315  | 0.74 |
| 400  | 0.60 |
| 500  | 0.47 |
| 630  | 0.42 |
| 800  | 0.35 |
| 1000 | 0.30 |
| 1250 | 0.22 |
| 1600 | 0.19 |
| 2000 | 0.16 |
| 2500 | 0.15 |
| 3150 | 0.14 |
| 4000 | 0.13 |
| 5000 | 0.14 |

## Suspension height 216 mm



**EN E**  
**a<sub>w</sub> 0.25 LM**  
**NRC 0.41**

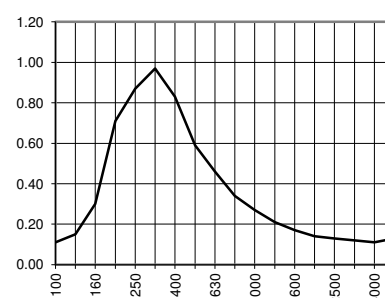
## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.52  
Medium frequency range: (400-1250 Hz): 0.45  
High frequency range: (1600-5000 Hz): 0.13

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.11 |
| 125  | 0.15 |
| 160  | 0.30 |
| 200  | 0.71 |
| 250  | 0.87 |
| 315  | 0.97 |
| 400  | 0.83 |
| 500  | 0.59 |
| 630  | 0.46 |
| 800  | 0.34 |
| 1000 | 0.27 |
| 1250 | 0.21 |
| 1600 | 0.17 |
| 2000 | 0.14 |
| 2500 | 0.13 |
| 3150 | 0.12 |
| 4000 | 0.11 |
| 5000 | 0.13 |

## Suspension height 76 mm

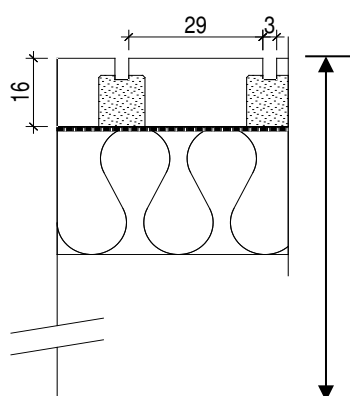


**EN E**  
**a<sub>w</sub> 0.2 LM**  
**NRC 0.47**

**Acoustical Absorption Coefficient according to ISO 354**

Object: TOPAKUSTIK® wall- and ceiling panelling  
Type TOPAKUSTIK® **29/3 M 5.9%**

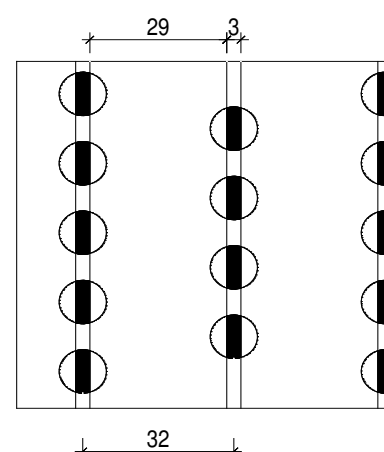
Research: Laboratory: SWISSCOM AG 03.02.2004  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 30.4%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 19.8 degrees



**TOPAKUSTIK® 29/3 M**  
Acoustic fleece

Mineral wool 30 mm

**Suspension heights:**  
**216/76 mm**  
Cavity 170/30 mm

**Acoustical Absorption - Medium values**

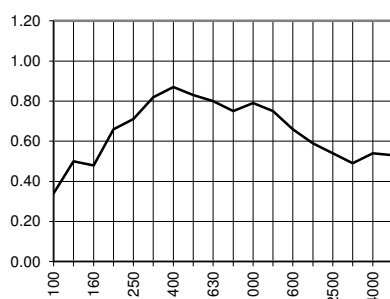
Low frequency range: (100-315 Hz): 0.59  
Medium frequency range: (400-1250 Hz): 0.80  
High frequency range: (1600-5000 Hz): 0.56

Freq.

[Hz]

Terz

|      |      |
|------|------|
| 100  | 0.34 |
| 125  | 0.50 |
| 160  | 0.48 |
| 200  | 0.66 |
| 250  | 0.71 |
| 315  | 0.82 |
| 400  | 0.87 |
| 500  | 0.83 |
| 630  | 0.80 |
| 800  | 0.75 |
| 1000 | 0.79 |
| 1250 | 0.75 |
| 1600 | 0.66 |
| 2000 | 0.59 |
| 2500 | 0.54 |
| 3150 | 0.49 |
| 4000 | 0.54 |
| 5000 | 0.53 |

**Suspension height 216 mm**

**EN C**  
**a<sub>w</sub> 0.65 L**  
**NRC 0.73**

**Acoustical Absorption - Medium values**

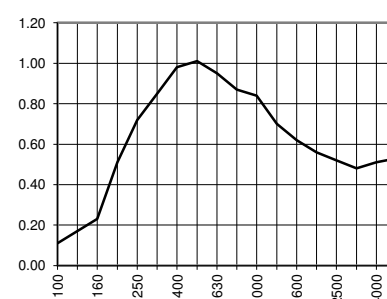
Low frequency range: (100-315 Hz): 0.43  
Medium frequency range: (400-1250 Hz): 0.89  
High frequency range: (1600-5000 Hz): 0.54

Freq.

[Hz]

Terz

|      |      |
|------|------|
| 100  | 0.11 |
| 125  | 0.17 |
| 160  | 0.23 |
| 200  | 0.51 |
| 250  | 0.72 |
| 315  | 0.85 |
| 400  | 0.98 |
| 500  | 1.01 |
| 630  | 0.95 |
| 800  | 0.87 |
| 1000 | 0.84 |
| 1250 | 0.70 |
| 1600 | 0.62 |
| 2000 | 0.56 |
| 2500 | 0.52 |
| 3150 | 0.48 |
| 4000 | 0.51 |
| 5000 | 0.53 |

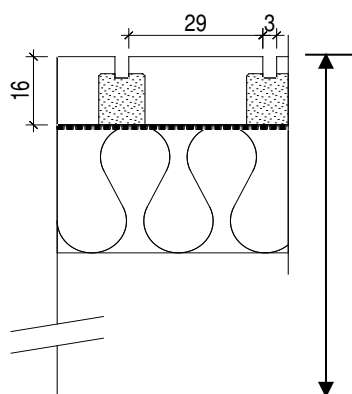
**Suspension height 76 mm**

**EN C**  
**a<sub>w</sub> 0.6 LM**  
**NRC 0.78**

**Acoustical Absorption Coefficient according to ISO 354**

Object: TOPAKUSTIK® wall- and ceiling panelling  
Type TOPAKUSTIK® **29/3 M 5.9%**

Research: Laboratory: SWISSCOM AG 03.02.2004  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 29.1%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 19.4 degrees



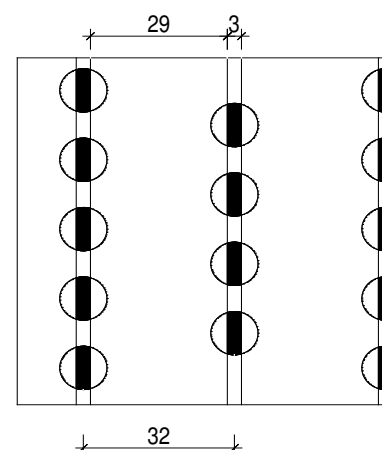
TOPAKUSTIK® 29/3 M  
Acoustic fleece

Mineral wool 30 mm

**Suspension height:**

**56 mm**

Cavity 10 mm

**Acoustical Absorption - Medium values**

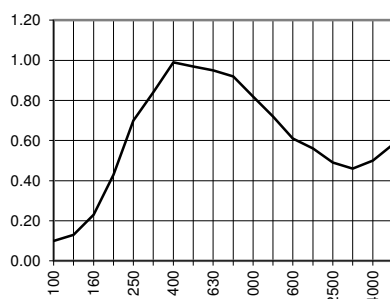
Low frequency range: (100-315 Hz): 0.41

Medium frequency range: (400-1250 Hz): 0.90

High frequency range: (1600-5000 Hz): 0.53

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.10 |
| 125  | 0.13 |
| 160  | 0.23 |
| 200  | 0.43 |
| 250  | 0.70 |
| 315  | 0.84 |
| 400  | 0.99 |
| 500  | 0.97 |
| 630  | 0.95 |
| 800  | 0.92 |
| 1000 | 0.82 |
| 1250 | 0.72 |
| 1600 | 0.61 |
| 2000 | 0.56 |
| 2500 | 0.49 |
| 3150 | 0.46 |
| 4000 | 0.50 |
| 5000 | 0.58 |

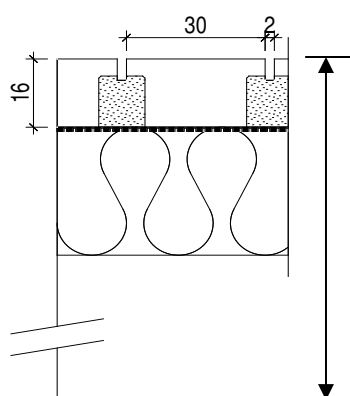
**Suspension height 56 mm**

**EN C**  
**a<sub>w</sub> 0.6 LM**  
**NRC 0.76**

**Acoustical Absorption Coefficient according to ISO 354**

Object: TOPAKUSTIK® Wand- und Deckenverkleidung  
Type TOPAKUSTIK® **30/2 M 3.5%**

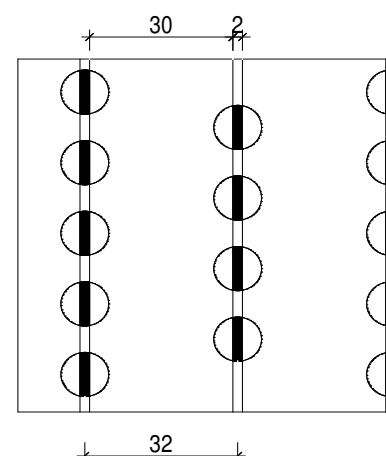
Research: Laboratory: SWISSCOM AG 03.02.2004  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 30.2%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 19.8 degrees



TOPAKUSTIK® 30/2 M  
Acoustic fleece

Mineral wool 30 mm

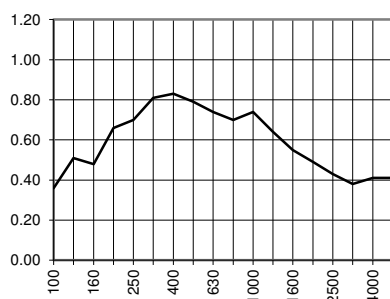
**Suspension heights:**  
**216/76 mm**  
Cavity 170/30 mm

**Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz): 0.59  
Medium frequency range: (400-1250 Hz): 0.74  
High frequency range: (1600-5000 Hz): 0.45

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.36 |
| 125  | 0.51 |
| 160  | 0.48 |
| 200  | 0.66 |
| 250  | 0.70 |
| 315  | 0.81 |
| 400  | 0.83 |
| 500  | 0.79 |
| 630  | 0.74 |
| 800  | 0.70 |
| 1000 | 0.74 |
| 1250 | 0.64 |
| 1600 | 0.55 |
| 2000 | 0.49 |
| 2500 | 0.43 |
| 3150 | 0.38 |
| 4000 | 0.41 |
| 5000 | 0.41 |

**Suspension height 216 mm**

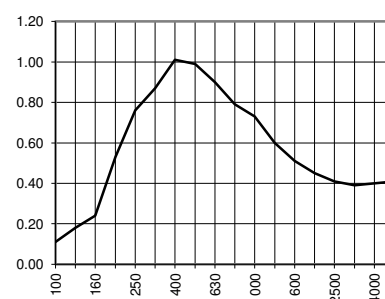
**EN D**  
**a<sub>w</sub> 0.55 LM**  
**NRC 0.68**

**Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz): 0.45  
Medium frequency range: (400-1250 Hz): 0.84  
High frequency range: (1600-5000 Hz): 0.43

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.11 |
| 125  | 0.18 |
| 160  | 0.24 |
| 200  | 0.53 |
| 250  | 0.76 |
| 315  | 0.87 |
| 400  | 1.01 |
| 500  | 0.99 |
| 630  | 0.90 |
| 800  | 0.79 |
| 1000 | 0.73 |
| 1250 | 0.60 |
| 1600 | 0.51 |
| 2000 | 0.45 |
| 2500 | 0.41 |
| 3150 | 0.39 |
| 4000 | 0.40 |
| 5000 | 0.41 |

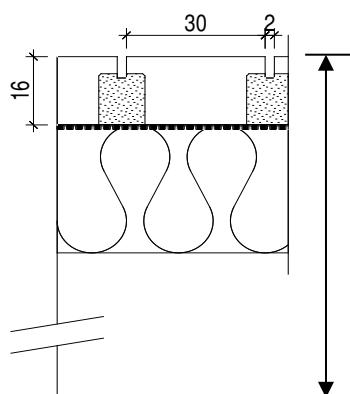
**Suspension height 76 mm**

**EN D**  
**a<sub>w</sub> 0.5 LM**  
**NRC 0.73**

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPAKUSTIK® wall- and ceiling panelling  
Type TOPAKUSTIK® **30/2 M 3.5%**

Research: Laboratory: SWISSCOM AG 03.02.2004  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 29%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 19.5 degrees



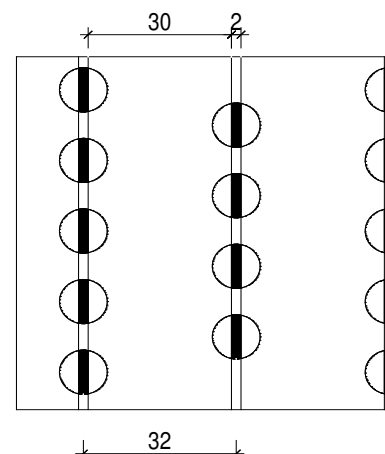
TOPAKUSTIK® 30/2 M  
Acoustic fleece

Mineral wool 30 mm

**Suspension height:**

**56 mm**

Cavity 10 mm



## Acoustical Absorption - Medium values

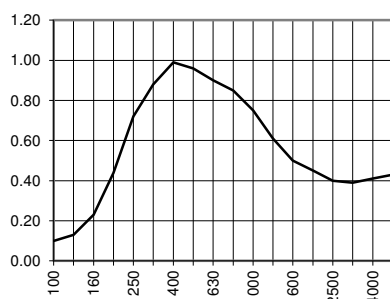
Low frequency range (100-315 Hz): 0.42

Medium frequency range (400-1250 Hz): 0.84

High frequency range (1600-5000 Hz): 0.43

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.10 |
| 125  | 0.13 |
| 160  | 0.23 |
| 200  | 0.44 |
| 250  | 0.72 |
| 315  | 0.88 |
| 400  | 0.99 |
| 500  | 0.96 |
| 630  | 0.90 |
| 800  | 0.85 |
| 1000 | 0.75 |
| 1250 | 0.61 |
| 1600 | 0.50 |
| 2000 | 0.45 |
| 2500 | 0.40 |
| 3150 | 0.39 |
| 4000 | 0.41 |
| 5000 | 0.43 |

**Suspension height 56 mm**

**EN D**  
**a<sub>w</sub> 0.5 LM**  
**NRC 0.72**

**Sound absorption in accordance with ISO 354: 1985**  
**Rating in acc. with ISO 11654:1997E and NRC acc. ASTM C423 (USA)**

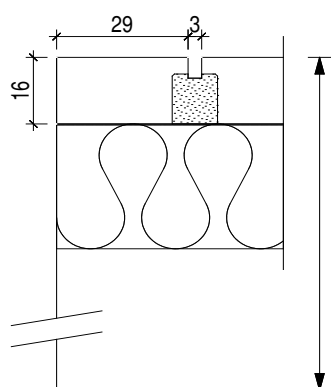
All datas from the brochure 2017 listed according page number of brochure

| Brochure 2017<br>Page | File sheet<br>NH A+D AG | Type        | %         | Absorber     | Suspension<br>height | NRC  | Euro | a <sub>w</sub> |
|-----------------------|-------------------------|-------------|-----------|--------------|----------------------|------|------|----------------|
| <b>TOPAKUSTIK®</b>    |                         |             |           |              |                      |      |      |                |
| 6                     | 2.3.1                   | 6/2 M       | 7%        | MW 30 mm     | 216 mm               | 0.91 | B    | 0.85           |
|                       |                         | 6/2 M       | 7%        | MW 30 mm     | 76 mm                | 0.87 | B    | 0.8 M          |
|                       | 2.3.3                   | 6/2 M       | 7%        | MW 30 mm     | 56 mm                | 0.86 | B    | 0.8 M          |
|                       | 2.3.10                  | 6/2 T       | 30 / 2%   | MW 30 mm     | 56 mm                | 0.62 | D    | 0.4 LM         |
|                       | 2.3.11                  | 6/2 T       | 30 / 2%   | MW 30 mm     | 216 mm               | 0.57 | D    | 0.4 LM         |
| 7                     |                         | 6/2 T       | 30 / 2%   | MW 30 mm     | 76 mm                | 0.61 | D    | 0.35 LM        |
|                       | 2.4.1                   | 9/2 M       | 6%        | MW 30 mm     | 216 mm               | 0.82 | C    | 0.75 L         |
|                       |                         | 9/2 M       | 6%        | MW 30 mm     | 76 mm                | 0.86 | C    | 0.75 M         |
|                       | 2.4.2                   | 9/2 M       | 6%        | MW 30 mm     | 56 mm                | 0.85 | C    | 0.75 M         |
|                       | 1.4.1                   | 8/3 M       | 19%       | MW 30 mm     | 200 mm               | 1.00 | D    | 0.55 LM        |
|                       |                         | 8/3 M       | 19%       | MW 30 mm     | 56 mm                | 0.87 | D    | 0.45 LM        |
|                       | 1.4.2                   | 8/3 M       | 9.5%      | MW 30 mm     | 200 mm               | 0.92 | D    | 0.45 LM        |
| 8                     |                         | 8/3 M       | 9.5%      | MW 30 mm     | 56 mm                | 0.85 | D    | 0.4 LM         |
|                       | 3.9.3                   | 14/2 M      | 7%        | MW 30 mm     | 216 mm               | 0.89 | A    | 0.90           |
|                       |                         | 14/2 M      | 7%        | MW 30 mm     | 76 mm                | 0.86 | B    | 0.85 M         |
|                       | 3.12.1                  | 14/2 M      | 3.5%      | MW 30 mm     | 216 mm               | 0.74 | C    | 0.75 LM        |
| 9                     |                         | 14/2 M      | 3.5%      | MW 30 mm     | 56 mm                | 0.79 | C    | 0.65 LM        |
|                       | 3.6.1                   | 13/3 M      | 12%       | MW 30 mm     | 246 mm               | 0.86 | C    | 0.75 L         |
|                       |                         | 13/3 M      | 12%       | MW 30 mm     | 96 mm                | 0.84 | C    | 0.75 M         |
|                       | 3.6.3                   | 13/3 M      | 12%       | MW 30 mm     | 56 mm                | 0.88 | C    | 0.75 M         |
|                       | 3.7.1                   | 13/3 M      | 6%        | MW 30 mm     | 216 mm               | 0.71 | C    | 0.65 L         |
|                       |                         | 13/3 M      | 6%        | MW 30 mm     | 76 mm                | 0.78 | C    | 0.65 LM        |
|                       | 3.7.2                   | 13/3 M      | 6%        | MW 30 mm     | 56 mm                | 0.76 | C    | 0.6 LM         |
|                       | 3.8.1                   | 13/3 T      | 30 / 3%   | MW 30 mm     | 56 mm                | 0.62 | D    | 0.35 LM        |
|                       | 3.8.2                   | 13/3 T      | 30 / 3%   | MW 30 mm     | 216 mm               | 0.57 | D    | 0.35 LM        |
|                       |                         | 13/3 T      | 30 / 3%   | MW 30 mm     | 76 mm                | 0.62 | D    | 0.35 LM        |
| 10                    | 3.4.1                   | 12/4 M      | 15%       | MW 30 mm     | 246 mm               | 0.89 | B    | 0.8            |
|                       |                         | 12/4 M      | 15%       | MW 30 mm     | 96 mm                | 0.86 | B    | 0.8 M          |
| 11                    | 4.7.1                   | 19/2 M      | 6%        | MW 30 mm     | 216 mm               | 0.82 | B    | 0.85           |
|                       |                         | 19/2 M      | 6%        | MW 30 mm     | 56 mm                | 0.85 | B    | 0.80           |
|                       | 4.8.1                   | 28/4 M      | 7.5%      | MW 30 mm     | 216 mm               | 0.78 | D    | 0.55 LM        |
|                       |                         | 28/4 M      | 7.5%      | MW 30 mm     | 46 mm                | 0.72 | D    | 0.55 M         |
|                       | 4.8.3                   | 28/4 M      | 3.8%      | MW 30 mm     | 216 mm               | 0.63 | D    | 0.5 LM         |
|                       |                         | 28/4 M      | 3.8%      | MW 30 mm     | 76 mm                | 0.69 | D    | 0.5 LM         |
|                       | 4.9.1                   | 28/4 T      | 15 / 1.4% | MW 30 mm     | 56 mm                | 0.47 | E    | 0.25 LM        |
|                       | 4.9.2                   | 28/4 T      | 15 / 1.4% | MW 30 mm     | 216 mm               | 0.41 | E    | 0.25 LM        |
|                       |                         | 28/4 T      | 15 / 1.4% | MW 30 mm     | 76 mm                | 0.47 | E    | 0.2 LM         |
|                       | 4.11.1                  | 29/3 M      | 5.9%      | MW 30 mm     | 216 mm               | 0.73 | C    | 0.65 L         |
|                       |                         | 29/3 M      | 5.9%      | MW 30 mm     | 76 mm                | 0.78 | C    | 0.6 LM         |
|                       | 4.11.2                  | 29/3 M      | 5.9%      | MW 30 mm     | 56 mm                | 0.76 | C    | 0.6 LM         |
|                       | 4.12.1                  | 30/2 M      | 3.5%      | MW 30 mm     | 216 mm               | 0.68 | D    | 0.55 LM        |
| 14                    |                         | 30/2 M      | 3.5%      | MW 30 mm     | 76 mm                | 0.73 | D    | 0.5 LM         |
|                       | 4.12.2                  | 30/2 M      | 3.5%      | MW 30 mm     | 56 mm                | 0.72 | D    | 0.5 LM         |
|                       | 4.11.10                 | Caro 29/3M  | 10.5%     | MW 30 mm     | 216 mm               | 0.84 | B    | 0.85           |
|                       |                         | Caro 29/3M  | 10.5%     | MW 30 mm     | 76 mm                | 0.86 | B    | 0.8 M          |
|                       | 4.11.11                 | Caro 29/3M  | 10.5%     | MW 30 mm     | 56 mm                | 0.85 | B    | 0.8 M          |
|                       | 4.4.1                   | 9/2 HR      | 6%        | MW 30 mm     | 216 mm               | 0.82 | C    | 0.75 L         |
|                       |                         | 9/2 HR      | 6%        | MW 30 mm     | 76 mm                | 0.86 | C    | 0.75 M         |
|                       | 4.4.2                   | 9/2 HR      | 6%        | MW 30 mm     | 56 mm                | 0.85 | C    | 0.75 M         |
|                       | 4.15.1                  | 61/3 M      | 3.0%      | MW 30 mm     | 226 mm               | 0.49 | D    | 0.50 L         |
|                       |                         | 61/3 M      | 3.0%      | MW 30 mm     | 66 mm                | 0.51 | D    | 0.45 L         |
| 16                    | 4.16.1                  | 93/3 M      | 2.0%      | MW 30 mm     | 226 mm               | 0.38 | D    | 0.35 L         |
|                       |                         | 93/3 M      | 2.0%      | MW 30 mm     | 66 mm                | 0.39 | D    | 0.35 L         |
|                       | 3.4.1                   | 12/4 M Aria | 15%       | MW 30 mm     | 246 mm               | 0.89 | B    | 0.8            |
|                       |                         | 12/4 M Aria | 15%       | MW 30 mm     | 96 mm                | 0.86 | B    | 0.8 M          |
|                       | 4.8.1                   | 28/4 M Aria | 7.5%      | MW 30 mm     | 216 mm               | 0.78 | D    | 0.55 LM        |
| 19                    |                         | 28/4 M Aria | 7.5%      | MW 30 mm     | 46 mm                | 0.72 | D    | 0.55 M         |
|                       | 4.8.3                   | 28/4 M Aria | 3.8%      | MW 30 mm     | 216 mm               | 0.63 | D    | 0.5 LM         |
|                       |                         | 28/4 M Aria | 3.8%      | MW 30 mm     | 76 mm                | 0.69 | D    | 0.5 LM         |
|                       | 3.5.1                   | 12/4 M      | 12.0%     | Sasmox/Resap | 216 mm               | 0.85 | A    | 0.9            |
|                       |                         | 12/4 M      | 12.0%     | Sasmox/Resap | 56 mm                | 0.86 | B    | 0.85           |
| 19                    | 3.6.5                   | 13/3 M      | 9.0%      | Sasmox/Resap | 58mm                 | 0.83 | C    | 0.75 M         |
|                       |                         | 13/3 M      | 9.0%      | Sasmox/Resap | 218mm                | 0.81 | C    | 0.75 L         |

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPAKUSTIK® wall- and ceiling panelling  
Type TOPAKUSTIK® **CARO 29/3 M - 10.5 %**

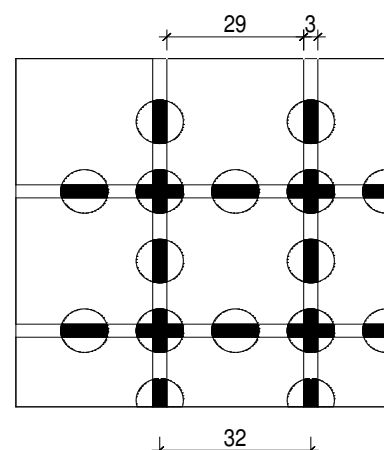
Research: Laboratory: SWISSCOM AG 24.10.2007  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 36.8%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 20.8 degrees



TOPAKUSTIK® Caro 29/3 M  
Acoustic fleece

Mineral wool 30 mm

**Suspension heights:**  
**216/76 mm**  
Cavity 170/30 mm



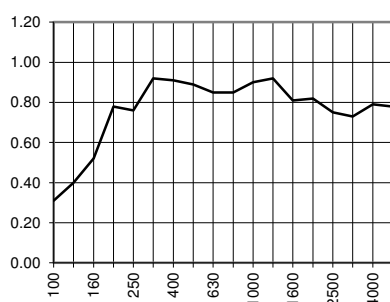
## Acoustical Absorption - Medium values

Low frequency range (100-315 Hz): 0.62  
Medium frequency range (400-1250 Hz): 0.89  
High frequency range (1600-5000 Hz): 0.78

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.31 |
| 125  | 0.40 |
| 160  | 0.52 |
| 200  | 0.78 |
| 250  | 0.76 |
| 315  | 0.92 |
| 400  | 0.91 |
| 500  | 0.89 |
| 630  | 0.85 |
| 800  | 0.85 |
| 1000 | 0.90 |
| 1250 | 0.92 |
| 1600 | 0.81 |
| 2000 | 0.82 |
| 2500 | 0.75 |
| 3150 | 0.73 |
| 4000 | 0.79 |
| 5000 | 0.78 |

## Suspension height 216 mm



**EN B**  
**a<sub>w</sub> 0.85**  
**NRC 0.84**

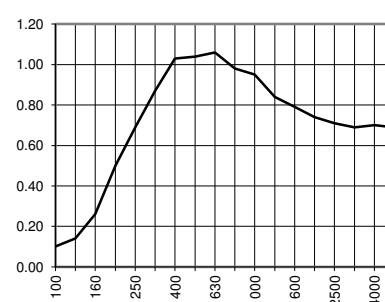
## Acoustical Absorption - Medium values

Low frequency range (100-315 Hz): 0.43  
Medium frequency range (400-1250 Hz): 0.98  
High frequency range (1600-5000 Hz): 0.72

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.10 |
| 125  | 0.14 |
| 160  | 0.26 |
| 200  | 0.50 |
| 250  | 0.69 |
| 315  | 0.87 |
| 400  | 1.03 |
| 500  | 1.04 |
| 630  | 1.06 |
| 800  | 0.98 |
| 1000 | 0.95 |
| 1250 | 0.84 |
| 1600 | 0.79 |
| 2000 | 0.74 |
| 2500 | 0.71 |
| 3150 | 0.69 |
| 4000 | 0.70 |
| 5000 | 0.69 |

## Suspension height 76 mm

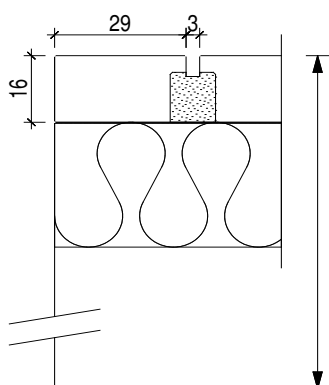


**EN B**  
**a<sub>w</sub> 0.8 M**  
**NRC 0.86**

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPAKUSTIK® wall- and ceiling panelling  
Type TOPAKUSTIK® **CARO 29/3 M - 10.5 %**

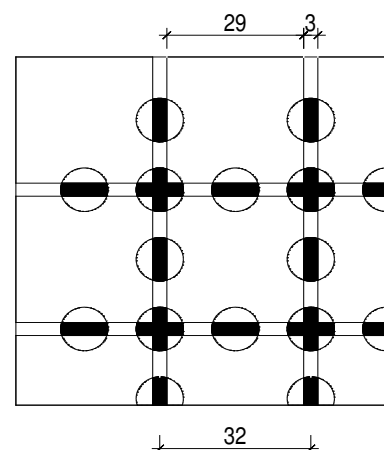
Research: Laboratory: SWISSCOM AG 24.10.2007  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 37.8%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 20.4 degrees



TOPAKUSTIK® Caro 29/3 M  
Acoustic fleece

Mineral wool 30 mm

**Suspension heights:**  
**56 mm**  
Cavity 10 mm



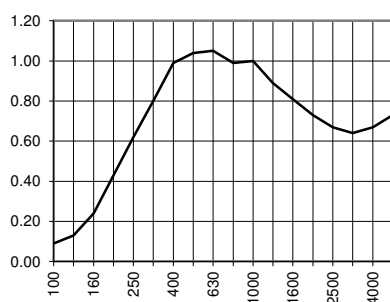
## Acoustical Absorption - Medium values

Low frequency range (100-315 Hz): 0.39  
Medium frequency range (400-1250 Hz): 0.99  
High frequency range (1600-5000 Hz): 0.71

Freq.

[Hz] Terz

|      |      |
|------|------|
| 100  | 0.09 |
| 125  | 0.13 |
| 160  | 0.24 |
| 200  | 0.43 |
| 250  | 0.62 |
| 315  | 0.80 |
| 400  | 0.99 |
| 500  | 1.04 |
| 630  | 1.05 |
| 800  | 0.99 |
| 1000 | 1.00 |
| 1250 | 0.89 |
| 1600 | 0.81 |
| 2000 | 0.73 |
| 2500 | 0.67 |
| 3150 | 0.64 |
| 4000 | 0.67 |
| 5000 | 0.73 |

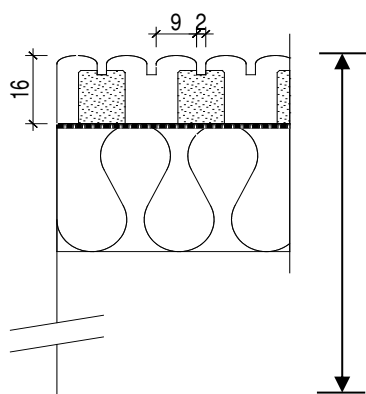
**Suspension height 56 mm**

**EN B**  
**a<sub>w</sub> 0.8 M**  
**NRC 0.85**

**Acoustical Absorption Coefficient according to ISO 354**

Object: TOPAKUSTIK® wall- and ceiling panelling  
Type TOPAKUSTIK® **9/2 HR 6%**

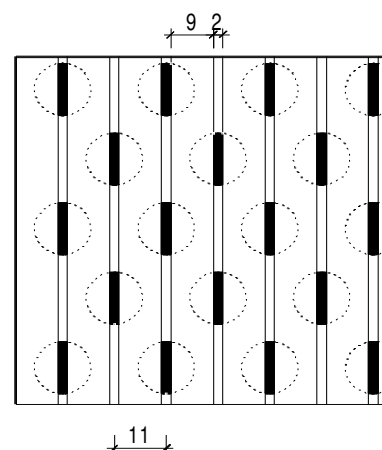
Research: Laboratory: SWISSCOM AG 03.05.1999  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 55%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 20 degrees



**TOPAKUSTIK® 9/2 M**  
Acoustic fleece

Mineral wool 30 mm

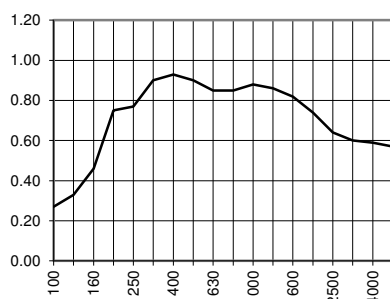
**Suspension heights:**  
**216/76 mm**  
Cavity 170/30 mm

**Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz): 0.58  
Medium frequency range: (400-1250 Hz): 0.88  
High frequency range: (1600-5000 Hz): 0.66

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.27 |
| 125  | 0.33 |
| 160  | 0.46 |
| 200  | 0.75 |
| 250  | 0.77 |
| 315  | 0.90 |
| 400  | 0.93 |
| 500  | 0.90 |
| 630  | 0.85 |
| 800  | 0.85 |
| 1000 | 0.88 |
| 1250 | 0.86 |
| 1600 | 0.82 |
| 2000 | 0.74 |
| 2500 | 0.64 |
| 3150 | 0.60 |
| 4000 | 0.59 |
| 5000 | 0.57 |

**Suspension height 216 mm**

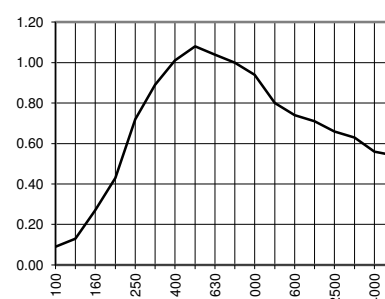
**EN C**  
**a<sub>w</sub> 0.75 L**  
**NRC 0.82**

**Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz): 0.42  
Medium frequency range: (400-1250 Hz): 0.98  
High frequency range: (1600-5000 Hz): 0.64

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.09 |
| 125  | 0.13 |
| 160  | 0.27 |
| 200  | 0.43 |
| 250  | 0.72 |
| 315  | 0.89 |
| 400  | 1.01 |
| 500  | 1.08 |
| 630  | 1.04 |
| 800  | 1.00 |
| 1000 | 0.94 |
| 1250 | 0.80 |
| 1600 | 0.74 |
| 2000 | 0.71 |
| 2500 | 0.66 |
| 3150 | 0.63 |
| 4000 | 0.56 |
| 5000 | 0.54 |

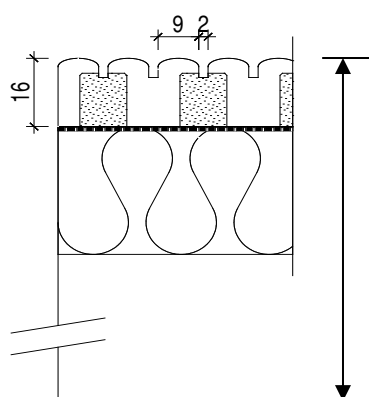
**Suspension height 76 mm**

**EN C**  
**a<sub>w</sub> 0.75 M**  
**NRC 0.86**

## Acoustical Absorption Coefficient according to ISO 354

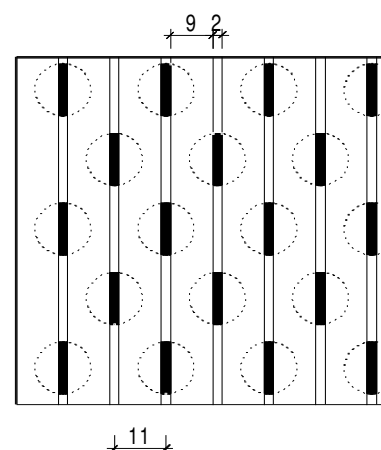
Object: TOPAKUSTIK® wall- and ceiling panelling  
Type TOPAKUSTIK® 9/2 HR 6%

Research: Laboratory: SWISSCOM AG 03.05.1999  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 55%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 20 degrees



TOPAKUSTIK® 9/2 HR  
Acoustic fleece

**Suspension height:**  
**56 mm**  
Cavity 40 mm

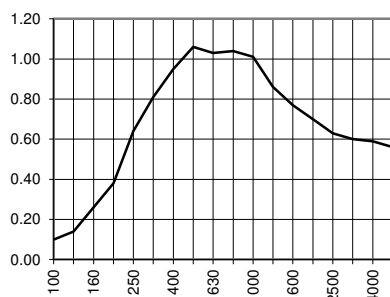


## Acoustical Absorption - Medium values

Low frequency range (100-315 Hz): 0.39  
Medium frequency range (400-1250 Hz): 0.99  
High frequency range (1600-5000 Hz): 0.64

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.10 |
| 125  | 0.14 |
| 160  | 0.26 |
| 200  | 0.38 |
| 250  | 0.64 |
| 315  | 0.81 |
| 400  | 0.95 |
| 500  | 1.06 |
| 630  | 1.03 |
| 800  | 1.04 |
| 1000 | 1.01 |
| 1250 | 0.86 |
| 1600 | 0.77 |
| 2000 | 0.70 |
| 2500 | 0.63 |
| 3150 | 0.60 |
| 4000 | 0.59 |
| 5000 | 0.56 |

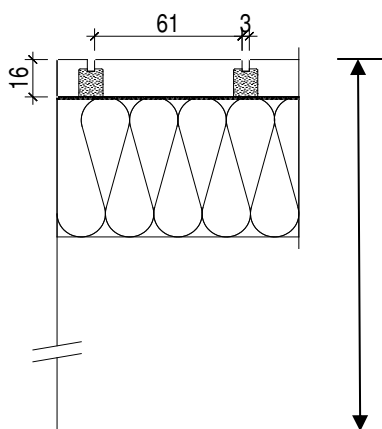
**Suspension height 56 mm**

**EN C**  
**a<sub>w</sub> 0.75 M**  
**NRC 0.85**

**Acoustical Absorption Coefficient according to ISO 354**

Object: TOPAKUSTIK® Wall- and ceiling panelling  
Type TOPAKUSTIK® **61/3 M 3.0%**

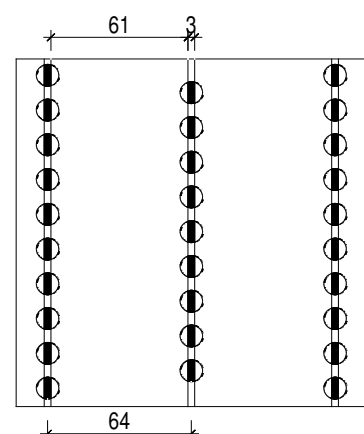
Research: Laboratory: University Lucerne 27.07.2016  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 67.8%  
Echo space volume: 210.3 m<sup>3</sup> Temperature: 22 / 21.6 degrees



**TOPAKUSTIK® 61/3 M**  
Acoustic fleece

Mineral wool 30 mm  
60 kg / m<sup>3</sup>

**Suspension heights:**  
**226/66 mm**  
Cavity 170/10 mm

**Acoustical Absorption - Medium values**

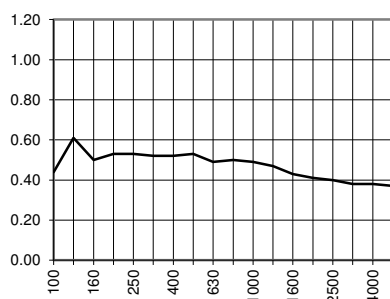
Low frequency range: (100-315 Hz): 0.52  
Medium frequency range: (400-1250 Hz): 0.50  
High frequency range: (1600-5000 Hz): 0.40

Freq.

[Hz]

Terz

|      |      |
|------|------|
| 100  | 0.44 |
| 125  | 0.61 |
| 160  | 0.50 |
| 200  | 0.53 |
| 250  | 0.53 |
| 315  | 0.52 |
| 400  | 0.52 |
| 500  | 0.53 |
| 630  | 0.49 |
| 800  | 0.50 |
| 1000 | 0.49 |
| 1250 | 0.47 |
| 1600 | 0.43 |
| 2000 | 0.41 |
| 2500 | 0.40 |
| 3150 | 0.38 |
| 4000 | 0.38 |
| 5000 | 0.37 |

**Suspension height 226 mm**

**EN D**  
**a<sub>w</sub> 0.50 L**  
**NRC 0.49**

**Acoustical Absorption - Medium values**

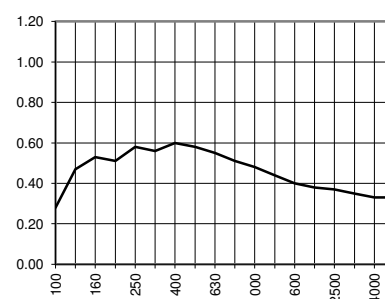
Low frequency range: (100-315 Hz): 0.49  
Medium frequency range: (400-1250 Hz): 0.53  
High frequency range: (1600-5000 Hz): 0.36

Freq.

[Hz]

Terz

|      |      |
|------|------|
| 100  | 0.28 |
| 125  | 0.47 |
| 160  | 0.53 |
| 200  | 0.51 |
| 250  | 0.58 |
| 315  | 0.56 |
| 400  | 0.60 |
| 500  | 0.58 |
| 630  | 0.55 |
| 800  | 0.51 |
| 1000 | 0.48 |
| 1250 | 0.44 |
| 1600 | 0.40 |
| 2000 | 0.38 |
| 2500 | 0.37 |
| 3150 | 0.35 |
| 4000 | 0.33 |
| 5000 | 0.33 |

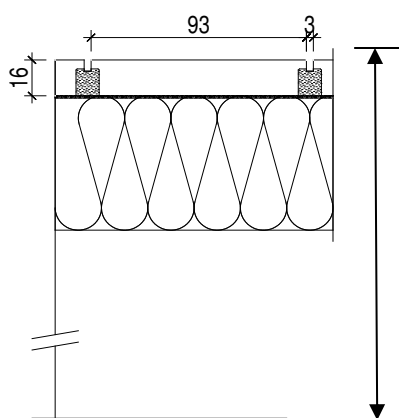
**Suspension height 66 mm**

**EN D**  
**a<sub>w</sub> 0.45 L**  
**NRC 0.51**

**Acoustical Absorption Coefficient according to ISO 354**

Object: TOPAKUSTIK® Wall- and ceiling panelling  
Type TOPAKUSTIK® **93/3 M 2.0%**

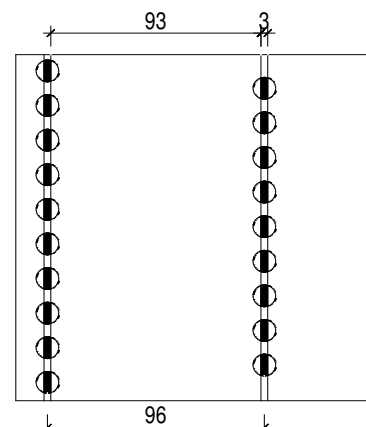
Research: Laboratory: University Lucerne 27.07.2016  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 69.2 / 67.6%  
Echo space volume: 210.3 m<sup>3</sup> Temperature: 22.1 degrees



**TOPAKUSTIK® 93/3 M**  
Acoustic fleece

Mineral wool 30 mm  
60 kg / m<sup>3</sup>

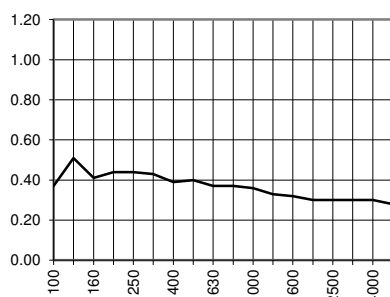
**Suspension heights:**  
**226/66 mm**  
Cavity 170/10 mm

**Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz): 0.43  
Medium frequency range: (400-1250 Hz): 0.37  
High frequency range: (1600-5000 Hz): 0.30

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.37 |
| 125  | 0.51 |
| 160  | 0.41 |
| 200  | 0.44 |
| 250  | 0.44 |
| 315  | 0.43 |
| 400  | 0.39 |
| 500  | 0.40 |
| 630  | 0.37 |
| 800  | 0.37 |
| 1000 | 0.36 |
| 1250 | 0.33 |
| 1600 | 0.32 |
| 2000 | 0.30 |
| 2500 | 0.30 |
| 3150 | 0.30 |
| 4000 | 0.30 |
| 5000 | 0.28 |

**Suspension height 226 mm**

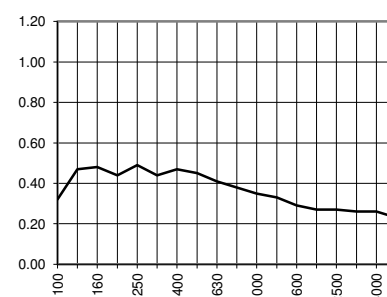
**EN D**  
**a<sub>w</sub> 0.35 L**  
**NRC 0.38**

**Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz): 0.44  
Medium frequency range: (400-1250 Hz): 0.40  
High frequency range: (1600-5000 Hz): 0.26

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.32 |
| 125  | 0.47 |
| 160  | 0.48 |
| 200  | 0.44 |
| 250  | 0.49 |
| 315  | 0.44 |
| 400  | 0.47 |
| 500  | 0.45 |
| 630  | 0.41 |
| 800  | 0.38 |
| 1000 | 0.35 |
| 1250 | 0.33 |
| 1600 | 0.29 |
| 2000 | 0.27 |
| 2500 | 0.27 |
| 3150 | 0.26 |
| 4000 | 0.26 |
| 5000 | 0.23 |

**Suspension height 66 mm**

**EN D**  
**a<sub>w</sub> 0.35 L**  
**NRC 0.39**

**Sound absorption in accordance with ISO 354: 1985**  
**Rating in acc. with ISO 11654:1997E and NRC acc. ASTM C423 (USA)**

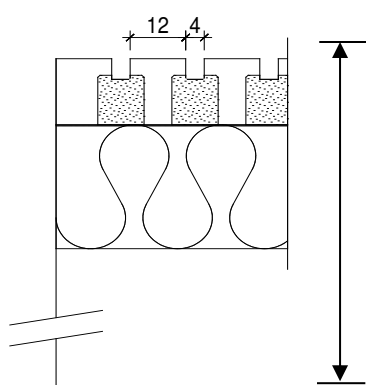
All datas from the brochure 2017 listed according page number of brochure

| Brochure 2017<br>Page | File sheet<br>NH A+D AG | Type        | %          | Absorber     | Suspension<br>height | NRC    | Euro   | a <sub>w</sub> |
|-----------------------|-------------------------|-------------|------------|--------------|----------------------|--------|--------|----------------|
| TOPAKUSTIK®           |                         |             |            |              |                      |        |        |                |
| 6                     | 2.3.1                   | 6/2 M       | 7%         | MW 30 mm     | 216 mm               | 0.91   | B      | 0.85           |
|                       |                         | 6/2 M       | 7%         | MW 30 mm     | 76 mm                | 0.87   | B      | 0.8 M          |
|                       | 2.3.3                   | 6/2 M       | 7%         | MW 30 mm     | 56 mm                | 0.86   | B      | 0.8 M          |
|                       | 2.3.10                  | 6/2 T       | 30 / 2%    | MW 30 mm     | 56 mm                | 0.62   | D      | 0.4 LM         |
|                       | 2.3.11                  | 6/2 T       | 30 / 2%    | MW 30 mm     | 216 mm               | 0.57   | D      | 0.4 LM         |
|                       |                         | 6/2 T       | 30 / 2%    | MW 30 mm     | 76 mm                | 0.61   | D      | 0.35 LM        |
| 7                     | 2.4.1                   | 9/2 M       | 6%         | MW 30 mm     | 216 mm               | 0.82   | C      | 0.75 L         |
|                       |                         | 9/2 M       | 6%         | MW 30 mm     | 76 mm                | 0.86   | C      | 0.75 M         |
|                       | 2.4.2                   | 9/2 M       | 6%         | MW 30 mm     | 56 mm                | 0.85   | C      | 0.75 M         |
|                       | 1.4.1                   | 8/3 M       | 19%        | MW 30 mm     | 200 mm               | 1.00   | D      | 0.55 LM        |
|                       |                         | 8/3 M       | 19%        | MW 30 mm     | 56 mm                | 0.87   | D      | 0.45 LM        |
|                       | 1.4.2                   | 8/3 M       | 9.5%       | MW 30 mm     | 200 mm               | 0.92   | D      | 0.45 LM        |
| 8/3 M                 |                         | 9.5%        | MW 30 mm   | 56 mm        | 0.85                 | D      | 0.4 LM |                |
| 8                     | 3.9.3                   | 14/2 M      | 7%         | MW 30 mm     | 216 mm               | 0.89   | A      | 0.90           |
|                       |                         | 14/2 M      | 7%         | MW 30 mm     | 76 mm                | 0.86   | B      | 0.85 M         |
|                       | 3.12.1                  | 14/2 M      | 3.5%       | MW 30 mm     | 216 mm               | 0.74   | C      | 0.75 LM        |
|                       |                         | 14/2 M      | 3.5%       | MW 30 mm     | 56 mm                | 0.79   | C      | 0.65 LM        |
| 9                     | 3.6.1                   | 13/3 M      | 12%        | MW 30 mm     | 246 mm               | 0.86   | C      | 0.75 L         |
|                       |                         | 13/3 M      | 12%        | MW 30 mm     | 96 mm                | 0.84   | C      | 0.75 M         |
|                       | 3.6.3                   | 13/3 M      | 12%        | MW 30 mm     | 56 mm                | 0.88   | C      | 0.75 M         |
|                       | 3.7.1                   | 13/3 M      | 6%         | MW 30 mm     | 216 mm               | 0.71   | C      | 0.65 L         |
|                       |                         | 13/3 M      | 6%         | MW 30 mm     | 76 mm                | 0.78   | C      | 0.65 LM        |
|                       | 3.7.2                   | 13/3 M      | 6%         | MW 30 mm     | 56 mm                | 0.76   | C      | 0.6 LM         |
|                       | 3.8.1                   | 13/3 T      | 30 / 3%    | MW 30 mm     | 56 mm                | 0.62   | D      | 0.35 LM        |
|                       |                         | 13/3 T      | 30 / 3%    | MW 30 mm     | 216 mm               | 0.57   | D      | 0.35 LM        |
|                       | 3.8.2                   | 13/3 T      | 30 / 3%    | MW 30 mm     | 76 mm                | 0.62   | D      | 0.35 LM        |
|                       |                         | 12/4 M      | 15%        | MW 30 mm     | 246 mm               | 0.89   | B      | 0.8            |
| 3.4.1                 | 12/4 M                  | 15%         | MW 30 mm   | 96 mm        | 0.86                 | B      | 0.8 M  |                |
|                       | 10                      | 4.7.1       | 19/2 M     | 6%           | MW 30 mm             | 216 mm | 0.82   | B              |
| 19/2 M                |                         |             | 6%         | MW 30 mm     | 56 mm                | 0.85   | B      | 0.80           |
| 11                    | 4.8.1                   | 28/4 M      | 7.5%       | MW 30 mm     | 216 mm               | 0.78   | D      | 0.55 LM        |
|                       |                         | 28/4 M      | 7.5%       | MW 30 mm     | 46 mm                | 0.72   | D      | 0.55 M         |
|                       | 4.8.3                   | 28/4 M      | 3.8%       | MW 30 mm     | 216 mm               | 0.63   | D      | 0.5 LM         |
|                       |                         | 28/4 M      | 3.8%       | MW 30 mm     | 76 mm                | 0.69   | D      | 0.5 LM         |
|                       | 4.9.1                   | 28/4 T      | 15 / 1.4%  | MW 30 mm     | 56 mm                | 0.47   | E      | 0.25 LM        |
|                       |                         | 28/4 T      | 15 / 1.4%  | MW 30 mm     | 216 mm               | 0.41   | E      | 0.25 LM        |
|                       | 4.9.2                   | 28/4 T      | 15 / 1.4%  | MW 30 mm     | 76 mm                | 0.47   | E      | 0.2 LM         |
|                       |                         | 4.11.1      | 29/3 M     | 5.9%         | MW 30 mm             | 216 mm | 0.73   | C              |
|                       | 29/3 M                  |             | 5.9%       | MW 30 mm     | 76 mm                | 0.78   | C      | 0.6 LM         |
|                       | 4.11.2                  | 29/3 M      | 5.9%       | MW 30 mm     | 56 mm                | 0.76   | C      | 0.6 LM         |
|                       |                         | 4.12.1      | 30/2 M     | 3.5%         | MW 30 mm             | 216 mm | 0.68   | D              |
|                       | 30/2 M                  |             | 3.5%       | MW 30 mm     | 76 mm                | 0.73   | D      | 0.5 LM         |
| 4.12.2                | 30/2 M                  | 3.5%        | MW 30 mm   | 56 mm        | 0.72                 | D      | 0.5 LM |                |
|                       | 14                      | 4.11.10     | Caro 29/3M | 10.5%        | MW 30 mm             | 216 mm | 0.84   | B              |
| Caro 29/3M            |                         |             | 10.5%      | MW 30 mm     | 76 mm                | 0.86   | B      | 0.8 M          |
| 4.11.11               |                         | Caro 29/3M  | 10.5%      | MW 30 mm     | 56 mm                | 0.85   | B      | 0.8 M          |
|                       |                         | 9/2 HR      | 6%         | MW 30 mm     | 216 mm               | 0.82   | C      | 0.75 L         |
| 4.4.1                 |                         | 9/2 HR      | 6%         | MW 30 mm     | 76 mm                | 0.86   | C      | 0.75 M         |
|                       |                         | 9/2 HR      | 6%         | MW 30 mm     | 56 mm                | 0.85   | C      | 0.75 M         |
| 4.15.1                |                         | 61/3 M      | 3.0%       | MW 30 mm     | 226 mm               | 0.49   | D      | 0.50 L         |
|                       |                         | 61/3 M      | 3.0%       | MW 30 mm     | 66 mm                | 0.51   | D      | 0.45 L         |
| 4.16.1                | 93/3 M                  | 2.0%        | MW 30 mm   | 226 mm       | 0.38                 | D      | 0.35 L |                |
|                       | 93/3 M                  | 2.0%        | MW 30 mm   | 66 mm        | 0.39                 | D      | 0.35 L |                |
| 16                    | 3.4.1                   | 12/4 M Aria | 15%        | MW 30 mm     | 246 mm               | 0.89   | B      | 0.8            |
|                       |                         | 12/4 M Aria | 15%        | MW 30 mm     | 96 mm                | 0.86   | B      | 0.8 M          |
|                       | 4.8.1                   | 28/4 M Aria | 7.5%       | MW 30 mm     | 216 mm               | 0.78   | D      | 0.55 LM        |
|                       |                         | 28/4 M Aria | 7.5%       | MW 30 mm     | 46 mm                | 0.72   | D      | 0.55 M         |
|                       | 4.8.3                   | 28/4 M Aria | 3.8%       | MW 30 mm     | 216 mm               | 0.63   | D      | 0.5 LM         |
| 28/4 M Aria           |                         | 3.8%        | MW 30 mm   | 76 mm        | 0.69                 | D      | 0.5 LM |                |
| 19                    | 3.5.1                   | 12/4 M      | 12.0%      | Sasmox/Resap | 216 mm               | 0.85   | A      | 0.9            |
|                       |                         | 12/4 M      | 12.0%      | Sasmox/Resap | 56 mm                | 0.86   | B      | 0.85           |
|                       | 3.6.5                   | 13/3 M      | 9.0%       | Sasmox/Resap | 58mm                 | 0.83   | C      | 0.75 M         |
|                       |                         | 13/3 M      | 9.0%       | Sasmox/Resap | 218mm                | 0.81   | C      | 0.75 L         |

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPAKUSTIK® wall- and ceiling panelling  
 Type TOPAKUSTIK® **12/4 M - 15 %**  
**12/4 M - 15 % Aria Plus**

Research: Laboratory: EMPA 07.06.1991  
 Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 52%  
 Echo space volume: 211 m<sup>3</sup> Temperature: 21 degrees

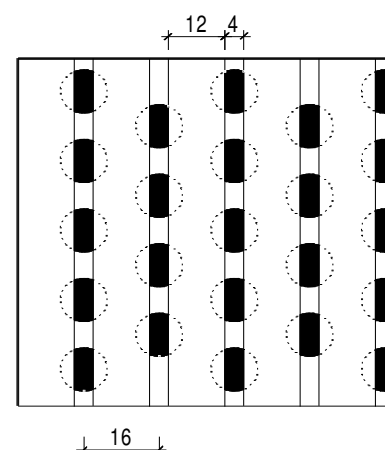


TOPAKUSTIK® 12/4 M

Acoustic fleece

Mineral wool 30 mm

**Suspension heights:**  
**246/96 mm**



## Acoustical Absorption - Medium values

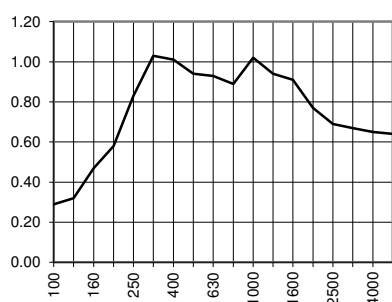
Low frequency range: (100-315 Hz): 0.59  
 Medium frequency range: (400-1250 Hz): 0.96  
 High frequency range: (1600-5000 Hz): 0.72

Freq.

[Hz]

Terz

|      |      |
|------|------|
| 100  | 0.29 |
| 125  | 0.32 |
| 160  | 0.47 |
| 200  | 0.58 |
| 250  | 0.83 |
| 315  | 1.03 |
| 400  | 1.01 |
| 500  | 0.94 |
| 630  | 0.93 |
| 800  | 0.89 |
| 1000 | 1.02 |
| 1250 | 0.94 |
| 1600 | 0.91 |
| 2000 | 0.77 |
| 2500 | 0.69 |
| 3150 | 0.67 |
| 4000 | 0.65 |
| 5000 | 0.64 |

**Suspension height 246 mm**

**EN B**  
**a<sub>w</sub> 0.8**  
**NRC 0.89**

## Acoustical Absorption - Medium values

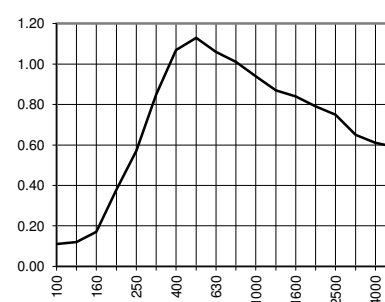
Low frequency range: (100-315 Hz): 0.37  
 Medium frequency range: (400-1250 Hz): 1.01  
 High frequency range: (1600-5000 Hz): 0.71

Freq.

[Hz]

Terz

|      |      |
|------|------|
| 100  | 0.11 |
| 125  | 0.12 |
| 160  | 0.17 |
| 200  | 0.38 |
| 250  | 0.57 |
| 315  | 0.85 |
| 400  | 1.07 |
| 500  | 1.13 |
| 630  | 1.06 |
| 800  | 1.01 |
| 1000 | 0.94 |
| 1250 | 0.87 |
| 1600 | 0.84 |
| 2000 | 0.79 |
| 2500 | 0.75 |
| 3150 | 0.65 |
| 4000 | 0.61 |
| 5000 | 0.59 |

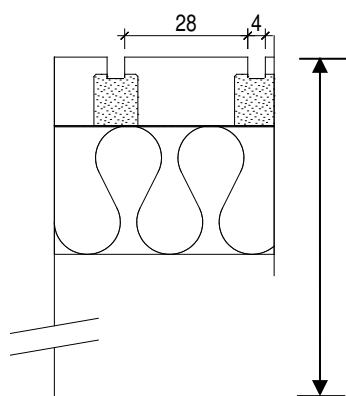
**Suspension height 96 mm**

**EN B**  
**a<sub>w</sub> 0.8 M**  
**NRC 0.86**

**Acoustical Absorption Coefficient according to ISO 354**

Object: TOPAKUSTIK® wall- and ceiling panelling  
 type TOPAKUSTIK® **28/4 M - 7.5 %**  
**28/4 M - 7.5 % Aria Plus**

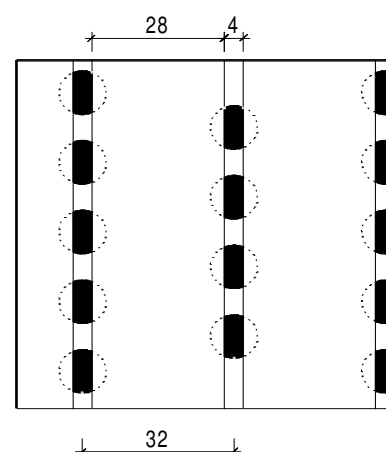
Research: Laboratory: ITA 19.12.1994  
 Test area: 10 m<sup>2</sup> Relative atmospheric humidity: 80%  
 Echo space volume: 218 m<sup>3</sup> Temperature: 13 degrees



**TOPAKUSTIK® 28/4 M**  
Acoustic fleece

Mineral wool 30 mm

**Suspension heights:**  
**216/46 mm**  
 Cavity 170/00 mm

**Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz): 0.74  
 Medium frequency range: (400-1250 Hz): 0.83  
 High frequency range: (1600-5000 Hz): 0.48

Freq.

[Hz]

Terz

100

125

160

200

250

315

400

500

630

800

1000

1250

1600

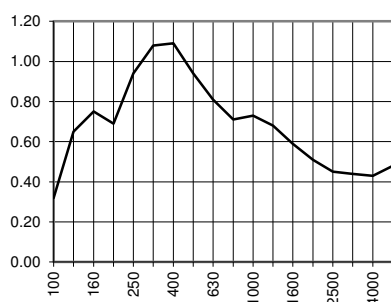
2000

2500

3150

4000

5000

**Suspension height 216 mm**

**EN D**  
**a<sub>w</sub> 0.55 LM**  
**NRC 0.78**

**Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz): 0.32  
 Medium frequency range: (400-1250 Hz): 0.93  
 High frequency range: (1600-5000 Hz): 0.47

Freq.

[Hz]

Terz

100

125

160

200

250

315

400

500

630

800

1000

1250

1600

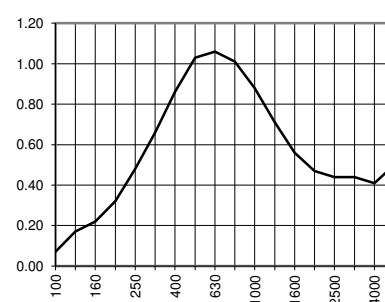
2000

2500

3150

4000

5000

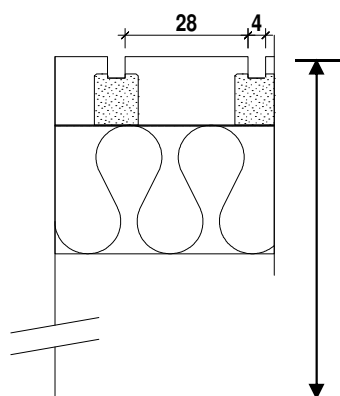
**Suspension height 46 mm**

**EN D**  
**a<sub>w</sub> 0.55 M**  
**NRC 0.72**

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPAKUSTIK® wall- and ceiling panelling  
 Type TOPAKUSTIK® **28/4 M - 3.8 %**  
**28/4 M - 3.8 % Aria Plus**

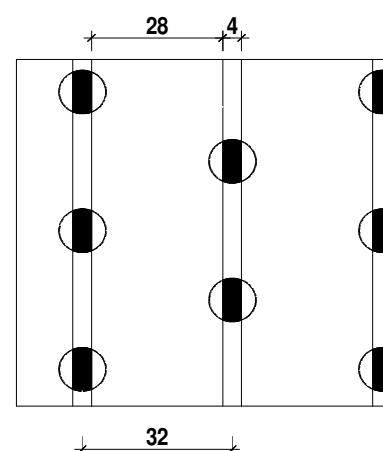
Research: Laboratory: SWISSCOM AG 03.02.2004  
 Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 29%  
 Echo space volume: 214.3 m<sup>3</sup> Temperature: 19.8 degrees



TOPAKUSTIK® 28/4 M  
Acoustic fleece

Mineral wool 30 mm

**Suspension heights:**  
**216/76 mm**  
 Cavity 170/30 mm



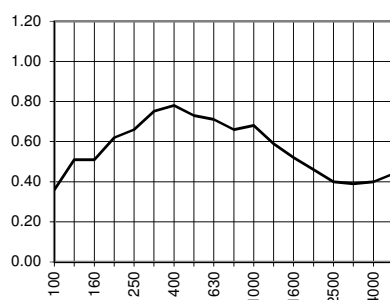
## Acoustical Absorption - Medium values

Low frequency range (100-315 Hz): 0.57  
 Medium frequency range (400-1250 Hz): 0.69  
 High frequency range (1600-5000 Hz): 0.44

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.36 |
| 125  | 0.51 |
| 160  | 0.51 |
| 200  | 0.62 |
| 250  | 0.66 |
| 315  | 0.75 |
| 400  | 0.78 |
| 500  | 0.73 |
| 630  | 0.71 |
| 800  | 0.66 |
| 1000 | 0.68 |
| 1250 | 0.59 |
| 1600 | 0.52 |
| 2000 | 0.46 |
| 2500 | 0.40 |
| 3150 | 0.39 |
| 4000 | 0.40 |
| 5000 | 0.44 |

## Suspension height 216 mm



**EN D**  
**a<sub>w</sub> 0.5 LM**  
**NRC 0.63**

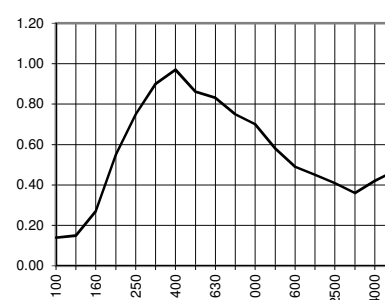
## Acoustical Absorption - Medium values

Low frequency range (100-315 Hz): 0.46  
 Medium frequency range (400-1250 Hz): 0.78  
 High frequency range (1600-5000 Hz): 0.43

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.14 |
| 125  | 0.15 |
| 160  | 0.27 |
| 200  | 0.55 |
| 250  | 0.75 |
| 315  | 0.90 |
| 400  | 0.97 |
| 500  | 0.86 |
| 630  | 0.83 |
| 800  | 0.75 |
| 1000 | 0.70 |
| 1250 | 0.58 |
| 1600 | 0.49 |
| 2000 | 0.45 |
| 2500 | 0.41 |
| 3150 | 0.36 |
| 4000 | 0.42 |
| 5000 | 0.47 |

## Suspension height 76 mm



**EN D**  
**a<sub>w</sub> 0.5 LM**  
**NRC 0.69**

**Sound absorption in accordance with ISO 354: 1985**  
**Rating in acc. with ISO 11654:1997E and NRC acc. ASTM C423 (USA)**

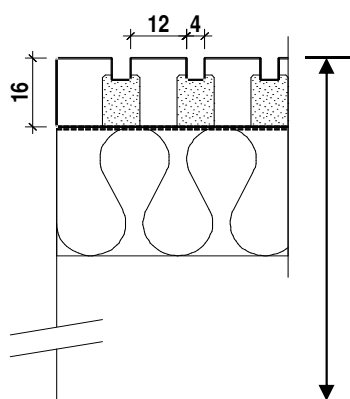
All datas from the brochure 2017 listed according page number of brochure

| Brochure 2017<br>Page | File sheet<br>NH A+D AG | Type       | %         | Absorber     | Suspension<br>height | NRC    | Euro   | a <sub>w</sub> |
|-----------------------|-------------------------|------------|-----------|--------------|----------------------|--------|--------|----------------|
| TOPAKUSTIK®           |                         |            |           |              |                      |        |        |                |
| 6                     | 2.3.1                   | 6/2 M      | 7%        | MW 30 mm     | 216 mm               | 0.91   | B      | 0.85           |
|                       |                         | 6/2 M      | 7%        | MW 30 mm     | 76 mm                | 0.87   | B      | 0.8 M          |
|                       | 2.3.3                   | 6/2 M      | 7%        | MW 30 mm     | 56 mm                | 0.86   | B      | 0.8 M          |
|                       | 2.3.10                  | 6/2 T      | 30 / 2%   | MW 30 mm     | 56 mm                | 0.62   | D      | 0.4 LM         |
|                       |                         | 6/2 T      | 30 / 2%   | MW 30 mm     | 216 mm               | 0.57   | D      | 0.4 LM         |
| 7                     | 2.4.1                   | 9/2 M      | 6%        | MW 30 mm     | 216 mm               | 0.82   | C      | 0.75 L         |
|                       |                         | 9/2 M      | 6%        | MW 30 mm     | 76 mm                | 0.86   | C      | 0.75 M         |
|                       | 2.4.2                   | 9/2 M      | 6%        | MW 30 mm     | 56 mm                | 0.85   | C      | 0.75 M         |
|                       |                         | 8/3 M      | 19%       | MW 30 mm     | 200 mm               | 1.00   | D      | 0.55 LM        |
|                       | 1.4.1                   | 8/3 M      | 19%       | MW 30 mm     | 56 mm                | 0.87   | D      | 0.45 LM        |
| 1.4.2                 |                         | 8/3 M      | 9.5%      | MW 30 mm     | 200 mm               | 0.92   | D      | 0.45 LM        |
|                       |                         | 8/3 M      | 9.5%      | MW 30 mm     | 56 mm                | 0.85   | D      | 0.4 LM         |
| 8                     | 3.9.3                   | 14/2 M     | 7%        | MW 30 mm     | 216 mm               | 0.89   | A      | 0.90           |
|                       |                         | 14/2 M     | 7%        | MW 30 mm     | 76 mm                | 0.86   | B      | 0.85 M         |
|                       | 3.12.1                  | 14/2 M     | 3.5%      | MW 30 mm     | 216 mm               | 0.74   | C      | 0.75 LM        |
|                       |                         | 14/2 M     | 3.5%      | MW 30 mm     | 56 mm                | 0.79   | C      | 0.65 LM        |
| 9                     | 3.6.1                   | 13/3 M     | 12%       | MW 30 mm     | 246 mm               | 0.86   | C      | 0.75 L         |
|                       |                         | 13/3 M     | 12%       | MW 30 mm     | 96 mm                | 0.84   | C      | 0.75 M         |
|                       | 3.6.3                   | 13/3 M     | 12%       | MW 30 mm     | 56 mm                | 0.88   | C      | 0.75 M         |
|                       | 3.7.1                   | 13/3 M     | 6%        | MW 30 mm     | 216 mm               | 0.71   | C      | 0.65 L         |
|                       |                         | 13/3 M     | 6%        | MW 30 mm     | 76 mm                | 0.78   | C      | 0.65 LM        |
|                       | 3.7.2                   | 13/3 M     | 6%        | MW 30 mm     | 56 mm                | 0.76   | C      | 0.6 LM         |
|                       | 3.8.1                   | 13/3 T     | 30 / 3%   | MW 30 mm     | 56 mm                | 0.62   | D      | 0.35 LM        |
|                       | 3.8.2                   | 13/3 T     | 30 / 3%   | MW 30 mm     | 216 mm               | 0.57   | D      | 0.35 LM        |
|                       |                         | 13/3 T     | 30 / 3%   | MW 30 mm     | 76 mm                | 0.62   | D      | 0.35 LM        |
|                       | 3.4.1                   | 12/4 M     | 15%       | MW 30 mm     | 246 mm               | 0.89   | B      | 0.8            |
| 12/4 M                |                         | 15%        | MW 30 mm  | 96 mm        | 0.86                 | B      | 0.8 M  |                |
| 10                    | 4.7.1                   | 19/2 M     | 6%        | MW 30 mm     | 216 mm               | 0.82   | B      | 0.85           |
|                       |                         | 19/2 M     | 6%        | MW 30 mm     | 56 mm                | 0.85   | B      | 0.80           |
| 11                    | 4.8.1                   | 28/4 M     | 7.5%      | MW 30 mm     | 216 mm               | 0.78   | D      | 0.55 LM        |
|                       |                         | 28/4 M     | 7.5%      | MW 30 mm     | 46 mm                | 0.72   | D      | 0.55 M         |
|                       | 4.8.3                   | 28/4 M     | 3.8%      | MW 30 mm     | 216 mm               | 0.63   | D      | 0.5 LM         |
|                       |                         | 28/4 M     | 3.8%      | MW 30 mm     | 76 mm                | 0.69   | D      | 0.5 LM         |
|                       | 4.9.1                   | 28/4 T     | 15 / 1.4% | MW 30 mm     | 56 mm                | 0.47   | E      | 0.25 LM        |
|                       |                         | 28/4 T     | 15 / 1.4% | MW 30 mm     | 216 mm               | 0.41   | E      | 0.25 LM        |
|                       | 4.9.2                   | 28/4 T     | 15 / 1.4% | MW 30 mm     | 76 mm                | 0.47   | E      | 0.2 LM         |
|                       |                         | 28/4 T     | 15 / 1.4% | MW 30 mm     | 76 mm                | 0.47   | E      | 0.2 LM         |
|                       | 4.11.1                  | 29/3 M     | 5.9%      | MW 30 mm     | 216 mm               | 0.73   | C      | 0.65 L         |
|                       |                         | 29/3 M     | 5.9%      | MW 30 mm     | 76 mm                | 0.78   | C      | 0.6 LM         |
| 4.11.2                | 29/3 M                  | 5.9%       | MW 30 mm  | 56 mm        | 0.76                 | C      | 0.6 LM |                |
|                       | 29/3 M                  | 5.9%       | MW 30 mm  | 56 mm        | 0.76                 | C      | 0.6 LM |                |
| 14                    | 4.12.1                  | 30/2 M     | 3.5%      | MW 30 mm     | 216 mm               | 0.68   | D      | 0.55 LM        |
|                       |                         | 30/2 M     | 3.5%      | MW 30 mm     | 76 mm                | 0.73   | D      | 0.5 LM         |
|                       | 4.12.2                  | 30/2 M     | 3.5%      | MW 30 mm     | 56 mm                | 0.72   | D      | 0.5 LM         |
|                       |                         | 30/2 M     | 3.5%      | MW 30 mm     | 56 mm                | 0.72   | D      | 0.5 LM         |
|                       | 4.11.10                 | Caro 29/3M | 10.5%     | MW 30 mm     | 216 mm               | 0.84   | B      | 0.85           |
|                       |                         | Caro 29/3M | 10.5%     | MW 30 mm     | 76 mm                | 0.86   | B      | 0.8 M          |
|                       | 4.11.11                 | Caro 29/3M | 10.5%     | MW 30 mm     | 56 mm                | 0.85   | B      | 0.8 M          |
|                       |                         | Caro 29/3M | 10.5%     | MW 30 mm     | 56 mm                | 0.85   | B      | 0.8 M          |
|                       | 4.4.1                   | 9/2 HR     | 6%        | MW 30 mm     | 216 mm               | 0.82   | C      | 0.75 L         |
|                       |                         | 9/2 HR     | 6%        | MW 30 mm     | 76 mm                | 0.86   | C      | 0.75 M         |
| 4.4.2                 | 9/2 HR                  | 6%         | MW 30 mm  | 56 mm        | 0.85                 | C      | 0.75 M |                |
|                       | 9/2 HR                  | 6%         | MW 30 mm  | 56 mm        | 0.85                 | C      | 0.75 M |                |
| 16                    | 3.4.1                   | 61/3 M     | 3.0%      | MW 30 mm     | 226 mm               | 0.49   | D      | 0.50 L         |
|                       |                         | 61/3 M     | 3.0%      | MW 30 mm     | 66 mm                | 0.51   | D      | 0.45 L         |
|                       | 4.15.1                  | 93/3 M     | 2.0%      | MW 30 mm     | 226 mm               | 0.38   | D      | 0.35 L         |
|                       |                         | 93/3 M     | 2.0%      | MW 30 mm     | 66 mm                | 0.39   | D      | 0.35 L         |
|                       | 19                      | 3.5.1      | 12/4 M    | 12.0%        | Sasmox/Resap         | 216 mm | 0.85   | A              |
| 12/4 M                |                         |            | 12.0%     | Sasmox/Resap | 56 mm                | 0.86   | B      | 0.85           |
| 3.6.5                 |                         | 13/3 M     | 9.0%      | Sasmox/Resap | 58mm                 | 0.83   | C      | 0.75 M         |
|                       |                         | 13/3 M     | 9.0%      | Sasmox/Resap | 218mm                | 0.81   | C      | 0.75 L         |
|                       |                         | 13/3 M     | 9.0%      | Sasmox/Resap | 218mm                | 0.81   | C      | 0.75 L         |

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPAKUSTIK® wall- and ceiling panelling  
 Type TOPAKUSTIK® 12/4 M **12% (Sasmox)**

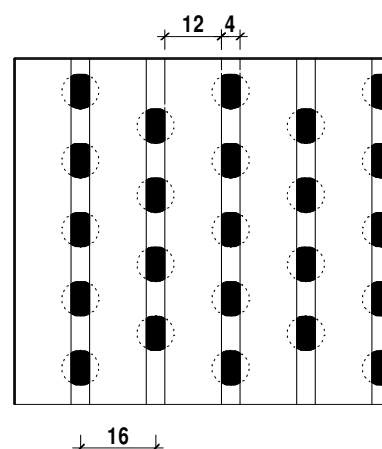
Research: Laboratory: SWISSCOM AG 03.05.1999  
 Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 55%  
 Echo space volume: 214.3 m<sup>3</sup> Temperature: 20 degrees



TOPAKUSTIK® 12/4 M  
 Acoustic fleece

Mineral wool 30 mm

**Suspension heights:**  
**216 / 56 mm**  
 Cavity 170 / 10 mm



## Acoustical Absorption - Medium values:

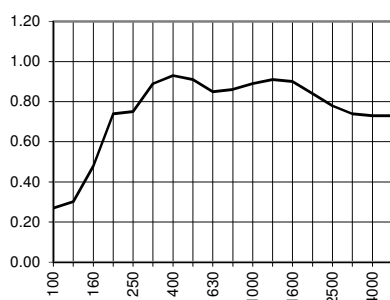
Low frequency range (100-315 Hz): 0.57  
 Medium frequency range (400-1250 Hz): 0.89  
 High frequency range (1600-5000 Hz): 0.79

Freq.

[Hz] Terz

|      |      |
|------|------|
| 100  | 0.27 |
| 125  | 0.30 |
| 160  | 0.48 |
| 200  | 0.74 |
| 250  | 0.75 |
| 315  | 0.89 |
| 400  | 0.93 |
| 500  | 0.91 |
| 630  | 0.85 |
| 800  | 0.86 |
| 1000 | 0.89 |
| 1250 | 0.91 |
| 1600 | 0.90 |
| 2000 | 0.84 |
| 2500 | 0.78 |
| 3150 | 0.74 |
| 4000 | 0.73 |
| 5000 | 0.73 |

## Suspension height 216 mm



**EN A**  
**a<sub>w</sub> 0.9**  
**NRC 0.85**

## Acoustical Absorption - Medium values

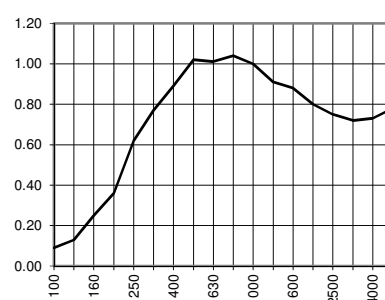
Low frequency range (100-315 Hz): 0.37  
 Medium frequency range (400-1250 Hz): 0.98  
 High frequency range (1600-5000 Hz): 0.78

Freq.

[Hz] Terz

|      |      |
|------|------|
| 100  | 0.09 |
| 125  | 0.13 |
| 160  | 0.25 |
| 200  | 0.36 |
| 250  | 0.62 |
| 315  | 0.77 |
| 400  | 0.89 |
| 500  | 1.02 |
| 630  | 1.01 |
| 800  | 1.04 |
| 1000 | 1.00 |
| 1250 | 0.91 |
| 1600 | 0.88 |
| 2000 | 0.80 |
| 2500 | 0.75 |
| 3150 | 0.72 |
| 4000 | 0.73 |
| 5000 | 0.78 |

## Suspension height 56 mm



**EN B**  
**a<sub>w</sub> 0.85**  
**NRC 0.86**

Acoustical Absorption Coefficient according to ISO 354

Object: TOPAKUSTIK® wall- and ceiling panelling

Type TOPAKUSTIK® **13/3 M 9% (Sasmox/Resap)**

Research:

Laboratory: SWISSCOM

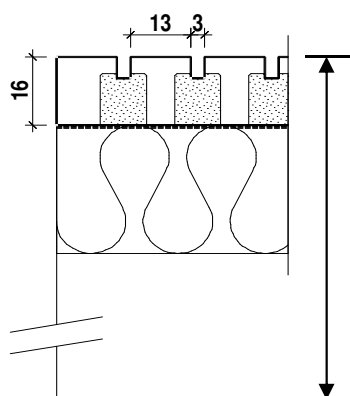
13.10.2005

Test area: 12.16 m<sup>2</sup>

Relative atm. humidity: 48.8% - 48.9%

Echo space volume: 214.3 m<sup>3</sup>

Temperature: 20.6 Grad / 20.3 Grad



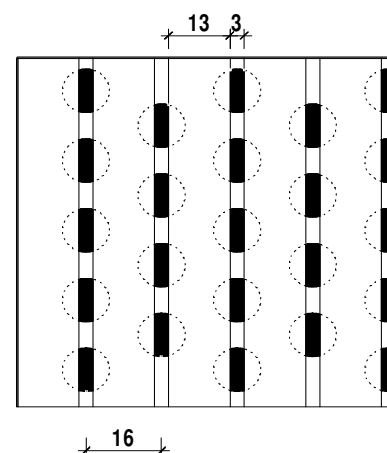
TOPAKUSTIK® 13/3 M -9%

Acoustic fleece

Mineral wool 30 mm

**Suspension heights:****218 / 58 mm**

Cavity 170 / 10 mm



## Acoustical Absorption - Medium values

Low frequency ran (100-315 Hz): 0.58

Medium frequency (400-1250 Hz): 0.87

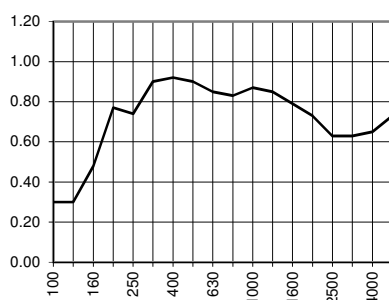
High frequency ran (1600-5000 Hz): 0.69

Freq.

[Hz]

Terz

|      |      |
|------|------|
| 100  | 0.30 |
| 125  | 0.30 |
| 160  | 0.48 |
| 200  | 0.77 |
| 250  | 0.74 |
| 315  | 0.90 |
| 400  | 0.92 |
| 500  | 0.90 |
| 630  | 0.85 |
| 800  | 0.83 |
| 1000 | 0.87 |
| 1250 | 0.85 |
| 1600 | 0.79 |
| 2000 | 0.73 |
| 2500 | 0.63 |
| 3150 | 0.63 |
| 4000 | 0.65 |
| 5000 | 0.73 |

**Suspension height 218 mm**

**EN C**  
**a<sub>w</sub> 0.75 L**  
**NRC 0.81**

## Acoustical Absorption - Medium values

Low frequency ran (100-315 Hz): 0.37

Medium frequency (400-1250 Hz): 0.99

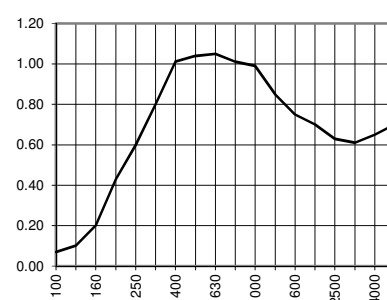
High frequency ran (1600-5000 Hz): 0.67

Freq.

[Hz]

Terz

|      |      |
|------|------|
| 100  | 0.07 |
| 125  | 0.10 |
| 160  | 0.20 |
| 200  | 0.43 |
| 250  | 0.60 |
| 315  | 0.80 |
| 400  | 1.01 |
| 500  | 1.04 |
| 630  | 1.05 |
| 800  | 1.01 |
| 1000 | 0.99 |
| 1250 | 0.85 |
| 1600 | 0.75 |
| 2000 | 0.70 |
| 2500 | 0.63 |
| 3150 | 0.61 |
| 4000 | 0.65 |
| 5000 | 0.70 |

**Suspension height 58 mm**

**EN C**  
**a<sub>w</sub> 0.75 M**  
**NRC 0.84**

**Sound absorption in accordance with ISO 354: 1985**  
**Rating in acc. with ISO 11654:1997E and NRC acc. ASTM C423 (USA)**

All datas from the brochure 2017 listed according page number of brochure

| Brochure 2017<br>Page | File sheet<br>NH A+D AG | Type | % | Absorber | Suspension<br>height | NRC | Euro | a <sub>w</sub> |
|-----------------------|-------------------------|------|---|----------|----------------------|-----|------|----------------|
|-----------------------|-------------------------|------|---|----------|----------------------|-----|------|----------------|

**TOPPERFO®**

|         |          |                       |              |          |        |      |   |         |
|---------|----------|-----------------------|--------------|----------|--------|------|---|---------|
| 30      | 10.12.1  | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.89 | B | 0.85 L  |
|         |          | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 86 mm  | 0.88 | C | 0.75 LM |
|         | 10.12.2  | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.89 | C | 0.75 LM |
|         |          | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 226 mm | 0.85 | C | 0.75 L  |
|         | 10.13.1  | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 86 mm  | 0.87 | C | 0.65 LM |
|         |          | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 66 mm  | 0.85 | C | 0.65 LM |
|         | 10.14.1  | Micro                 | 3/3/0,5      | MW 40 mm | 226 mm | 0.79 | C | 0.6 LM  |
|         |          | Micro                 | 3/3/0,5      | MW 40 mm | 66 mm  | 0.83 | C | 0.6 LM  |
| 31      | 10.15.3  | Micro                 | 1.8/1.8/0.3  | MW 40 mm | 227 mm | 0.84 | C | 0.65 LM |
|         |          | Micro                 | 1.8/1.8/0.3  | MW 40 mm | 67 mm  | 0.85 | C | 0.60 LM |
| 31 add. | 12.0.1   | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.93 | C | 0.75 LM |
|         |          | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.92 | C | 0.75 M  |
|         | 12.0.2   | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.93 | B | 0.80 L  |
|         |          | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.95 | C | 0.75 LM |
| 32      | 10.1.1   | Clou 8/8/1.2          |              | MW 30 mm | 56 mm  | 0.60 | D | 0.3 LM  |
|         |          | Clou 8/8/1.2          |              | MW 30 mm | 216 mm | 0.57 | D | 0.3 LM  |
|         | 10.1.2   | Clou 8/8/1.2          |              | MW 30 mm | 76 mm  | 0.61 | E | 0.25 LM |
|         |          | Clou 8/8/1.2          | rear grooved | MW 30 mm | 56 mm  | 0.52 | E | 0.25 LM |
|         | 10.3.1   | Clou 8/8/1.2          | rear grooved | MW 30 mm | 216 mm | 0.47 | E | 0.25 LM |
|         |          | Clou 8/8/1.2          | rear grooved | MW 30 mm | 76 mm  | 0.53 | E | 0.2 LM  |
| 33      | 10.5.1   | Clou 8/8/2            |              | MW 30 mm | 216 mm | 0.76 | D | 0.45 LM |
|         |          | Clou 8/8/2            |              | MW 30 mm | 76 mm  | 0.74 | D | 0.45 LM |
|         | 10.5.2   | Clou 8/8/2            |              | MW 30 mm | 56 mm  | 0.75 | D | 0.45 LM |
|         |          | Clou 8/8/2            | rear grooved | MW 30 mm | 246 mm | 0.79 | D | 0.55 LM |
|         | 10.5.3   | Clou 8/8/2            | rear grooved | MW 30 mm | 96 mm  | 0.81 | D | 0.55 LM |
| 34      | 6.13.2.1 | 16/16/10-4            |              | MW 30 mm | 216 mm | 0.75 | D | 0.55 LM |
|         |          | 16/16/10-4            |              | MW 30 mm | 76 mm  | 0.80 | D | 0.55 LM |
|         | 6.13.2.2 | 16/16/10-4            |              | MW 30 mm | 56 mm  | 0.78 | D | 0.5 LM  |
|         |          | 16/16/10-5            |              | MW 30 mm | 216 mm | 0.82 | C | 0.7 L   |
|         | 6.14.1a  | 16/16/10-5            |              | MW 30 mm | 76 mm  | 0.85 | C | 0.7 M   |
|         |          | 16/16/10-5            |              | MW 30 mm | 56 mm  | 0.83 | C | 0.7 M   |
| 35      | 6.11.1a  | 16/16/10-2            |              | MW 30 mm | 216 mm | 0.44 | E | 0.25 LM |
|         |          | 16/16/10-2            |              | MW 30 mm | 76 mm  | 0.51 | E | 0.25 LM |
|         | 6.11.2   | 16/16/10-2            |              | MW 30 mm | 56 mm  | 0.50 | E | 0.25 LM |
|         |          | 16/16/10-3            |              | MW 30 mm | 216 mm | 0.63 | D | 0.4 LM  |
|         | 6.13.1a  | 16/16/10-3            |              | MW 30 mm | 76 mm  | 0.69 | D | 0.4 LM  |
|         |          | 16/16/10-3            |              | MW 30 mm | 56 mm  | 0.68 | D | 0.35 LM |
|         | 6.13.2a  | 16/16/10-3            |              | MW 30 mm | 56 mm  | 0.68 | D | 0.35 LM |
| 36      | 5.11.1   | 16/16/6               | 11%          | MW 30 mm | 216 mm | 0.79 | D | 0.5 LM  |
|         |          | 16/16/6               | 11%          | MW 30 mm | 46 mm  | 0.73 | D | 0.5 M   |
| 37      | 5.12.1   | 16/16/8               | 19%          | MW 30 mm | 216 mm | 0.91 | C | 0.75 LM |
|         |          | 16/16/8               | 19%          | MW 30 mm | 46 mm  | 0.81 | C | 0.7 M   |
|         | 5.13.1   | 20/20/6               | 7%           | MW 30 mm | 56 mm  | 0.56 | D | 0.45 LM |
|         |          | 20/20/6               | 7%           | MW 30 mm | 216 mm | 0.53 | D | 0.45 L  |
|         | 5.13.2   | 20/20/6               | 7%           | MW 30 mm | 76 mm  | 0.57 | D | 0.45 LM |
|         |          | 20/20/6               | 7%           | MW 30 mm | 56 mm  | 0.71 | C | 0.6 LM  |
|         | 5.14.1   | 20/20/8               | 12%          | MW 30 mm | 56 mm  | 0.71 | C | 0.6 LM  |
|         |          | 20/20/8               | 12%          | MW 30 mm | 216 mm | 0.68 | C | 0.6 L   |
|         | 5.17.1   | 20/20/8               | 12%          | MW 30 mm | 76 mm  | 0.72 | C | 0.6 LM  |
| 38      | 9.4.1    | Split                 | 19%          | MW 30 mm | 200 mm | 0.77 | B | 0.8     |
|         |          | Split                 | 19%          | MW 30 mm | 56 mm  | 0.73 | B | 0.8     |
| 39      | 5.12.3   | 16/16/8 Graphic 15%   |              | MW 30 mm | 200 mm | 0.72 | C | 0.75    |
|         |          | 16/16/8 Graphic 15%   |              | MW 30 mm | 60 mm  | 0.70 | C | 0.75    |
|         | 5.12.4   | 16/16/8 Graphic 11.5% |              | MW 30 mm | 200 mm | 0.61 | C | 0.65    |
|         |          | 16/16/8 Graphic 11.5% |              | MW 30 mm | 56 mm  | 0.65 | C | 0.65    |

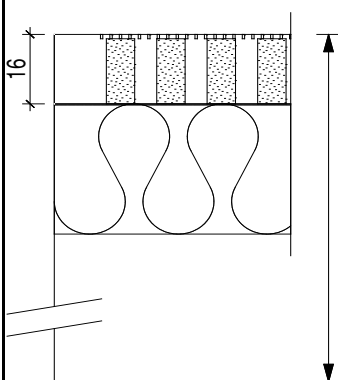
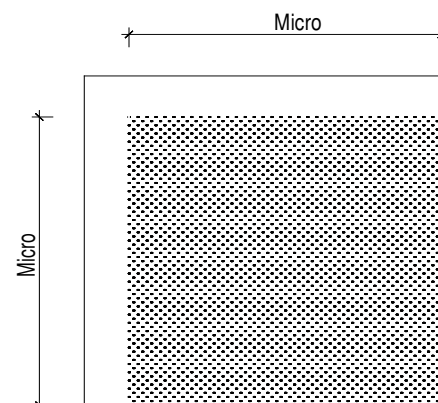
**Cabinet door**

|    |         |                   |           |                  |        |      |   |         |
|----|---------|-------------------|-----------|------------------|--------|------|---|---------|
| 44 | 8.1.2   | 9/2 M - RK        | 6%        | Cabinet door RK  | 419 mm | 0.56 | D | 0.55    |
|    | 8.2.1   | 14/2 M - RK       | 7%        | Cabinet door RK  | 419 mm | 0.68 | C | 0.6 H   |
|    | 8.4.1   | 14/2 M - SW       | 7%        | Cabinet door SW  | 419 mm | 0.55 | D | 0.5     |
|    | 8.8.1   | 16/16/10-3 - SW   |           | Cabinet door SW  | 419 mm | 0.27 | E | 0.25 L  |
|    | 8.10.1  | Clou 8/8/1.2 - SW |           | Cabinet door SW  | 419 mm | 0.39 | D | 0.35 L  |
|    | 8.12.1  | Clou 8/8/1.2 - RK |           | Cabinet door RK  | 419 mm | 0.54 | D | 0.35 LM |
|    | 8.13.2a | Micro door        | 2/2/Ø 0,5 | Micro both sides | 419 mm | 0.61 | C | 0.6 L   |
|    |         |                   |           |                  |        |      |   |         |

**Acoustical Absorption Coefficient according to ISO 354**

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® **Micro 2/2/0,5**

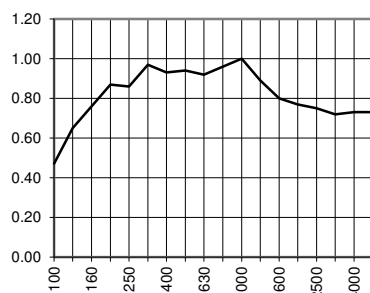
Research: Laboratory: SWISSCOM AG 14.12.2010  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 32.1 % rel.  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 22.8 °C

**Micro 2/2/0.5****Acoustic fleece****Mineral wool 40 mm,  
60 kg / m<sup>3</sup>****Suspension height: 226/86 mm  
Cavity 170/30 mm****Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz): 0.76  
Medium frequency range: (400-1250 Hz): 0.94  
High frequency range: (1600-5000 Hz): 0.75

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.47 |
| 125  | 0.65 |
| 160  | 0.76 |
| 200  | 0.87 |
| 250  | 0.86 |
| 315  | 0.97 |
| 400  | 0.93 |
| 500  | 0.94 |
| 630  | 0.92 |
| 800  | 0.96 |
| 1000 | 1.00 |
| 1250 | 0.89 |
| 1600 | 0.80 |
| 2000 | 0.77 |
| 2500 | 0.75 |
| 3150 | 0.73 |
| 4000 | 0.72 |
| 5000 | 0.73 |

**Suspension height 226 mm**

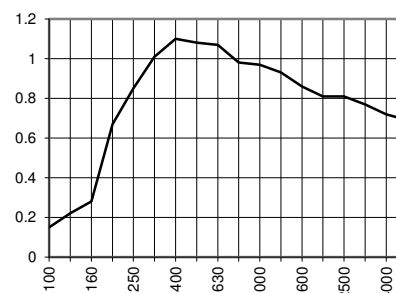
**EN B**  
**a<sub>w</sub> 0.85 L**  
**NRC 0.89**

**Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz): 0.53  
Medium frequency range: (400-1250 Hz): 0.98  
High frequency range: (1600-5000 Hz): 0.65

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.13 |
| 125  | 0.17 |
| 160  | 0.32 |
| 200  | 0.68 |
| 250  | 0.84 |
| 315  | 1.04 |
| 400  | 1.07 |
| 500  | 1.04 |
| 630  | 1.06 |
| 800  | 0.97 |
| 1000 | 0.92 |
| 1250 | 0.83 |
| 1600 | 0.78 |
| 2000 | 0.73 |
| 2500 | 0.66 |
| 3150 | 0.59 |
| 4000 | 0.58 |
| 5000 | 0.57 |

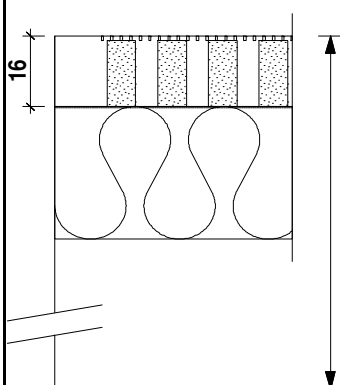
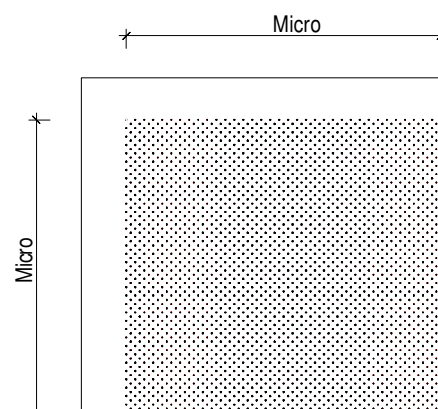
**Suspension height 86 mm**

**EN C**  
**a<sub>w</sub> 0.75 LM**  
**NRC 0.88**

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® **Micro 2/2/0,5**

Research: Laboratory: SWISSCOM AG 14.12.2010  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 30.9 % rel.  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 22.9 °C

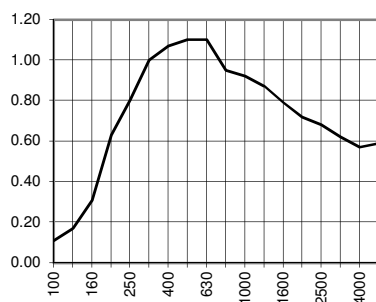
**Micro 2/2/0.5****Acoustic fleece****Mineral wool 40 mm,  
60 kg / m<sup>3</sup>****Suspension height: 66 mm  
Cavity 10 mm**

## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.50  
Medium frequency range: (400-1250 Hz): 1.00  
High frequency range: (1600-5000 Hz): 0.66

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.11 |
| 125  | 0.17 |
| 160  | 0.31 |
| 200  | 0.63 |
| 250  | 0.80 |
| 315  | 1.00 |
| 400  | 1.07 |
| 500  | 1.10 |
| 630  | 1.10 |
| 800  | 0.95 |
| 1000 | 0.92 |
| 1250 | 0.87 |
| 1600 | 0.79 |
| 2000 | 0.72 |
| 2500 | 0.68 |
| 3150 | 0.62 |
| 4000 | 0.57 |
| 5000 | 0.59 |

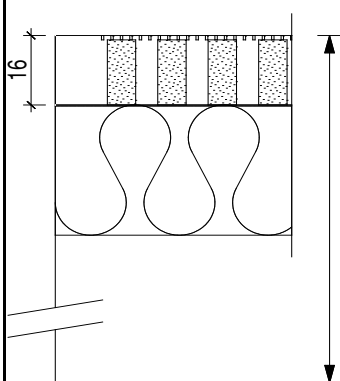
**Suspension height 66 mm**

**EN C**  
**a<sub>w</sub> 0.75 LM**  
**NRC 0.89**

## Acoustical Absorption Coefficient according to ISO 354

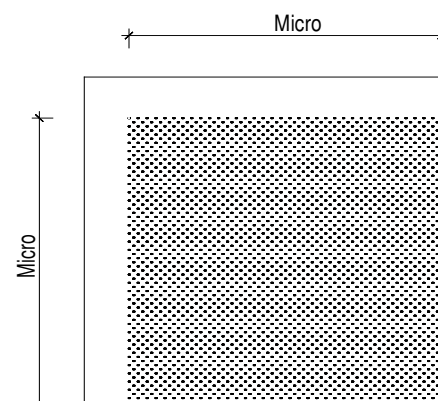
Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® **Micro 2.5/2.5/0.5**

Research: Laboratory: SWISSCOM AG 14.12.2010  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 31.9 % rel.  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 22.8 °C



Micro 2.5/2.5/0.5

Acoustic fleece

Mineral wool 40 mm,  
60 kg / m<sup>3</sup>Suspension height: **226/86 mm**  
Cavity 170/30 mm

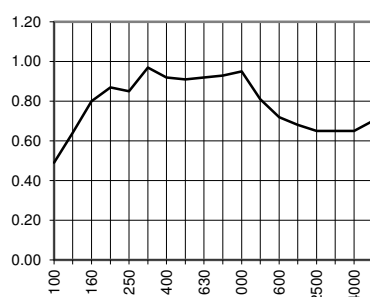
## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.77  
Medium frequency range: (400-1250 Hz): 0.91  
High frequency range: (1600-5000 Hz): 0.68

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.47 |
| 125  | 0.65 |
| 160  | 0.80 |
| 200  | 0.87 |
| 250  | 0.85 |
| 315  | 0.97 |
| 400  | 0.93 |
| 500  | 0.94 |
| 630  | 0.92 |
| 800  | 0.96 |
| 1000 | 1.00 |
| 1250 | 0.89 |
| 1600 | 0.80 |
| 2000 | 0.77 |
| 2500 | 0.75 |
| 3150 | 0.73 |
| 4000 | 0.65 |
| 5000 | 0.70 |

## Suspension height 226 mm



**EN C**  
**a<sub>w</sub>** 0.75 L  
**NRC** 0.85

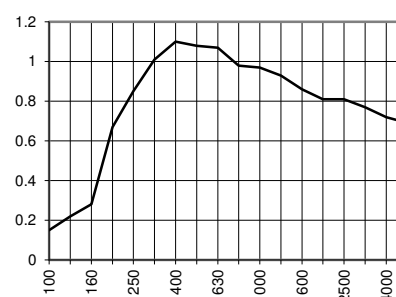
## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.54  
Medium frequency range: (400-1250 Hz): 0.95  
High frequency range: (1600-5000 Hz): 0.58

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.14 |
| 125  | 0.19 |
| 160  | 0.32 |
| 200  | 0.71 |
| 250  | 0.87 |
| 315  | 1.02 |
| 400  | 1.06 |
| 500  | 1.03 |
| 630  | 1.03 |
| 800  | 0.93 |
| 1000 | 0.89 |
| 1250 | 0.77 |
| 1600 | 0.72 |
| 2000 | 0.67 |
| 2500 | 0.59 |
| 3150 | 0.50 |
| 4000 | 0.49 |
| 5000 | 0.49 |

## Suspension height 86 mm



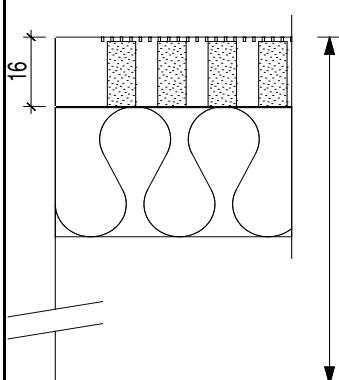
**EN C**  
**a<sub>w</sub>** 0.65 LM  
**NRC** 0.87

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® **Micro 2.5/2.5/0.5**

Research: Laboratory: SWISSCOM AG  
Test area: 12 m<sup>2</sup>  
Echo space volume: 214.3 m<sup>3</sup>

14.12.2010  
Relative atmospheric humidity: 28.9 % rel.  
Temperature: 23 °C

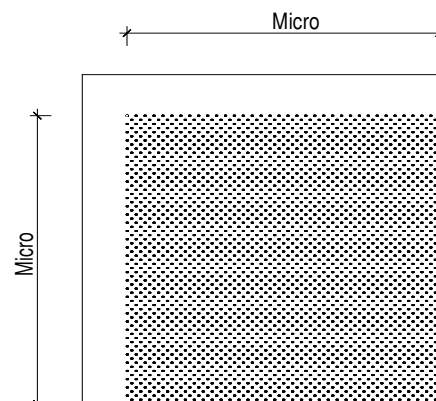


Micro 2.5/2.5/0.5

Acoustic fleece

Mineral wool 40 mm,  
60 kg / m<sup>3</sup>

**Suspension height: 66 mm**  
Cavity 10 mm

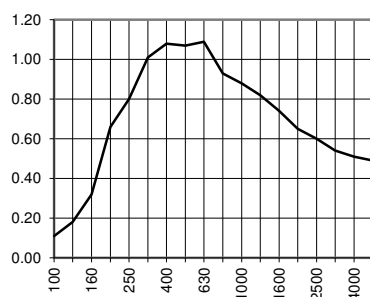


## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.51  
Medium frequency range: (400-1250 Hz): 0.98  
High frequency range: (1600-5000 Hz): 0.59

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.47 |
| 125  | 0.65 |
| 160  | 0.32 |
| 200  | 0.66 |
| 250  | 0.80 |
| 315  | 0.97 |
| 400  | 0.93 |
| 500  | 0.94 |
| 630  | 0.92 |
| 800  | 0.96 |
| 1000 | 1.00 |
| 1250 | 0.89 |
| 1600 | 0.80 |
| 2000 | 0.77 |
| 2500 | 0.75 |
| 3150 | 0.73 |
| 4000 | 0.65 |
| 5000 | 0.70 |

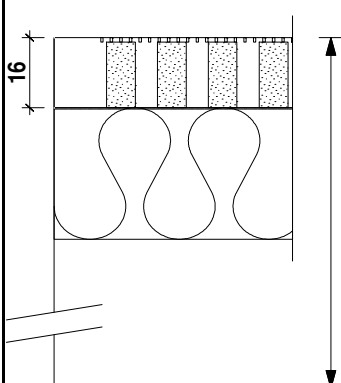
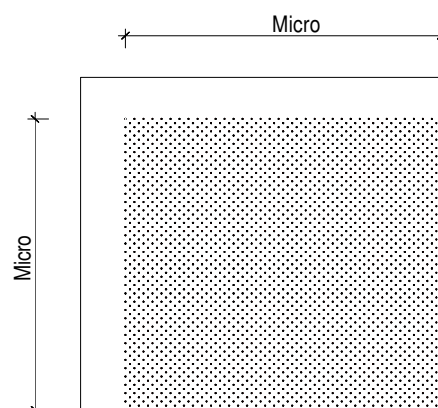
**Suspension height 66 mm**

**EN C**  
**a<sub>w</sub> 0.65 LM**  
**NRC 0.85**

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® **Micro 3/3/0,5**

Research: Laboratory: SWISSCOM AG 14.12.2010  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 31.3 % rel.  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 22.8 °C

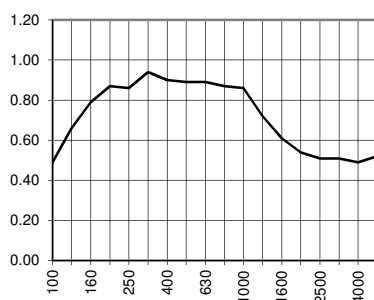
**Micro 3/3/0.5****Acoustic fleece****Mineral wool 40 mm,  
60 kg / m<sup>3</sup>****Suspension height: 226 / 66 mm  
Cavity 170 / 10 mm**

## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.77  
Medium frequency range: (400-1250 Hz): 0.86  
High frequency range: (1600-5000 Hz): 0.53

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.49 |
| 125  | 0.66 |
| 160  | 0.79 |
| 200  | 0.87 |
| 250  | 0.86 |
| 315  | 0.94 |
| 400  | 0.90 |
| 500  | 0.89 |
| 630  | 0.89 |
| 800  | 0.87 |
| 1000 | 0.86 |
| 1250 | 0.72 |
| 1600 | 0.61 |
| 2000 | 0.54 |
| 2500 | 0.51 |
| 3150 | 0.51 |
| 4000 | 0.49 |
| 5000 | 0.52 |

**Suspension height 226 mm**

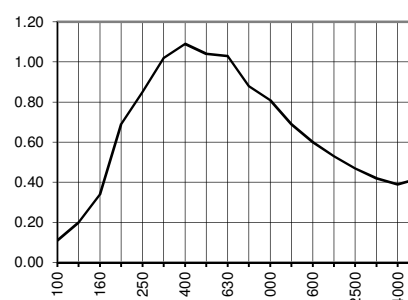
**EN C**  
**a<sub>w</sub> 0.6 LM**  
**NRC 0.79**

## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.54  
Medium frequency range: (400-1250 Hz): 0.92  
High frequency range: (1600-5000 Hz): 0.47

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.11 |
| 125  | 0.20 |
| 160  | 0.34 |
| 200  | 0.69 |
| 250  | 0.85 |
| 315  | 1.02 |
| 400  | 1.09 |
| 500  | 1.04 |
| 630  | 1.03 |
| 800  | 0.88 |
| 1000 | 0.81 |
| 1250 | 0.69 |
| 1600 | 0.60 |
| 2000 | 0.53 |
| 2500 | 0.47 |
| 3150 | 0.42 |
| 4000 | 0.39 |
| 5000 | 0.42 |

**Suspension height 66 mm**

**EN D**  
**a<sub>w</sub> 0.55 LMM**  
**NRC 0.81**

## Acoustical Absorption Coefficient according to ISO 354

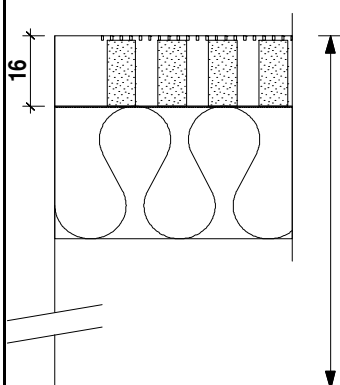
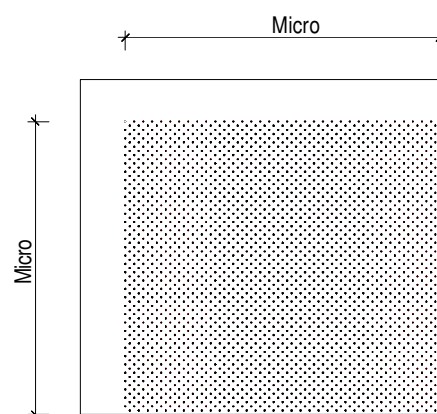
Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® **Micro 3/3/0.5**

Research: Laboratory: SWISSCOM AG  
Test area: 12 m<sup>2</sup>  
Echo space volume: 214.3 m<sup>3</sup>

14.12.2010

Relative atmospheric humidity: 31.4 % rel.

Temperature: 22.9 °C

**Micro 3/3/0.5****Acoustic fleece****Mineral wool 40 mm,  
60 kg / m<sup>3</sup>****Suspension height: 86 mm  
Cavity 30 mm**

## Acoustical Absorption - Medium values

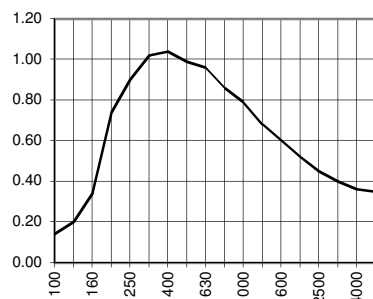
Low frequency range: (100-315 Hz): 0.56

Medium frequency range: (400-1250 Hz): 0.89

High frequency range: (1600-5000 Hz): 0.45

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.14 |
| 125  | 0.20 |
| 160  | 0.34 |
| 200  | 0.74 |
| 250  | 0.90 |
| 315  | 1.02 |
| 400  | 1.04 |
| 500  | 0.99 |
| 630  | 0.96 |
| 800  | 0.86 |
| 1000 | 0.79 |
| 1250 | 0.68 |
| 1600 | 0.60 |
| 2000 | 0.52 |
| 2500 | 0.45 |
| 3150 | 0.40 |
| 4000 | 0.36 |
| 5000 | 0.35 |

**Suspension height 86 mm**

**EN D**  
**a<sub>w</sub>** 0.50 LMM  
**NRC** 0.80

**Sound absorption in accordance with ISO 354: 1985**  
**Rating in acc. with ISO 11654:1997E and NRC acc. ASTM C423 (USA)**

All datas from the brochure 2017 listed according page number of brochure

| Brochure 2017<br>Page | File sheet<br>NH A+D AG | Type | % | Absorber | Suspension<br>height | NRC | Euro | a <sub>w</sub> |
|-----------------------|-------------------------|------|---|----------|----------------------|-----|------|----------------|
|-----------------------|-------------------------|------|---|----------|----------------------|-----|------|----------------|

**TOPPERFO®**

|         |          |                       |              |          |        |      |   |         |
|---------|----------|-----------------------|--------------|----------|--------|------|---|---------|
| 30      | 10.12.1  | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.89 | B | 0.85 L  |
|         |          | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 86 mm  | 0.88 | C | 0.75 LM |
|         | 10.12.2  | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.89 | C | 0.75 LM |
|         |          | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 226 mm | 0.85 | C | 0.75 L  |
|         | 10.13.1  | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 86 mm  | 0.87 | C | 0.65 LM |
|         |          | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 66 mm  | 0.85 | C | 0.65 LM |
|         | 10.14.1  | Micro                 | 3/3/0,5      | MW 40 mm | 226 mm | 0.79 | C | 0.6 LM  |
|         |          | Micro                 | 3/3/0,5      | MW 40 mm | 66 mm  | 0.83 | C | 0.6 LM  |
| 31      | 10.15.3  | Micro                 | 1.8/1.8/0.3  | MW 40 mm | 227 mm | 0.84 | C | 0.65 LM |
|         |          | Micro                 | 1.8/1.8/0.3  | MW 40 mm | 67 mm  | 0.85 | C | 0.60 LM |
| 31 add. | 12.0.1   | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.93 | C | 0.75 LM |
|         |          | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.92 | C | 0.75 M  |
|         | 12.0.2   | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.93 | B | 0.80 L  |
|         |          | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.95 | C | 0.75 LM |
| 32      | 10.1.1   | Clou 8/8/1.2          |              | MW 30 mm | 56 mm  | 0.60 | D | 0.3 LM  |
|         |          | Clou 8/8/1.2          |              | MW 30 mm | 216 mm | 0.57 | D | 0.3 LM  |
|         | 10.1.2   | Clou 8/8/1.2          |              | MW 30 mm | 76 mm  | 0.61 | E | 0.25 LM |
|         |          | Clou 8/8/1.2          | rear grooved | MW 30 mm | 56 mm  | 0.52 | E | 0.25 LM |
|         | 10.3.2   | Clou 8/8/1.2          | rear grooved | MW 30 mm | 216 mm | 0.47 | E | 0.25 LM |
|         |          | Clou 8/8/1.2          | rear grooved | MW 30 mm | 76 mm  | 0.53 | E | 0.2 LM  |
| 33      | 10.5.1   | Clou 8/8/2            |              | MW 30 mm | 216 mm | 0.76 | D | 0.45 LM |
|         |          | Clou 8/8/2            |              | MW 30 mm | 76 mm  | 0.74 | D | 0.45 LM |
|         | 10.5.2   | Clou 8/8/2            |              | MW 30 mm | 56 mm  | 0.75 | D | 0.45 LM |
|         |          | Clou 8/8/2            | rear grooved | MW 30 mm | 246 mm | 0.79 | D | 0.55 LM |
|         | 10.5.3   | Clou 8/8/2            | rear grooved | MW 30 mm | 96 mm  | 0.81 | D | 0.55 LM |
| 34      | 6.13.2.1 | 16/16/10-4            |              | MW 30 mm | 216 mm | 0.75 | D | 0.55 LM |
|         |          | 16/16/10-4            |              | MW 30 mm | 76 mm  | 0.80 | D | 0.55 LM |
|         | 6.13.2.2 | 16/16/10-4            |              | MW 30 mm | 56 mm  | 0.78 | D | 0.5 LM  |
|         |          | 16/16/10-5            |              | MW 30 mm | 216 mm | 0.82 | C | 0.7 L   |
|         | 6.14.1a  | 16/16/10-5            |              | MW 30 mm | 76 mm  | 0.85 | C | 0.7 M   |
|         |          | 16/16/10-5            |              | MW 30 mm | 56 mm  | 0.83 | C | 0.7 M   |
| 35      | 6.11.1a  | 16/16/10-2            |              | MW 30 mm | 216 mm | 0.44 | E | 0.25 LM |
|         |          | 16/16/10-2            |              | MW 30 mm | 76 mm  | 0.51 | E | 0.25 LM |
|         | 6.11.2   | 16/16/10-2            |              | MW 30 mm | 56 mm  | 0.50 | E | 0.25 LM |
|         |          | 16/16/10-3            |              | MW 30 mm | 216 mm | 0.63 | D | 0.4 LM  |
|         | 6.13.1a  | 16/16/10-3            |              | MW 30 mm | 76 mm  | 0.69 | D | 0.4 LM  |
|         |          | 16/16/10-3            |              | MW 30 mm | 56 mm  | 0.68 | D | 0.35 LM |
| 36      | 5.11.1   | 16/16/6               | 11%          | MW 30 mm | 216 mm | 0.79 | D | 0.5 LM  |
|         |          | 16/16/6               | 11%          | MW 30 mm | 46 mm  | 0.73 | D | 0.5 M   |
| 37      | 5.12.1   | 16/16/8               | 19%          | MW 30 mm | 216 mm | 0.91 | C | 0.75 LM |
|         |          | 16/16/8               | 19%          | MW 30 mm | 46 mm  | 0.81 | C | 0.7 M   |
|         | 5.13.1   | 20/20/6               | 7%           | MW 30 mm | 56 mm  | 0.56 | D | 0.45 LM |
|         |          | 20/20/6               | 7%           | MW 30 mm | 216 mm | 0.53 | D | 0.45 L  |
|         | 5.13.2   | 20/20/6               | 7%           | MW 30 mm | 76 mm  | 0.57 | D | 0.45 LM |
|         |          | 20/20/8               | 12%          | MW 30 mm | 56 mm  | 0.71 | C | 0.6 LM  |
|         | 5.14.2   | 20/20/8               | 12%          | MW 30 mm | 216 mm | 0.68 | C | 0.6 L   |
|         |          | 20/20/8               | 12%          | MW 30 mm | 76 mm  | 0.72 | C | 0.6 LM  |
| 38      | 9.4.1    | 16/16/10              | 31%          | MW 30 mm | 216 mm | 0.95 | A | 1.00    |
|         |          | 16/16/10              | 31%          | MW 30 mm | 56 mm  | 0.90 | A | 0.90    |
| 39      | 5.12.3   | Split                 | 19%          | MW 30 mm | 200 mm | 0.77 | B | 0.8     |
|         |          | Split                 | 19%          | MW 30 mm | 56 mm  | 0.73 | B | 0.8     |
|         | 5.12.4   | 16/16/8 Graphic 15%   |              | MW 30 mm | 200 mm | 0.72 | C | 0.75    |
|         |          | 16/16/8 Graphic 15%   |              | MW 30 mm | 60 mm  | 0.70 | C | 0.75    |
| 40      | 5.12.4   | 16/16/8 Graphic 11.5% |              | MW 30 mm | 200 mm | 0.61 | C | 0.65    |
|         |          | 16/16/8 Graphic 11.5% |              | MW 30 mm | 56 mm  | 0.65 | C | 0.65    |

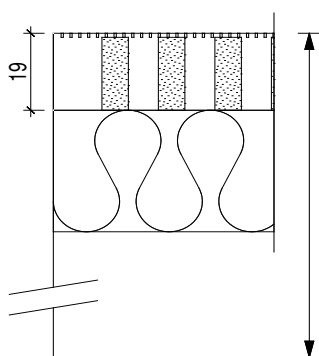
**Cabinet door**

|    |         |                   |           |                  |        |      |   |         |
|----|---------|-------------------|-----------|------------------|--------|------|---|---------|
| 44 | 8.1.2   | 9/2 M - RK        | 6%        | Cabinet door RK  | 419 mm | 0.56 | D | 0.55    |
|    | 8.2.1   | 14/2 M - RK       | 7%        | Cabinet door RK  | 419 mm | 0.68 | C | 0.6 H   |
|    | 8.4.1   | 14/2 M - SW       | 7%        | Cabinet door SW  | 419 mm | 0.55 | D | 0.5     |
|    | 8.8.1   | 16/16/10-3 - SW   |           | Cabinet door SW  | 419 mm | 0.27 | E | 0.25 L  |
|    | 8.10.1  | Clou 8/8/1.2 - SW |           | Cabinet door SW  | 419 mm | 0.39 | D | 0.35 L  |
|    | 8.12.1  | Clou 8/8/1.2 - RK |           | Cabinet door RK  | 419 mm | 0.54 | D | 0.35 LM |
|    | 8.13.2a | Micro door        | 2/2/Ø 0,5 | Micro both sides | 419 mm | 0.61 | C | 0.6 L   |
|    |         |                   |           |                  |        |      |   |         |

**Acoustical Absorption Coefficient according to ISO 354**

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® **Micro 1.8/1.8/0.3**

Research: Laboratory: University Lucerne 27.07.2016  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 68.3 %  
Echo space volume: 210.3 m<sup>3</sup> Temperature: 22.2 / 21.9 °C  
Air pressure: 96.6/ 96.8 kPa



**Micro 1.8/1.8/0.3**  
without fleece

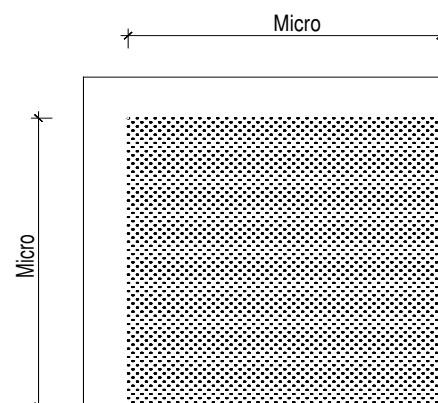
Core material:  
MDF 10.66/6.4/6 = 41 %

Covering: GF460

Mineral wool 40 mm, 60 kg / m<sup>3</sup>

**Suspension height: 227/67 mm**

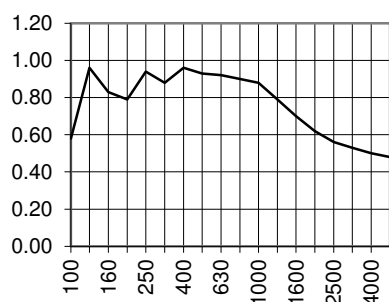
Cavity 170/10 mm

**Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz): 0.83  
Medium frequency range: (400-1250 Hz): 0.90  
High frequency range: (1600-5000 Hz): 0.57

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.58 |
| 125  | 0.96 |
| 160  | 0.83 |
| 200  | 0.79 |
| 250  | 0.94 |
| 315  | 0.88 |
| 400  | 0.96 |
| 500  | 0.93 |
| 630  | 0.92 |
| 800  | 0.90 |
| 1000 | 0.88 |
| 1250 | 0.79 |
| 1600 | 0.70 |
| 2000 | 0.62 |
| 2500 | 0.56 |
| 3150 | 0.53 |
| 4000 | 0.50 |
| 5000 | 0.48 |

**Suspension height 227 mm**

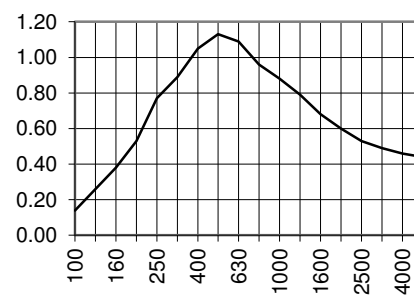
**EN C**  
**a<sub>w</sub>** 0.65 (LM)  
**NRC** 0.84

**Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz): 0.53  
Medium frequency range: (400-1250 Hz): 0.98  
High frequency range: (1600-5000 Hz): 0.53

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.14 |
| 125  | 0.26 |
| 160  | 0.38 |
| 200  | 0.53 |
| 250  | 0.77 |
| 315  | 0.89 |
| 400  | 1.05 |
| 500  | 1.13 |
| 630  | 1.09 |
| 800  | 0.96 |
| 1000 | 0.88 |
| 1250 | 0.79 |
| 1600 | 0.68 |
| 2000 | 0.60 |
| 2500 | 0.53 |
| 3150 | 0.49 |
| 4000 | 0.46 |
| 5000 | 0.44 |

**Suspension height 67 mm**

**EN C**  
**a<sub>w</sub>** 0.60 (LM)  
**NRC** 0.85

**Sound absorption in accordance with ISO 354: 1985**  
**Rating in acc. with ISO 11654:1997E and NRC acc. ASTM C423 (USA)**

All datas from the brochure 2017 listed according page number of brochure

| Brochure 2017<br>Page | File sheet<br>NH A+D AG | Type | % | Absorber | Suspension<br>height | NRC | Euro | a <sub>w</sub> |
|-----------------------|-------------------------|------|---|----------|----------------------|-----|------|----------------|
|-----------------------|-------------------------|------|---|----------|----------------------|-----|------|----------------|

**TOPPERFO®**

|         |          |                       |              |          |        |      |   |         |
|---------|----------|-----------------------|--------------|----------|--------|------|---|---------|
| 30      | 10.12.1  | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.89 | B | 0.85 L  |
|         |          | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 86 mm  | 0.88 | C | 0.75 LM |
|         | 10.12.2  | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.89 | C | 0.75 LM |
|         |          | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 226 mm | 0.85 | C | 0.75 L  |
|         | 10.13.1  | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 86 mm  | 0.87 | C | 0.65 LM |
|         |          | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 66 mm  | 0.85 | C | 0.65 LM |
|         | 10.14.1  | Micro                 | 3/3/0,5      | MW 40 mm | 226 mm | 0.79 | C | 0.6 LM  |
|         |          | Micro                 | 3/3/0,5      | MW 40 mm | 66 mm  | 0.83 | C | 0.6 LM  |
| 31      | 10.14.2  | Micro                 | 3/3/0,5      | MW 40 mm | 86 mm  | 0.80 | D | 0.55 LM |
|         |          | Micro                 | 1.8/1.8/0.3  | MW 40 mm | 227 mm | 0.84 | C | 0.65 LM |
| 31 add. | 12.0.1   | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.93 | C | 0.75 LM |
|         |          | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.92 | C | 0.75 M  |
|         | 12.0.2   | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.93 | B | 0.80 L  |
|         |          | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.95 | C | 0.75 LM |
| 32      | 10.1.1   | Clou 8/8/1.2          |              | MW 30 mm | 56 mm  | 0.60 | D | 0.3 LM  |
|         |          | Clou 8/8/1.2          |              | MW 30 mm | 216 mm | 0.57 | D | 0.3 LM  |
|         | 10.1.2   | Clou 8/8/1.2          |              | MW 30 mm | 76 mm  | 0.61 | E | 0.25 LM |
|         |          | Clou 8/8/1.2          | rear grooved | MW 30 mm | 56 mm  | 0.52 | E | 0.25 LM |
|         | 10.3.1   | Clou 8/8/1.2          | rear grooved | MW 30 mm | 216 mm | 0.47 | E | 0.25 LM |
|         |          | Clou 8/8/1.2          | rear grooved | MW 30 mm | 76 mm  | 0.53 | E | 0.2 LM  |
| 33      | 10.5.1   | Clou 8/8/2            |              | MW 30 mm | 216 mm | 0.76 | D | 0.45 LM |
|         |          | Clou 8/8/2            |              | MW 30 mm | 76 mm  | 0.74 | D | 0.45 LM |
|         | 10.5.2   | Clou 8/8/2            |              | MW 30 mm | 56 mm  | 0.75 | D | 0.45 LM |
|         |          | Clou 8/8/2            | rear grooved | MW 30 mm | 246 mm | 0.79 | D | 0.55 LM |
|         | 10.5.3   | Clou 8/8/2            | rear grooved | MW 30 mm | 96 mm  | 0.81 | D | 0.55 LM |
| 34      | 6.13.2.1 | 16/16/10-4            |              | MW 30 mm | 216 mm | 0.75 | D | 0.55 LM |
|         |          | 16/16/10-4            |              | MW 30 mm | 76 mm  | 0.80 | D | 0.55 LM |
|         | 6.13.2.2 | 16/16/10-4            |              | MW 30 mm | 56 mm  | 0.78 | D | 0.5 LM  |
|         |          | 16/16/10-5            |              | MW 30 mm | 216 mm | 0.82 | C | 0.7 L   |
|         | 6.14.1a  | 16/16/10-5            |              | MW 30 mm | 76 mm  | 0.85 | C | 0.7 M   |
|         |          | 16/16/10-5            |              | MW 30 mm | 56 mm  | 0.83 | C | 0.7 M   |
| 35      | 6.11.1a  | 16/16/10-2            |              | MW 30 mm | 216 mm | 0.44 | E | 0.25 LM |
|         |          | 16/16/10-2            |              | MW 30 mm | 76 mm  | 0.51 | E | 0.25 LM |
|         | 6.11.2   | 16/16/10-2            |              | MW 30 mm | 56 mm  | 0.50 | E | 0.25 LM |
|         |          | 16/16/10-3            |              | MW 30 mm | 216 mm | 0.63 | D | 0.4 LM  |
|         | 6.13.1a  | 16/16/10-3            |              | MW 30 mm | 76 mm  | 0.69 | D | 0.4 LM  |
|         |          | 16/16/10-3            |              | MW 30 mm | 56 mm  | 0.68 | D | 0.35 LM |
|         | 6.13.2a  | 16/16/10-3            |              | MW 30 mm | 56 mm  | 0.68 | D | 0.35 LM |
| 36      | 5.11.1   | 16/16/6               | 11%          | MW 30 mm | 216 mm | 0.79 | D | 0.5 LM  |
|         |          | 16/16/6               | 11%          | MW 30 mm | 46 mm  | 0.73 | D | 0.5 M   |
| 37      | 5.12.1   | 16/16/8               | 19%          | MW 30 mm | 216 mm | 0.91 | C | 0.75 LM |
|         |          | 16/16/8               | 19%          | MW 30 mm | 46 mm  | 0.81 | C | 0.7 M   |
|         | 5.13.1   | 20/20/6               | 7%           | MW 30 mm | 56 mm  | 0.56 | D | 0.45 LM |
|         |          | 20/20/6               | 7%           | MW 30 mm | 216 mm | 0.53 | D | 0.45 L  |
|         | 5.13.2   | 20/20/6               | 7%           | MW 30 mm | 76 mm  | 0.57 | D | 0.45 LM |
|         |          | 20/20/6               | 7%           | MW 30 mm | 56 mm  | 0.71 | C | 0.6 LM  |
|         | 5.14.1   | 20/20/8               | 12%          | MW 30 mm | 56 mm  | 0.71 | C | 0.6 LM  |
|         |          | 20/20/8               | 12%          | MW 30 mm | 216 mm | 0.68 | C | 0.6 L   |
|         | 5.14.2   | 20/20/8               | 12%          | MW 30 mm | 76 mm  | 0.72 | C | 0.6 LM  |
| 38      | 9.4.1    | 16/16/10              | 31%          | MW 30 mm | 216 mm | 0.95 | A | 1.00    |
|         |          | 16/16/10              | 31%          | MW 30 mm | 56 mm  | 0.90 | A | 0.90    |
| 39      | 5.12.3   | Split                 | 19%          | MW 30 mm | 200 mm | 0.77 | B | 0.8     |
|         |          | Split                 | 19%          | MW 30 mm | 56 mm  | 0.73 | B | 0.8     |
|         | 5.12.4   | 16/16/8 Graphic 15%   |              | MW 30 mm | 200 mm | 0.72 | C | 0.75    |
|         |          | 16/16/8 Graphic 15%   |              | MW 30 mm | 60 mm  | 0.70 | C | 0.75    |
| 40      | 5.12.4   | 16/16/8 Graphic 11.5% |              | MW 30 mm | 200 mm | 0.61 | C | 0.65    |
|         |          | 16/16/8 Graphic 11.5% |              | MW 30 mm | 56 mm  | 0.65 | C | 0.65    |

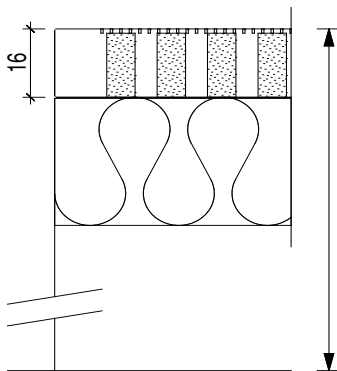
**Cabinet door**

|    |         |                   |           |                  |        |      |   |         |
|----|---------|-------------------|-----------|------------------|--------|------|---|---------|
| 44 | 8.1.2   | 9/2 M - RK        | 6%        | Cabinet door RK  | 419 mm | 0.56 | D | 0.55    |
|    | 8.2.1   | 14/2 M - RK       | 7%        | Cabinet door RK  | 419 mm | 0.68 | C | 0.6 H   |
|    | 8.4.1   | 14/2 M - SW       | 7%        | Cabinet door SW  | 419 mm | 0.55 | D | 0.5     |
|    | 8.8.1   | 16/16/10-3 - SW   |           | Cabinet door SW  | 419 mm | 0.27 | E | 0.25 L  |
|    | 8.10.1  | Clou 8/8/1.2 - SW |           | Cabinet door SW  | 419 mm | 0.39 | D | 0.35 L  |
|    | 8.12.1  | Clou 8/8/1.2 - RK |           | Cabinet door RK  | 419 mm | 0.54 | D | 0.35 LM |
|    | 8.13.2a | Micro door        | 2/2/Ø 0,5 | Micro both sides | 419 mm | 0.61 | C | 0.6 L   |
|    |         | Micro door        | 2/2/Ø 0,5 | Micro both sides | 419 mm | 0.61 | C | 0.6 L   |

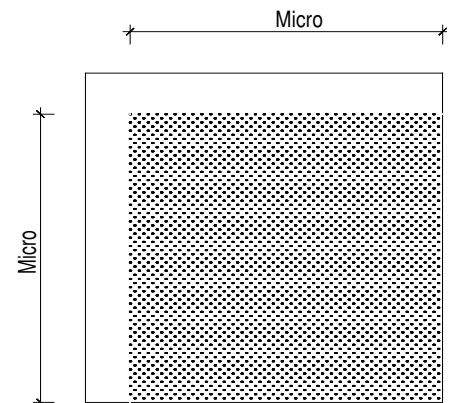
**Acoustical Absorption Coefficient according to ISO 354**

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® **Micro 2/2/0.5 (2018)**

Research: Laboratory: EMPA, Dübendorf 07.03.2017  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 58/59 %  
Echo space volume: 215 m<sup>3</sup> Temperature: 21.1 °C

**Micro 2018  
Perforation 2/2/0.5**

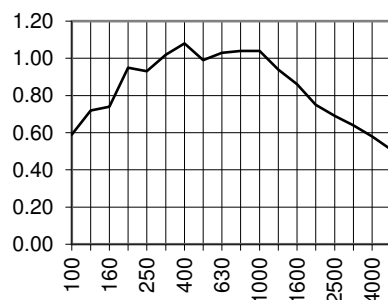
without fleece

Mineral wool 40 mm, 60 kg / m<sup>3</sup>**Suspension height: 226/66 mm****Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz): 0.83  
Medium frequency range: (400-1250 Hz): 1.02  
High frequency range: (1600-5000 Hz): 0.67

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.59 |
| 125  | 0.72 |
| 160  | 0.74 |
| 200  | 0.95 |
| 250  | 0.93 |
| 315  | 1.02 |
| 400  | 1.08 |
| 500  | 0.99 |
| 630  | 1.03 |
| 800  | 1.04 |
| 1000 | 1.04 |
| 1250 | 0.94 |
| 1600 | 0.86 |
| 2000 | 0.75 |
| 2500 | 0.69 |
| 3150 | 0.64 |
| 4000 | 0.58 |
| 5000 | 0.51 |

**Suspension height 226 mm**

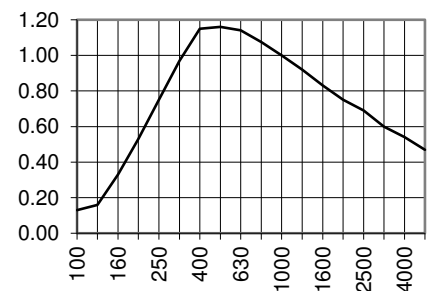
**EN C**  
**a<sub>w</sub>** 0.75 LM  
**NRC** 0.93

**Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz): 0.53  
Medium frequency range: (400-1250 Hz): 1.07  
High frequency range: (1600-5000 Hz): 0.65

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.13 |
| 125  | 0.16 |
| 160  | 0.33 |
| 200  | 0.53 |
| 250  | 0.75 |
| 315  | 0.97 |
| 400  | 1.15 |
| 500  | 1.16 |
| 630  | 1.14 |
| 800  | 1.07 |
| 1000 | 1.00 |
| 1250 | 0.92 |
| 1600 | 0.83 |
| 2000 | 0.75 |
| 2500 | 0.69 |
| 3150 | 0.60 |
| 4000 | 0.54 |
| 5000 | 0.47 |

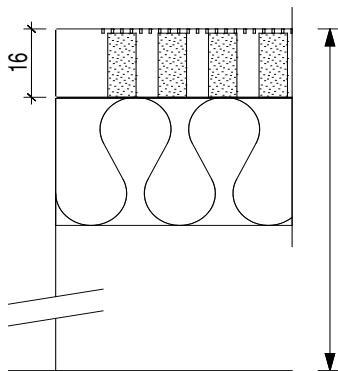
**Suspension height 66 mm**

**EN C**  
**a<sub>w</sub>** 0.75 M  
**NRC** 0.92

**Acoustical Absorption Coefficient according to ISO 354**

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® **Micro 2/2/0.5 (2018)**

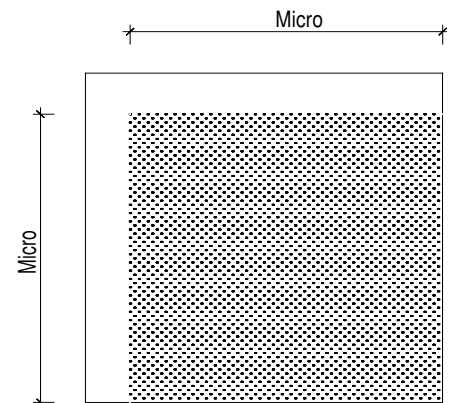
Research: Laboratory: EMPA, Dübendorf 07.03.2017  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 59.5/59.2 %  
Echo space volume: 215 m<sup>3</sup> Temperature: 21 / 21.2 °C

**Micro 2018  
Perforation 2/2/0.5**

with fleece

Mineral wool 40 mm, 60 kg / m<sup>3</sup>**Suspension height: 226/66 mm**

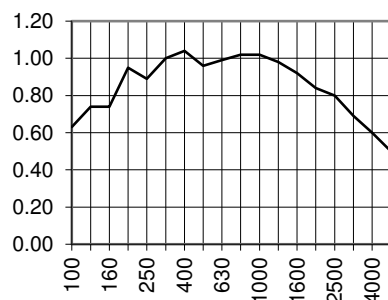
Cavity 170/10 mm

**Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz): 0.83  
Medium frequency range: (400-1250 Hz): 1.00  
High frequency range: (1600-5000 Hz): 0.73

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.63 |
| 125  | 0.74 |
| 160  | 0.74 |
| 200  | 0.95 |
| 250  | 0.89 |
| 315  | 1.00 |
| 400  | 1.04 |
| 500  | 0.96 |
| 630  | 0.99 |
| 800  | 1.02 |
| 1000 | 1.02 |
| 1250 | 0.98 |
| 1600 | 0.92 |
| 2000 | 0.84 |
| 2500 | 0.80 |
| 3150 | 0.69 |
| 4000 | 0.60 |
| 5000 | 0.50 |

**Suspension height 226 mm**

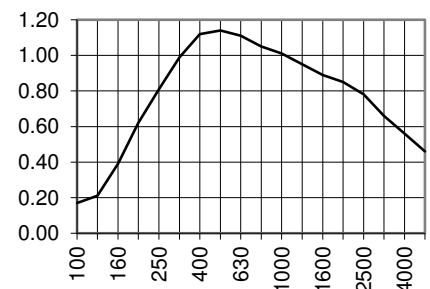
**EN B**  
**a<sub>w</sub> 0.80 L**  
**NRC 0.93**

**Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz): 0.53  
Medium frequency range: (400-1250 Hz): 1.06  
High frequency range: (1600-5000 Hz): 0.70

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.17 |
| 125  | 0.21 |
| 160  | 0.39 |
| 200  | 0.62 |
| 250  | 0.81 |
| 315  | 0.99 |
| 400  | 1.12 |
| 500  | 1.14 |
| 630  | 1.11 |
| 800  | 1.05 |
| 1000 | 1.01 |
| 1250 | 0.95 |
| 1600 | 0.89 |
| 2000 | 0.85 |
| 2500 | 0.78 |
| 3150 | 0.66 |
| 4000 | 0.56 |
| 5000 | 0.46 |

**Suspension height 66 mm**

**EN C**  
**a<sub>w</sub> 0.75 LM**  
**NRC 0.95**

**Sound absorption in accordance with ISO 354: 1985**  
**Rating in acc. with ISO 11654:1997E and NRC acc. ASTM C423 (USA)**

All datas from the brochure 2017 listed according page number of brochure

| Brochure 2017<br>Page | File sheet<br>NH A+D AG | Type | % | Absorber | Suspension<br>height | NRC | Euro | a <sub>w</sub> |
|-----------------------|-------------------------|------|---|----------|----------------------|-----|------|----------------|
|-----------------------|-------------------------|------|---|----------|----------------------|-----|------|----------------|

**TOPPERFO®**

|         |          |                           |             |          |        |      |   |         |
|---------|----------|---------------------------|-------------|----------|--------|------|---|---------|
| 30      | 10.12.1  | Micro                     | 2/2/Ø 0,5   | MW 40 mm | 226 mm | 0.89 | B | 0.85 L  |
|         |          | Micro                     | 2/2/Ø 0,5   | MW 40 mm | 86 mm  | 0.88 | C | 0.75 LM |
|         | 10.12.2  | Micro                     | 2/2/Ø 0,5   | MW 40 mm | 66 mm  | 0.89 | C | 0.75 LM |
|         |          | Micro                     | 2,5/2,5/0,5 | MW 40 mm | 226 mm | 0.85 | C | 0.75 L  |
|         | 10.13.1  | Micro                     | 2,5/2,5/0,5 | MW 40 mm | 86 mm  | 0.87 | C | 0.65 LM |
|         |          | Micro                     | 2,5/2,5/0,5 | MW 40 mm | 66 mm  | 0.85 | C | 0.65 LM |
|         | 10.14.1  | Micro                     | 3/3/0,5     | MW 40 mm | 226 mm | 0.79 | C | 0.6 LM  |
|         |          | Micro                     | 3/3/0,5     | MW 40 mm | 66 mm  | 0.83 | C | 0.6 LM  |
| 31      | 10.15.3  | Micro                     | 1.8/1.8/0.3 | MW 40 mm | 227 mm | 0.84 | C | 0.65 LM |
|         |          | Micro                     | 1.8/1.8/0.3 | MW 40 mm | 67 mm  | 0.85 | C | 0.60 LM |
| 31 add. | 12.0.1   | Micro 2018                | 2/2/Ø 0,5   | MW 40 mm | 226 mm | 0.93 | C | 0.75 LM |
|         |          | Micro 2018                | 2/2/Ø 0,5   | MW 40 mm | 66 mm  | 0.92 | C | 0.75 M  |
|         | 12.0.2   | Micro 2018                | 2/2/Ø 0,5   | MW 40 mm | 226 mm | 0.93 | B | 0.80 L  |
|         |          | Micro 2018                | 2/2/Ø 0,5   | MW 40 mm | 66 mm  | 0.95 | C | 0.75 LM |
| 32      | 10.1.1   | Clou 8/8/1.2              |             | MW 30 mm | 56 mm  | 0.60 | D | 0.3 LM  |
|         |          | Clou 8/8/1.2              |             | MW 30 mm | 216 mm | 0.57 | D | 0.3 LM  |
|         | 10.1.2   | Clou 8/8/1.2              |             | MW 30 mm | 76 mm  | 0.61 | E | 0.25 LM |
|         |          | Clou 8/8/1.2 rear grooved |             | MW 30 mm | 56 mm  | 0.52 | E | 0.25 LM |
|         | 10.3.2   | Clou 8/8/1.2 rear grooved |             | MW 30 mm | 216 mm | 0.47 | E | 0.25 LM |
|         |          | Clou 8/8/1.2 rear grooved |             | MW 30 mm | 76 mm  | 0.53 | E | 0.2 LM  |
| 33      | 10.5.1   | Clou 8/8/2                |             | MW 30 mm | 216 mm | 0.76 | D | 0.45 LM |
|         |          | Clou 8/8/2                |             | MW 30 mm | 76 mm  | 0.74 | D | 0.45 LM |
|         | 10.5.2   | Clou 8/8/2                |             | MW 30 mm | 56 mm  | 0.75 | D | 0.45 LM |
|         |          | Clou 8/8/2 rear grooved   |             | MW 30 mm | 246 mm | 0.79 | D | 0.55 LM |
|         | 10.5.3   | Clou 8/8/2 rear grooved   |             | MW 30 mm | 96 mm  | 0.81 | D | 0.55 LM |
| 34      | 6.13.2.1 | 16/16/10-4                |             | MW 30 mm | 216 mm | 0.75 | D | 0.55 LM |
|         |          | 16/16/10-4                |             | MW 30 mm | 76 mm  | 0.80 | D | 0.55 LM |
|         | 6.13.2.2 | 16/16/10-4                |             | MW 30 mm | 56 mm  | 0.78 | D | 0.5 LM  |
|         |          | 16/16/10-5                |             | MW 30 mm | 216 mm | 0.82 | C | 0.7 L   |
|         | 6.14.1a  | 16/16/10-5                |             | MW 30 mm | 76 mm  | 0.85 | C | 0.7 M   |
|         |          | 16/16/10-5                |             | MW 30 mm | 56 mm  | 0.83 | C | 0.7 M   |
| 35      | 6.11.1a  | 16/16/10-2                |             | MW 30 mm | 216 mm | 0.44 | E | 0.25 LM |
|         |          | 16/16/10-2                |             | MW 30 mm | 76 mm  | 0.51 | E | 0.25 LM |
|         | 6.11.2   | 16/16/10-2                |             | MW 30 mm | 56 mm  | 0.50 | E | 0.25 LM |
|         |          | 16/16/10-3                |             | MW 30 mm | 216 mm | 0.63 | D | 0.4 LM  |
|         | 6.13.1a  | 16/16/10-3                |             | MW 30 mm | 76 mm  | 0.69 | D | 0.4 LM  |
|         |          | 16/16/10-3                |             | MW 30 mm | 56 mm  | 0.68 | D | 0.35 LM |
| 36      | 5.11.1   | 16/16/6                   | 11%         | MW 30 mm | 216 mm | 0.79 | D | 0.5 LM  |
|         |          | 16/16/6                   | 11%         | MW 30 mm | 46 mm  | 0.73 | D | 0.5 M   |
| 37      | 5.12.1   | 16/16/8                   | 19%         | MW 30 mm | 216 mm | 0.91 | C | 0.75 LM |
|         |          | 16/16/8                   | 19%         | MW 30 mm | 46 mm  | 0.81 | C | 0.7 M   |
|         | 5.13.1   | 20/20/6                   | 7%          | MW 30 mm | 56 mm  | 0.56 | D | 0.45 LM |
|         |          | 20/20/6                   | 7%          | MW 30 mm | 216 mm | 0.53 | D | 0.45 L  |
|         | 5.13.2   | 20/20/6                   | 7%          | MW 30 mm | 76 mm  | 0.57 | D | 0.45 LM |
|         |          | 20/20/6                   | 7%          | MW 30 mm | 56 mm  | 0.71 | C | 0.6 LM  |
|         | 5.14.1   | 20/20/8                   | 12%         | MW 30 mm | 56 mm  | 0.71 | C | 0.6 LM  |
|         |          | 20/20/8                   | 12%         | MW 30 mm | 216 mm | 0.68 | C | 0.6 L   |
|         | 5.17.1   | 20/20/8                   | 12%         | MW 30 mm | 76 mm  | 0.72 | C | 0.6 LM  |
| 38      | 9.4.1    | 16/16/10                  | 31%         | MW 30 mm | 216 mm | 0.95 | A | 1.00    |
|         |          | 16/16/10                  | 31%         | MW 30 mm | 56 mm  | 0.90 | A | 0.90    |
| 39      | 5.12.3   | Split                     | 19%         | MW 30 mm | 200 mm | 0.77 | B | 0.8     |
|         |          | Split                     | 19%         | MW 30 mm | 56 mm  | 0.73 | B | 0.8     |
|         | 5.12.4   | 16/16/8 Graphic 15%       |             | MW 30 mm | 200 mm | 0.72 | C | 0.75    |
|         |          | 16/16/8 Graphic 15%       |             | MW 30 mm | 60 mm  | 0.70 | C | 0.75    |
| 40      | 5.12.4   | 16/16/8 Graphic 11.5%     |             | MW 30 mm | 200 mm | 0.61 | C | 0.65    |
|         |          | 16/16/8 Graphic 11.5%     |             | MW 30 mm | 56 mm  | 0.65 | C | 0.65    |

**Cabinet door**

|    |         |                   |           |                  |        |      |   |         |
|----|---------|-------------------|-----------|------------------|--------|------|---|---------|
| 44 | 8.1.2   | 9/2 M - RK        | 6%        | Cabinet door RK  | 419 mm | 0.56 | D | 0.55    |
|    | 8.2.1   | 14/2 M - RK       | 7%        | Cabinet door RK  | 419 mm | 0.68 | C | 0.6 H   |
|    | 8.4.1   | 14/2 M - SW       | 7%        | Cabinet door SW  | 419 mm | 0.55 | D | 0.5     |
|    | 8.8.1   | 16/16/10-3 - SW   |           | Cabinet door SW  | 419 mm | 0.27 | E | 0.25 L  |
|    | 8.10.1  | Clou 8/8/1.2 - SW |           | Cabinet door SW  | 419 mm | 0.39 | D | 0.35 L  |
|    | 8.12.1  | Clou 8/8/1.2 - RK |           | Cabinet door RK  | 419 mm | 0.54 | D | 0.35 LM |
|    | 8.13.2a | Micro door        | 2/2/Ø 0,5 | Micro both sides | 419 mm | 0.61 | C | 0.6 L   |
|    |         |                   |           |                  |        |      |   |         |

**Acoustical Absorption Coefficient according to ISO 354**

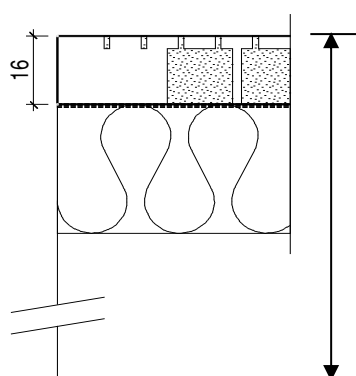
Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® CLOU 8/8/1.2

Research: Laboratory: SWISSCOM AG  
Test area: 12 m<sup>2</sup>  
Echo space volume: 214.3 m<sup>3</sup>

11.08.2000

Relative atmospheric humidity: 57%

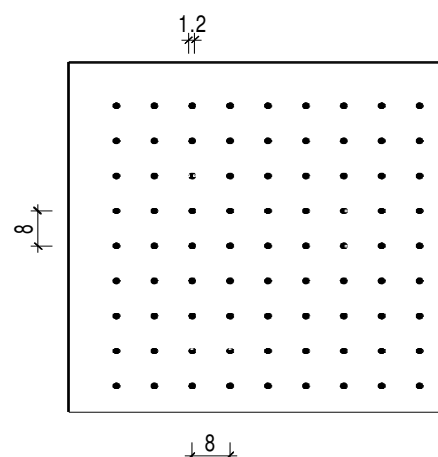
Temperature: 19 degrees



CLOU 8/8/1.2  
Acoustic fleece

Mineral wool 30 mm

**Suspension height:**  
**56 mm**  
Cavity 10 mm

**Acoustical Absorption - Medium values**

Low frequency range (100-315 Hz): 0.46

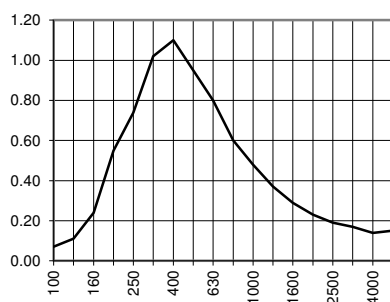
Medium frequency range (400-1250 Hz): 0.72

High frequency range (1600-5000 Hz): 0.20

Freq.

[Hz] Terz

|      |      |
|------|------|
| 100  | 0.07 |
| 125  | 0.11 |
| 160  | 0.24 |
| 200  | 0.55 |
| 250  | 0.74 |
| 315  | 1.02 |
| 400  | 1.10 |
| 500  | 0.95 |
| 630  | 0.80 |
| 800  | 0.60 |
| 1000 | 0.48 |
| 1250 | 0.37 |
| 1600 | 0.29 |
| 2000 | 0.23 |
| 2500 | 0.19 |
| 3150 | 0.17 |
| 4000 | 0.14 |
| 5000 | 0.15 |

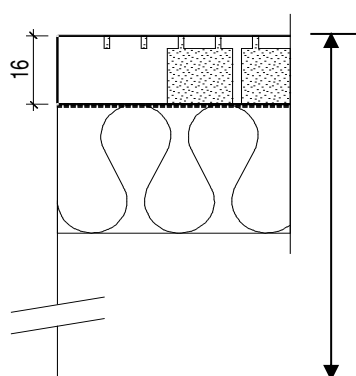
**Suspension height 56 mm**

**EN D**  
**a<sub>w</sub> 0.3 LM**  
**NRC 0.60**

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® CLOU 8/8/1.2

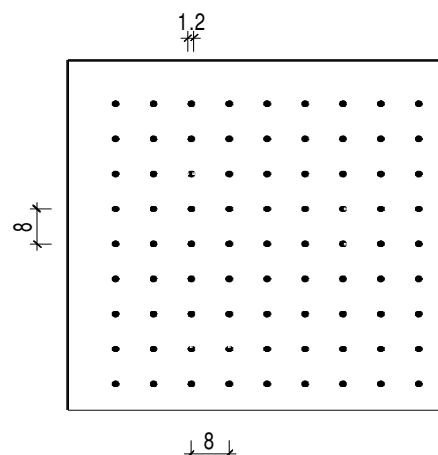
Research: Laboratory: SWISSCOM AG 11.08.2000  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 57%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 19 degrees



CLOU 8/8/1.2  
Acoustic fleece

Mineral wool 30 mm

**Suspension heights:**  
**216/76 mm**  
Cavity 170/30 mm



## Acoustical Absorption - Medium values

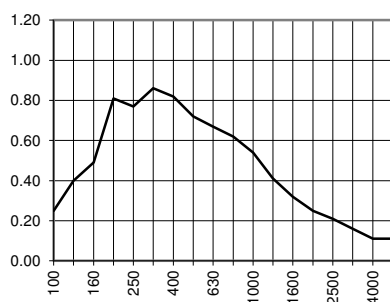
Low frequency range (100-315 Hz): 0.60  
Medium frequency range (400-1250 Hz): 0.63  
High frequency range (1600-5000 Hz): 0.19

Freq.

[Hz] Terz

|      |      |
|------|------|
| 100  | 0.25 |
| 125  | 0.40 |
| 160  | 0.49 |
| 200  | 0.81 |
| 250  | 0.77 |
| 315  | 0.86 |
| 400  | 0.82 |
| 500  | 0.72 |
| 630  | 0.67 |
| 800  | 0.62 |
| 1000 | 0.54 |
| 1250 | 0.41 |
| 1600 | 0.32 |
| 2000 | 0.25 |
| 2500 | 0.21 |
| 3150 | 0.16 |
| 4000 | 0.11 |
| 5000 | 0.11 |

## Suspension height 216 mm



**EN D**  
**a<sub>w</sub> 0.3 LM**  
**NRC 0.57**

## Acoustical Absorption - Medium values

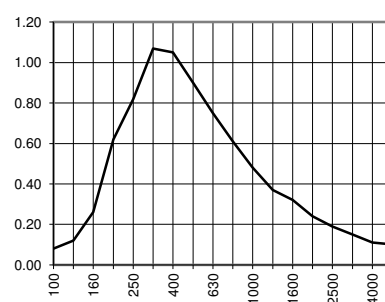
Low frequency range (100-315 Hz): 0.50  
Medium frequency range (400-1250 Hz): 0.69  
High frequency range (1600-5000 Hz): 0.19

Freq.

[Hz] Terz

|      |      |
|------|------|
| 100  | 0.08 |
| 125  | 0.12 |
| 160  | 0.26 |
| 200  | 0.62 |
| 250  | 0.82 |
| 315  | 1.07 |
| 400  | 1.05 |
| 500  | 0.90 |
| 630  | 0.75 |
| 800  | 0.61 |
| 1000 | 0.48 |
| 1250 | 0.37 |
| 1600 | 0.32 |
| 2000 | 0.24 |
| 2500 | 0.19 |
| 3150 | 0.15 |
| 4000 | 0.11 |
| 5000 | 0.10 |

## Suspension height 76 mm

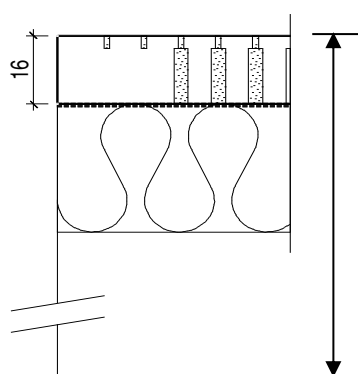


**EN E**  
**a<sub>w</sub> 0.25 LM**  
**NRC 0.61**

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® CLOU 8/8/1.2 - back side grooved 5/3

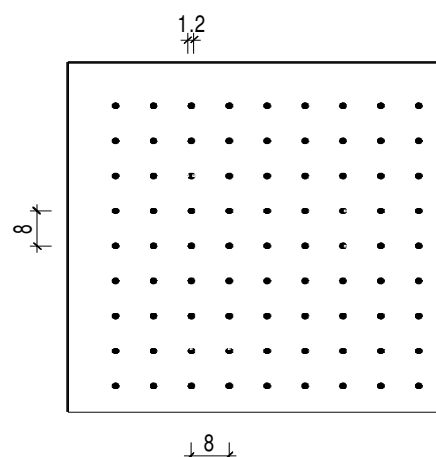
Research: Laboratory: SWISSCOM AG 11.08.2000  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 57%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 19 degrees



CLOU 8/8/1.2 - (5/3)  
Acoustic fleece

Mineral wool 30 mm

**Suspension height:**  
**56 mm**  
Cavity 10 mm

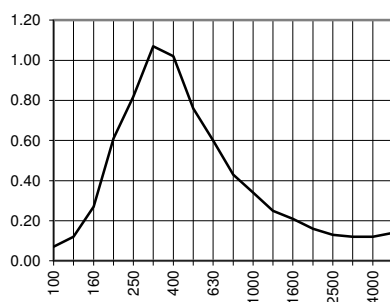


## Acoustical Absorption - Medium values

Low frequency range (100-315 Hz): 0.49  
Medium frequency range (400-1250 Hz): 0.57  
High frequency range (1600-5000 Hz): 0.15

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.07 |
| 125  | 0.12 |
| 160  | 0.27 |
| 200  | 0.61 |
| 250  | 0.82 |
| 315  | 1.07 |
| 400  | 1.02 |
| 500  | 0.76 |
| 630  | 0.60 |
| 800  | 0.43 |
| 1000 | 0.34 |
| 1250 | 0.25 |
| 1600 | 0.21 |
| 2000 | 0.16 |
| 2500 | 0.13 |
| 3150 | 0.12 |
| 4000 | 0.12 |
| 5000 | 0.14 |

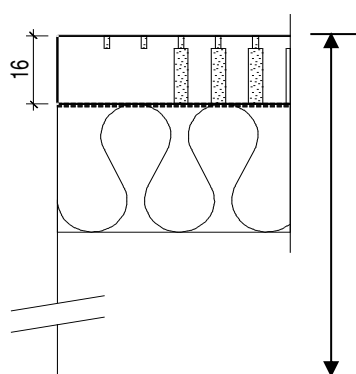
**Suspension height 56 mm**

**EN E**  
**a<sub>w</sub> 0.25 LM**  
**NRC 0.52**

Acoustical Absorption Coefficient according to ISO 354

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® **CLOU 8/8/1.2 - back side grooved 5/3**

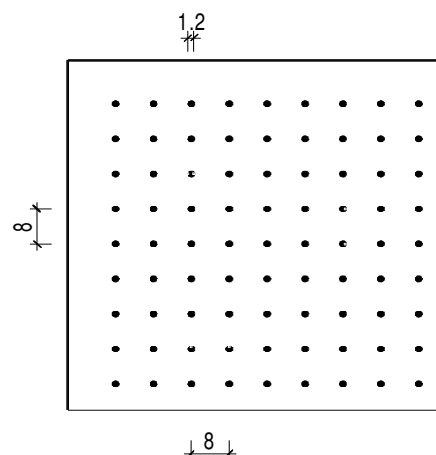
Research: Laboratory: SWISSCOM AG 11.08.2000  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 57%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 19 degrees



CLOU 8/8/1.2 - (5:3)  
Acoustic fleece

Mineral wool 30 mm

**Suspension heights:**  
**216/76 mm**  
Cavity 170/30 mm



## Acoustical Absorption - Medium values

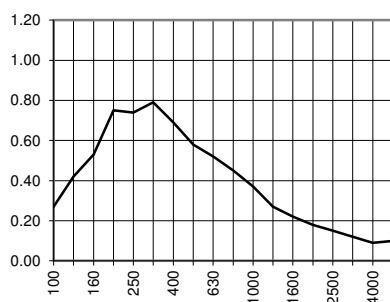
Low frequency range (100-315 Hz): 0.58  
Medium frequency range (400-1250 Hz): 0.48  
High frequency range (1600-5000 Hz): 0.14

Freq.

[Hz]

Terz

|      |      |
|------|------|
| 100  | 0.27 |
| 125  | 0.42 |
| 160  | 0.53 |
| 200  | 0.75 |
| 250  | 0.74 |
| 315  | 0.79 |
| 400  | 0.69 |
| 500  | 0.58 |
| 630  | 0.52 |
| 800  | 0.45 |
| 1000 | 0.37 |
| 1250 | 0.27 |
| 1600 | 0.22 |
| 2000 | 0.18 |
| 2500 | 0.15 |
| 3150 | 0.12 |
| 4000 | 0.09 |
| 5000 | 0.10 |

**Suspension height 216 mm**

**EN E**  
**a<sub>w</sub> 0.25 LM**  
**NRC 0.47**

## Acoustical Absorption - Medium values

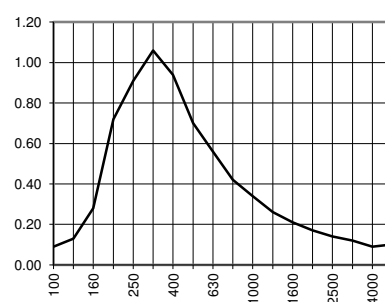
Low frequency range (100-315 Hz): 0.53  
Medium frequency range (400-1250 Hz): 0.54  
High frequency range (1600-5000 Hz): 0.14

Freq.

[Hz]

Terz

|      |      |
|------|------|
| 100  | 0.09 |
| 125  | 0.13 |
| 160  | 0.28 |
| 200  | 0.72 |
| 250  | 0.91 |
| 315  | 1.06 |
| 400  | 0.94 |
| 500  | 0.70 |
| 630  | 0.56 |
| 800  | 0.42 |
| 1000 | 0.34 |
| 1250 | 0.26 |
| 1600 | 0.21 |
| 2000 | 0.17 |
| 2500 | 0.14 |
| 3150 | 0.12 |
| 4000 | 0.09 |
| 5000 | 0.10 |

**Suspension height 76 mm**

**EN E**  
**a<sub>w</sub> 0.2 LM**  
**NRC 0.53**

**Sound absorption in accordance with ISO 354: 1985**  
**Rating in acc. with ISO 11654:1997E and NRC acc. ASTM C423 (USA)**

All datas from the brochure 2017 listed according page number of brochure

| Brochure 2017<br>Page | File sheet<br>NH A+D AG | Type | % | Absorber | Suspension<br>height | NRC | Euro | a <sub>w</sub> |
|-----------------------|-------------------------|------|---|----------|----------------------|-----|------|----------------|
|-----------------------|-------------------------|------|---|----------|----------------------|-----|------|----------------|

**TOPPERFO®**

|         |          |                           |             |          |        |      |   |         |
|---------|----------|---------------------------|-------------|----------|--------|------|---|---------|
| 30      | 10.12.1  | Micro                     | 2/2/Ø 0,5   | MW 40 mm | 226 mm | 0.89 | B | 0.85 L  |
|         |          | Micro                     | 2/2/Ø 0,5   | MW 40 mm | 86 mm  | 0.88 | C | 0.75 LM |
|         | 10.12.2  | Micro                     | 2/2/Ø 0,5   | MW 40 mm | 66 mm  | 0.89 | C | 0.75 LM |
|         |          | Micro                     | 2,5/2,5/0,5 | MW 40 mm | 226 mm | 0.85 | C | 0.75 L  |
|         | 10.13.1  | Micro                     | 2,5/2,5/0,5 | MW 40 mm | 86 mm  | 0.87 | C | 0.65 LM |
|         |          | Micro                     | 2,5/2,5/0,5 | MW 40 mm | 66 mm  | 0.85 | C | 0.65 LM |
|         | 10.14.1  | Micro                     | 3/3/0,5     | MW 40 mm | 226 mm | 0.79 | C | 0.6 LM  |
|         |          | Micro                     | 3/3/0,5     | MW 40 mm | 66 mm  | 0.83 | C | 0.6 LM  |
| 31      | 10.14.2  | Micro                     | 3/3/0,5     | MW 40 mm | 86 mm  | 0.80 | D | 0.55 LM |
|         |          | Micro                     | 1.8/1.8/0.3 | MW 40 mm | 227 mm | 0.84 | C | 0.65 LM |
| 31 add. | 10.15.3  | Micro                     | 1.8/1.8/0.3 | MW 40 mm | 67 mm  | 0.85 | C | 0.60 LM |
|         |          | Micro                     | 2/2/Ø 0,5   | MW 40 mm | 226 mm | 0.93 | C | 0.75 LM |
|         | 12.0.1   | Micro 2018                | 2/2/Ø 0,5   | MW 40 mm | 66 mm  | 0.92 | C | 0.75 M  |
|         |          | Micro 2018                | 2/2/Ø 0,5   | MW 40 mm | 226 mm | 0.93 | B | 0.80 L  |
| 32      | 12.0.2   | Micro 2018                | 2/2/Ø 0,5   | MW 40 mm | 66 mm  | 0.95 | C | 0.75 LM |
|         |          | Micro 2018                | 2/2/Ø 0,5   | MW 40 mm | 226 mm | 0.93 | B | 0.80 L  |
|         | 10.1.1   | Clou 8/8/1.2              |             | MW 30 mm | 56 mm  | 0.60 | D | 0.3 LM  |
|         |          | Clou 8/8/1.2              |             | MW 30 mm | 216 mm | 0.57 | D | 0.3 LM  |
|         | 10.1.2   | Clou 8/8/1.2              |             | MW 30 mm | 76 mm  | 0.61 | E | 0.25 LM |
|         |          | Clou 8/8/1.2              |             | MW 30 mm | 56 mm  | 0.52 | E | 0.25 LM |
|         | 10.3.1   | Clou 8/8/1.2 rear grooved |             | MW 30 mm | 56 mm  | 0.52 | E | 0.25 LM |
|         |          | Clou 8/8/1.2 rear grooved |             | MW 30 mm | 216 mm | 0.47 | E | 0.25 LM |
| 33      | 10.3.2   | Clou 8/8/1.2 rear grooved |             | MW 30 mm | 76 mm  | 0.53 | E | 0.2 LM  |
|         |          | Clou 8/8/2                |             | MW 30 mm | 216 mm | 0.76 | D | 0.45 LM |
|         | 10.5.1   | Clou 8/8/2                |             | MW 30 mm | 76 mm  | 0.74 | D | 0.45 LM |
|         |          | Clou 8/8/2                |             | MW 30 mm | 56 mm  | 0.75 | D | 0.45 LM |
|         | 10.5.2   | Clou 8/8/2 rear grooved   |             | MW 30 mm | 246 mm | 0.79 | D | 0.55 LM |
|         |          | Clou 8/8/2 rear grooved   |             | MW 30 mm | 96 mm  | 0.81 | D | 0.55 LM |
| 34      | 6.13.2.1 | 16/16/10-4                |             | MW 30 mm | 216 mm | 0.75 | D | 0.55 LM |
|         |          | 16/16/10-4                |             | MW 30 mm | 76 mm  | 0.80 | D | 0.55 LM |
|         | 6.13.2.2 | 16/16/10-4                |             | MW 30 mm | 56 mm  | 0.78 | D | 0.5 LM  |
|         |          | 16/16/10-5                |             | MW 30 mm | 216 mm | 0.82 | C | 0.7 L   |
|         | 6.14.1a  | 16/16/10-5                |             | MW 30 mm | 76 mm  | 0.85 | C | 0.7 M   |
|         |          | 16/16/10-5                |             | MW 30 mm | 56 mm  | 0.83 | C | 0.7 M   |
| 35      | 6.14.2a  | 16/16/10-5                |             | MW 30 mm | 56 mm  | 0.83 | C | 0.7 M   |
|         |          | 16/16/10-2                |             | MW 30 mm | 216 mm | 0.44 | E | 0.25 LM |
|         | 6.11.1a  | 16/16/10-2                |             | MW 30 mm | 76 mm  | 0.51 | E | 0.25 LM |
|         |          | 16/16/10-2                |             | MW 30 mm | 56 mm  | 0.50 | E | 0.25 LM |
|         | 6.11.2   | 16/16/10-2                |             | MW 30 mm | 56 mm  | 0.50 | E | 0.25 LM |
|         |          | 16/16/10-3                |             | MW 30 mm | 216 mm | 0.63 | D | 0.4 LM  |
| 36      | 6.13.1a  | 16/16/10-3                |             | MW 30 mm | 76 mm  | 0.69 | D | 0.4 LM  |
|         |          | 16/16/10-3                |             | MW 30 mm | 56 mm  | 0.68 | D | 0.35 LM |
|         | 6.13.2a  | 16/16/10-3                |             | MW 30 mm | 56 mm  | 0.68 | D | 0.35 LM |
|         |          | 16/16/10-3                |             | MW 30 mm | 56 mm  | 0.68 | D | 0.35 LM |
| 37      | 5.11.1   | 16/16/6                   | 11%         | MW 30 mm | 216 mm | 0.79 | D | 0.5 LM  |
|         |          | 16/16/6                   | 11%         | MW 30 mm | 46 mm  | 0.73 | D | 0.5 M   |
|         | 5.12.1   | 16/16/8                   | 19%         | MW 30 mm | 216 mm | 0.91 | C | 0.75 LM |
|         |          | 16/16/8                   | 19%         | MW 30 mm | 46 mm  | 0.81 | C | 0.7 M   |
| 38      | 5.13.1   | 20/20/6                   | 7%          | MW 30 mm | 56 mm  | 0.56 | D | 0.45 LM |
|         |          | 20/20/6                   | 7%          | MW 30 mm | 216 mm | 0.53 | D | 0.45 L  |
|         | 5.13.2   | 20/20/6                   | 7%          | MW 30 mm | 76 mm  | 0.57 | D | 0.45 LM |
|         |          | 20/20/6                   | 7%          | MW 30 mm | 56 mm  | 0.71 | C | 0.6 LM  |
|         | 5.14.1   | 20/20/8                   | 12%         | MW 30 mm | 56 mm  | 0.71 | C | 0.6 LM  |
|         |          | 20/20/8                   | 12%         | MW 30 mm | 216 mm | 0.68 | C | 0.6 L   |
| 39      | 5.14.2   | 20/20/8                   | 12%         | MW 30 mm | 76 mm  | 0.72 | C | 0.6 LM  |
|         |          | 20/20/8                   | 12%         | MW 30 mm | 76 mm  | 0.72 | C | 0.6 LM  |
|         | 5.17.1   | 16/16/10                  | 31%         | MW 30 mm | 216 mm | 0.95 | A | 1.00    |
|         |          | 16/16/10                  | 31%         | MW 30 mm | 56 mm  | 0.90 | A | 0.90    |
| 39      | 9.4.1    | Split                     | 19%         | MW 30 mm | 200 mm | 0.77 | B | 0.8     |
|         |          | Split                     | 19%         | MW 30 mm | 56 mm  | 0.73 | B | 0.8     |
| 40      | 5.12.3   | 16/16/8 Graphic 15%       |             | MW 30 mm | 200 mm | 0.72 | C | 0.75    |
|         |          | 16/16/8 Graphic 15%       |             | MW 30 mm | 60 mm  | 0.70 | C | 0.75    |
|         | 5.12.4   | 16/16/8 Graphic 11.5%     |             | MW 30 mm | 200 mm | 0.61 | C | 0.65    |
|         |          | 16/16/8 Graphic 11.5%     |             | MW 30 mm | 56 mm  | 0.65 | C | 0.65    |

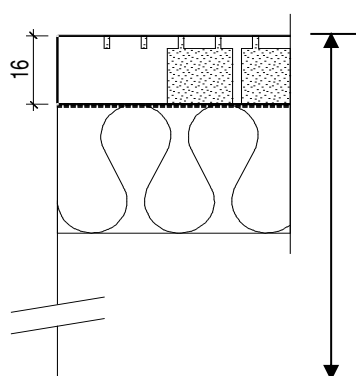
**Cabinet door**

|    |         |                   |           |                  |        |      |   |         |
|----|---------|-------------------|-----------|------------------|--------|------|---|---------|
| 44 | 8.1.2   | 9/2 M - RK        | 6%        | Cabinet door RK  | 419 mm | 0.56 | D | 0.55    |
|    | 8.2.1   | 14/2 M - RK       | 7%        | Cabinet door RK  | 419 mm | 0.68 | C | 0.6 H   |
|    | 8.4.1   | 14/2 M - SW       | 7%        | Cabinet door SW  | 419 mm | 0.55 | D | 0.5     |
|    | 8.8.1   | 16/16/10-3 - SW   |           | Cabinet door SW  | 419 mm | 0.27 | E | 0.25 L  |
|    | 8.10.1  | Clou 8/8/1.2 - SW |           | Cabinet door SW  | 419 mm | 0.39 | D | 0.35 L  |
|    | 8.12.1  | Clou 8/8/1.2 - RK |           | Cabinet door RK  | 419 mm | 0.54 | D | 0.35 LM |
|    | 8.13.2a | Micro door        | 2/2/Ø 0,5 | Micro both sides | 419 mm | 0.61 | C | 0.6 L   |
|    |         | Micro door        | 2/2/Ø 0,5 | Micro both sides | 419 mm | 0.61 | C | 0.6 L   |

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® **CLOU 8/8/2**

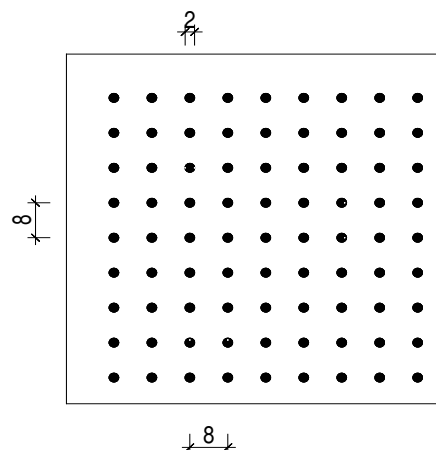
Research: Laboratory: SWISSCOM AG 13.10.2005  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 48.2%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 20.4 degrees



CLOU 8/8/2  
Acoustic fleece

Mineral wool 30 mm

**Suspension heights:**  
**216/76 mm**  
Cavity 170/30 mm



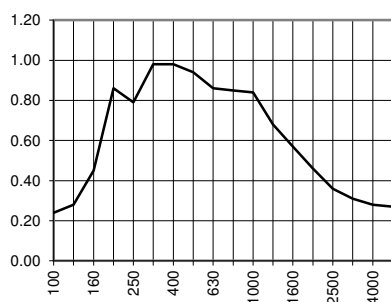
## Acoustical Absorption - Medium values

Low frequency range (100-315 Hz): 0.60  
Medium frequency range (400-1250 Hz): 0.86  
High frequency range (1600-5000 Hz): 0.38

Freq.

[Hz] Terz

|      |      |
|------|------|
| 100  | 0.24 |
| 125  | 0.28 |
| 160  | 0.45 |
| 200  | 0.86 |
| 250  | 0.79 |
| 315  | 0.98 |
| 400  | 0.98 |
| 500  | 0.94 |
| 630  | 0.86 |
| 800  | 0.85 |
| 1000 | 0.84 |
| 1250 | 0.68 |
| 1600 | 0.57 |
| 2000 | 0.46 |
| 2500 | 0.36 |
| 3150 | 0.31 |
| 4000 | 0.28 |
| 5000 | 0.27 |

**Suspension height 216 mm**

**EN D**  
**a<sub>w</sub>** 0.45 LM  
**NRC** 0.76

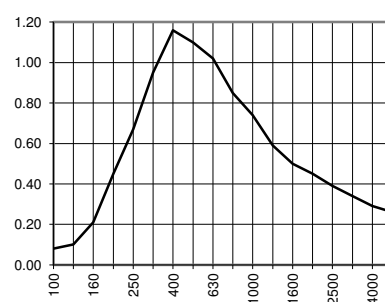
## Acoustical Absorption - Medium values

Low frequency range (100-315 Hz): 0.41  
Medium frequency range (400-1250 Hz): 0.91  
High frequency range (1600-5000 Hz): 0.37

Freq.

[Hz] Terz

|      |      |
|------|------|
| 100  | 0.08 |
| 125  | 0.10 |
| 160  | 0.21 |
| 200  | 0.45 |
| 250  | 0.67 |
| 315  | 0.95 |
| 400  | 1.16 |
| 500  | 1.10 |
| 630  | 1.02 |
| 800  | 0.85 |
| 1000 | 0.74 |
| 1250 | 0.59 |
| 1600 | 0.50 |
| 2000 | 0.45 |
| 2500 | 0.39 |
| 3150 | 0.34 |
| 4000 | 0.29 |
| 5000 | 0.26 |

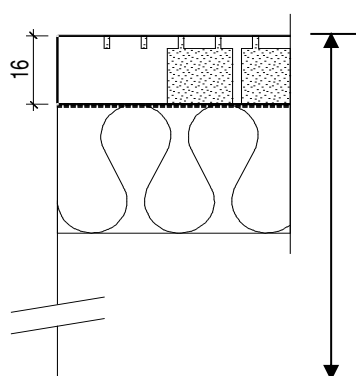
**Suspension height 76 mm**

**EN D**  
**a<sub>w</sub>** 0.45 LM  
**NRC** 0.74

**Acoustical Absorption Coefficient according to ISO 354**

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® **CLOU 8/8/2**

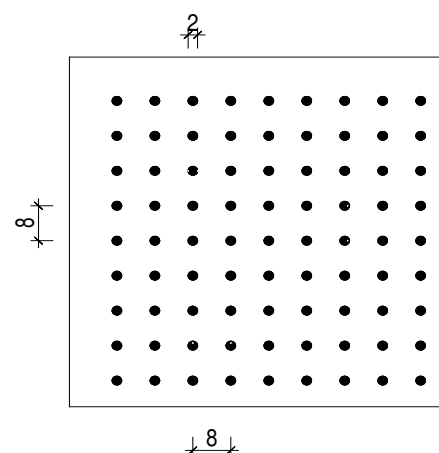
Research: Laboratory: SWISSCOM AG 13.10.2005  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 48.7%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 20.6 degrees



CLOU 8/8/2  
Acoustic fleece

Mineral wool 30 mm

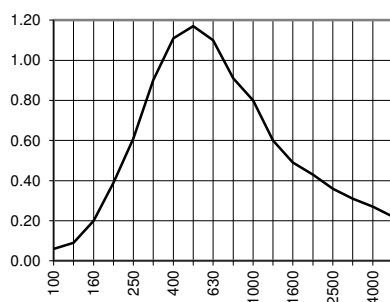
**Suspension height:**  
**56 mm**  
Cavity 10 mm

**Acoustical Absorption - Medium values**

Low frequency range (100-315 Hz): 0.38  
Medium frequency range (400-1250 Hz): 0.95  
High frequency range (1600-5000 Hz): 0.35

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.06 |
| 125  | 0.09 |
| 160  | 0.20 |
| 200  | 0.39 |
| 250  | 0.61 |
| 315  | 0.90 |
| 400  | 1.11 |
| 500  | 1.17 |
| 630  | 1.10 |
| 800  | 0.91 |
| 1000 | 0.80 |
| 1250 | 0.60 |
| 1600 | 0.49 |
| 2000 | 0.43 |
| 2500 | 0.36 |
| 3150 | 0.31 |
| 4000 | 0.27 |
| 5000 | 0.22 |

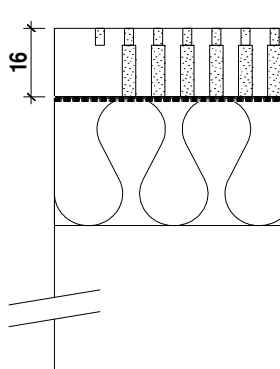
**Suspension height 56 mm**

**EN D**  
**a<sub>w</sub>** 0.45 LM  
**NRC** 0.75

Acoustical Absorption Coefficient according to ISO 354

Object: Type TOPPERFO® - Clou 8/8/2 - back side grooved 5/3

|           |                    |                    |                                            |
|-----------|--------------------|--------------------|--------------------------------------------|
| Research: | Laboratory:        | Giordano IT        | 31.3 + 1.4.2014                            |
|           | Test area:         | 12 m <sup>2</sup>  | Relative atmospheric humidity: 53.6/40.3 % |
|           | Echo space volume: | 219 m <sup>3</sup> | Temperature: 19.7/20.0 degrees             |

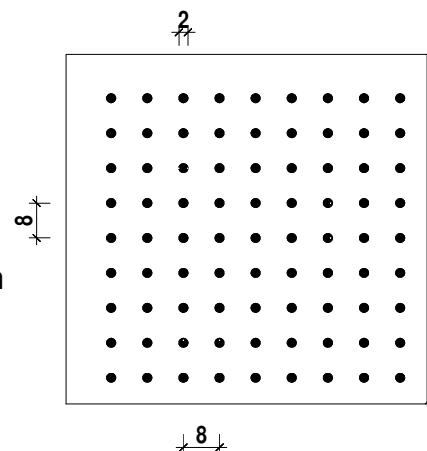


Clou 8/8/2 back side grooved

Vlies SP 60

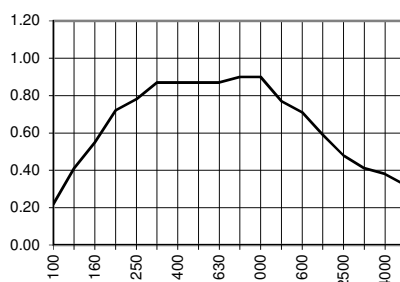
Mineral wool 30 mm - 60 kg/m<sup>3</sup>**Suspension heights: 246/96 mm**

Cavity 200/50 mm

**Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz) 0.59  
 Medium frequency range: (400-1250 Hz) 0.86  
 High frequency range: (1600-5000 Hz) 0.48

| Freq. |      |
|-------|------|
| [Hz]  | Terz |
| 100   | 0.22 |
| 125   | 0.41 |
| 160   | 0.55 |
| 200   | 0.72 |
| 250   | 0.78 |
| 315   | 0.87 |
| 400   | 0.87 |
| 500   | 0.87 |
| 630   | 0.87 |
| 800   | 0.90 |
| 1000  | 0.90 |
| 1250  | 0.77 |
| 1600  | 0.71 |
| 2000  | 0.59 |
| 2500  | 0.48 |
| 3150  | 0.41 |
| 4000  | 0.38 |
| 5000  | 0.32 |

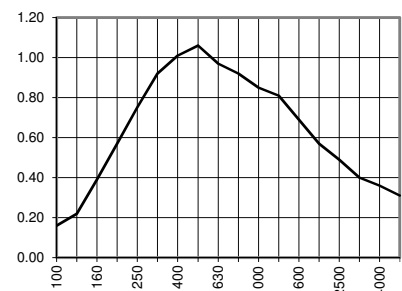
**Suspension height 246 mm**

**a<sub>w</sub> 0.55 LM (D)**  
**NRC 0.79**

**Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz) 0.50  
 Medium frequency range: (400-1250 Hz) 0.94  
 High frequency range: (1600-5000 Hz) 0.47

| Freq. |      |
|-------|------|
| [Hz]  | Terz |
| 100   | 0.16 |
| 125   | 0.22 |
| 160   | 0.39 |
| 200   | 0.57 |
| 250   | 0.75 |
| 315   | 0.92 |
| 400   | 1.01 |
| 500   | 1.06 |
| 630   | 0.97 |
| 800   | 0.92 |
| 1000  | 0.85 |
| 1250  | 0.81 |
| 1600  | 0.69 |
| 2000  | 0.57 |
| 2500  | 0.49 |
| 3150  | 0.40 |
| 4000  | 0.36 |
| 5000  | 0.31 |

**Suspension height 96 mm**

**a<sub>w</sub> 0.55 LM (D)**  
**NRC 0.81**

**Sound absorption in accordance with ISO 354: 1985**  
**Rating in acc. with ISO 11654:1997E and NRC acc. ASTM C423 (USA)**

All datas from the brochure 2017 listed according page number of brochure

| Brochure 2017<br>Page | File sheet<br>NH A+D AG | Type | % | Absorber | Suspension<br>height | NRC | Euro | a <sub>w</sub> |
|-----------------------|-------------------------|------|---|----------|----------------------|-----|------|----------------|
|-----------------------|-------------------------|------|---|----------|----------------------|-----|------|----------------|

**TOPPERFO®**

|         |          |                       |              |          |        |      |   |         |
|---------|----------|-----------------------|--------------|----------|--------|------|---|---------|
| 30      | 10.12.1  | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.89 | B | 0.85 L  |
|         |          | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 86 mm  | 0.88 | C | 0.75 LM |
|         | 10.12.2  | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.89 | C | 0.75 LM |
|         |          | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 226 mm | 0.85 | C | 0.75 L  |
|         | 10.13.1  | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 86 mm  | 0.87 | C | 0.65 LM |
|         |          | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 66 mm  | 0.85 | C | 0.65 LM |
|         | 10.14.1  | Micro                 | 3/3/0,5      | MW 40 mm | 226 mm | 0.79 | C | 0.6 LM  |
|         |          | Micro                 | 3/3/0,5      | MW 40 mm | 66 mm  | 0.83 | C | 0.6 LM  |
| 31      | 10.15.3  | Micro                 | 1.8/1.8/0.3  | MW 40 mm | 227 mm | 0.84 | C | 0.65 LM |
|         |          | Micro                 | 1.8/1.8/0.3  | MW 40 mm | 67 mm  | 0.85 | C | 0.60 LM |
| 31 add. | 12.0.1   | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.93 | C | 0.75 LM |
|         |          | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.92 | C | 0.75 M  |
|         | 12.0.2   | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.93 | B | 0.80 L  |
|         |          | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.95 | C | 0.75 LM |
| 32      | 10.1.1   | Clou 8/8/1.2          |              | MW 30 mm | 56 mm  | 0.60 | D | 0.3 LM  |
|         |          | Clou 8/8/1.2          |              | MW 30 mm | 216 mm | 0.57 | D | 0.3 LM  |
|         | 10.1.2   | Clou 8/8/1.2          |              | MW 30 mm | 76 mm  | 0.61 | E | 0.25 LM |
|         |          | Clou 8/8/1.2          | rear grooved | MW 30 mm | 56 mm  | 0.52 | E | 0.25 LM |
|         | 10.3.2   | Clou 8/8/1.2          | rear grooved | MW 30 mm | 216 mm | 0.47 | E | 0.25 LM |
|         |          | Clou 8/8/1.2          | rear grooved | MW 30 mm | 76 mm  | 0.53 | E | 0.2 LM  |
| 33      | 10.5.1   | Clou 8/8/2            |              | MW 30 mm | 216 mm | 0.76 | D | 0.45 LM |
|         |          | Clou 8/8/2            |              | MW 30 mm | 76 mm  | 0.74 | D | 0.45 LM |
|         | 10.5.2   | Clou 8/8/2            |              | MW 30 mm | 56 mm  | 0.75 | D | 0.45 LM |
|         |          | Clou 8/8/2            | rear grooved | MW 30 mm | 246 mm | 0.79 | D | 0.55 LM |
|         | 10.5.3   | Clou 8/8/2            | rear grooved | MW 30 mm | 96 mm  | 0.81 | D | 0.55 LM |
| 34      | 6.13.2.1 | 16/16/10-4            |              | MW 30 mm | 216 mm | 0.75 | D | 0.55 LM |
|         |          | 16/16/10-4            |              | MW 30 mm | 76 mm  | 0.80 | D | 0.55 LM |
|         | 6.13.2.2 | 16/16/10-4            |              | MW 30 mm | 56 mm  | 0.78 | D | 0.5 LM  |
|         |          | 16/16/10-5            |              | MW 30 mm | 216 mm | 0.82 | C | 0.7 L   |
|         | 6.14.1a  | 16/16/10-5            |              | MW 30 mm | 76 mm  | 0.85 | C | 0.7 M   |
|         |          | 16/16/10-5            |              | MW 30 mm | 56 mm  | 0.83 | C | 0.7 M   |
| 35      | 6.11.1a  | 16/16/10-2            |              | MW 30 mm | 216 mm | 0.44 | E | 0.25 LM |
|         |          | 16/16/10-2            |              | MW 30 mm | 76 mm  | 0.51 | E | 0.25 LM |
|         | 6.11.2   | 16/16/10-2            |              | MW 30 mm | 56 mm  | 0.50 | E | 0.25 LM |
|         |          | 16/16/10-3            |              | MW 30 mm | 216 mm | 0.63 | D | 0.4 LM  |
|         | 6.13.1a  | 16/16/10-3            |              | MW 30 mm | 76 mm  | 0.69 | D | 0.4 LM  |
|         |          | 16/16/10-3            |              | MW 30 mm | 56 mm  | 0.68 | D | 0.35 LM |
|         | 6.13.2a  | 16/16/10-3            |              | MW 30 mm | 56 mm  | 0.68 | D | 0.35 LM |
| 36      | 5.11.1   | 16/16/6               | 11%          | MW 30 mm | 216 mm | 0.79 | D | 0.5 LM  |
|         |          | 16/16/6               | 11%          | MW 30 mm | 46 mm  | 0.73 | D | 0.5 M   |
| 37      | 5.12.1   | 16/16/8               | 19%          | MW 30 mm | 216 mm | 0.91 | C | 0.75 LM |
|         |          | 16/16/8               | 19%          | MW 30 mm | 46 mm  | 0.81 | C | 0.7 M   |
|         | 5.13.1   | 20/20/6               | 7%           | MW 30 mm | 56 mm  | 0.56 | D | 0.45 LM |
|         |          | 20/20/6               | 7%           | MW 30 mm | 216 mm | 0.53 | D | 0.45 L  |
|         | 5.13.2   | 20/20/6               | 7%           | MW 30 mm | 76 mm  | 0.57 | D | 0.45 LM |
|         |          | 20/20/6               | 7%           | MW 30 mm | 56 mm  | 0.71 | C | 0.6 LM  |
|         | 5.14.1   | 20/20/8               | 12%          | MW 30 mm | 56 mm  | 0.71 | C | 0.6 LM  |
|         |          | 20/20/8               | 12%          | MW 30 mm | 216 mm | 0.68 | C | 0.6 L   |
|         | 5.17.1   | 20/20/8               | 12%          | MW 30 mm | 76 mm  | 0.72 | C | 0.6 LM  |
| 38      | 9.4.1    | 16/16/10              | 31%          | MW 30 mm | 216 mm | 0.95 | A | 1.00    |
|         |          | 16/16/10              | 31%          | MW 30 mm | 56 mm  | 0.90 | A | 0.90    |
| 39      | 5.12.3   | Split                 | 19%          | MW 30 mm | 200 mm | 0.77 | B | 0.8     |
|         |          | Split                 | 19%          | MW 30 mm | 56 mm  | 0.73 | B | 0.8     |
|         | 5.12.4   | 16/16/8 Graphic 15%   |              | MW 30 mm | 200 mm | 0.72 | C | 0.75    |
|         |          | 16/16/8 Graphic 15%   |              | MW 30 mm | 60 mm  | 0.70 | C | 0.75    |
|         |          | 16/16/8 Graphic 11.5% |              | MW 30 mm | 200 mm | 0.61 | C | 0.65    |
| 40      | 5.12.4   | 16/16/8 Graphic 11.5% |              | MW 30 mm | 56 mm  | 0.65 | C | 0.65    |

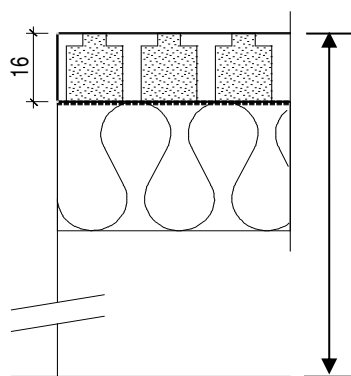
**Cabinet door**

|    |         |                   |           |                  |        |      |   |         |
|----|---------|-------------------|-----------|------------------|--------|------|---|---------|
| 44 | 8.1.2   | 9/2 M - RK        | 6%        | Cabinet door RK  | 419 mm | 0.56 | D | 0.55    |
|    | 8.2.1   | 14/2 M - RK       | 7%        | Cabinet door RK  | 419 mm | 0.68 | C | 0.6 H   |
|    | 8.4.1   | 14/2 M - SW       | 7%        | Cabinet door SW  | 419 mm | 0.55 | D | 0.5     |
|    | 8.8.1   | 16/16/10-3 - SW   |           | Cabinet door SW  | 419 mm | 0.27 | E | 0.25 L  |
|    | 8.10.1  | Clou 8/8/1.2 - SW |           | Cabinet door SW  | 419 mm | 0.39 | D | 0.35 L  |
|    | 8.12.1  | Clou 8/8/1.2 - RK |           | Cabinet door RK  | 419 mm | 0.54 | D | 0.35 LM |
|    | 8.13.2a | Micro door        | 2/2/Ø 0,5 | Micro both sides | 419 mm | 0.61 | C | 0.6 L   |
|    |         |                   |           |                  |        |      |   |         |

**Acoustical Absorption Coefficient according to ISO 354**

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® T 16/16/10-4

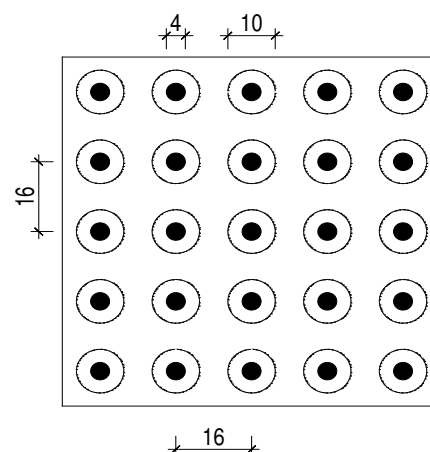
Research: Laboratory: SWISSCOM AG 31.05.2007 / 01.06.2007  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 51.2%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 20.1 degrees



**TOPPERFO® T 16/16/10-4**  
Acoustic fleece

Mineral wool 30 mm

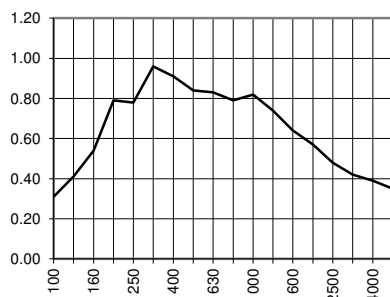
**Suspension heights:**  
**216/76 mm**  
Cavity 170/30 mm

**Acoustical Absorption - Medium values**

Low frequency range (100-315 Hz): 0.63  
Medium frequency range (400-1250 Hz): 0.82  
High frequency range (1600-5000 Hz): 0.48

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.31 |
| 125  | 0.41 |
| 160  | 0.54 |
| 200  | 0.79 |
| 250  | 0.78 |
| 315  | 0.96 |
| 400  | 0.91 |
| 500  | 0.84 |
| 630  | 0.83 |
| 800  | 0.79 |
| 1000 | 0.82 |
| 1250 | 0.74 |
| 1600 | 0.64 |
| 2000 | 0.57 |
| 2500 | 0.48 |
| 3150 | 0.42 |
| 4000 | 0.39 |
| 5000 | 0.35 |

**Suspension height 216 mm**

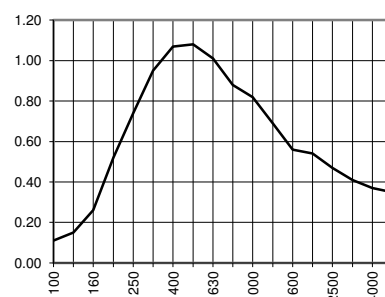
**EN D**  
**a<sub>w</sub> 0.55 LM**  
**NRC 0.75**

**Acoustical Absorption - Medium values**

Low frequency range (100-315 Hz): 0.46  
Medium frequency range (400-1250 Hz): 0.93  
High frequency range (1600-5000 Hz): 0.45

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.11 |
| 125  | 0.15 |
| 160  | 0.26 |
| 200  | 0.52 |
| 250  | 0.74 |
| 315  | 0.95 |
| 400  | 1.07 |
| 500  | 1.08 |
| 630  | 1.01 |
| 800  | 0.88 |
| 1000 | 0.82 |
| 1250 | 0.69 |
| 1600 | 0.56 |
| 2000 | 0.54 |
| 2500 | 0.47 |
| 3150 | 0.41 |
| 4000 | 0.37 |
| 5000 | 0.35 |

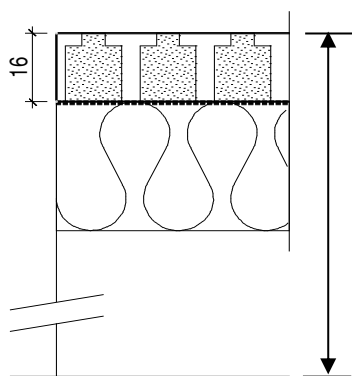
**Suspension height 76 mm**

**EN D**  
**a<sub>w</sub> 0.55 LM**  
**NRC 0.80**

**Acoustical Absorption Coefficient according to ISO 354**

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® T **16/16/10-4**

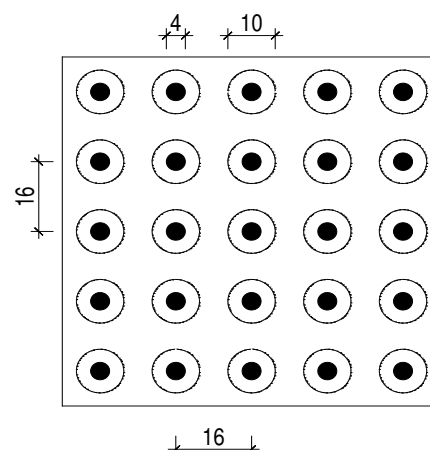
Research: Laboratory: SWISSCOM AG 01.06.2007  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 50%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 20 degree



**TOPPERFO® T 16/16/10-4**  
Acoustic fleece

Mineral wool 30 mm

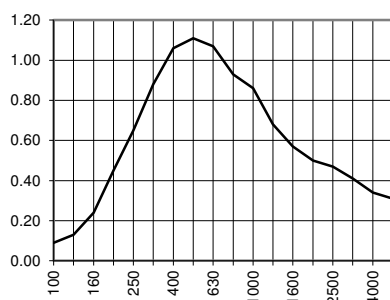
**Suspension height:**  
**56 mm**  
Cavity 10 mm

**Acoustical Absorption - Medium values**

Low frequency range (100-315 Hz): 0.41  
Medium frequency range (400-1250 Hz): 0.95  
High frequency range (1600-5000 Hz): 0.43

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.09 |
| 125  | 0.13 |
| 160  | 0.24 |
| 200  | 0.45 |
| 250  | 0.65 |
| 315  | 0.88 |
| 400  | 1.06 |
| 500  | 1.11 |
| 630  | 1.07 |
| 800  | 0.93 |
| 1000 | 0.86 |
| 1250 | 0.68 |
| 1600 | 0.57 |
| 2000 | 0.50 |
| 2500 | 0.47 |
| 3150 | 0.41 |
| 4000 | 0.34 |
| 5000 | 0.31 |

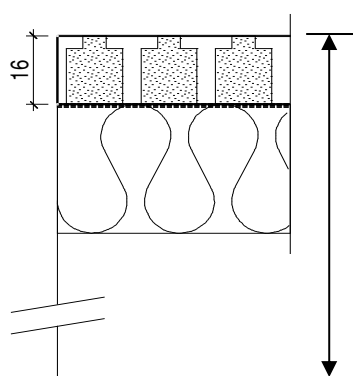
**Suspension height 56 mm**

**EN D**  
**a<sub>w</sub> 0.5 LM**  
**NRC 0.78**

**Acoustical Absorption Coefficient according to ISO 354**

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® T 16/16/10-5

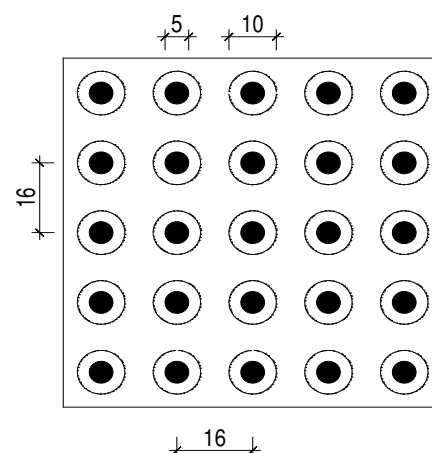
Research: Laboratory: SWISSCOM AG 31.05.2007 / 01.06.2007  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 51.4%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 20.1 degrees



**TOPPERFO® T 16/16/10-5**  
Acoustic fleece

Mineral wool 30 mm

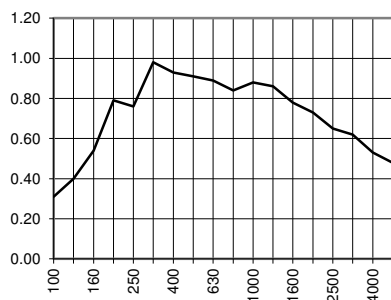
**Suspension heights:**  
**216/76 mm**  
Cavity 170/30 mm

**Acoustical Absorption - Medium values**

Low frequency range (100-315 Hz): 0.63  
Medium frequency range (400-1250 Hz): 0.89  
High frequency range (1600-5000 Hz): 0.63

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.31 |
| 125  | 0.40 |
| 160  | 0.54 |
| 200  | 0.79 |
| 250  | 0.76 |
| 315  | 0.98 |
| 400  | 0.93 |
| 500  | 0.91 |
| 630  | 0.89 |
| 800  | 0.84 |
| 1000 | 0.88 |
| 1250 | 0.86 |
| 1600 | 0.78 |
| 2000 | 0.73 |
| 2500 | 0.65 |
| 3150 | 0.62 |
| 4000 | 0.53 |
| 5000 | 0.48 |

**Suspension height 216 mm**

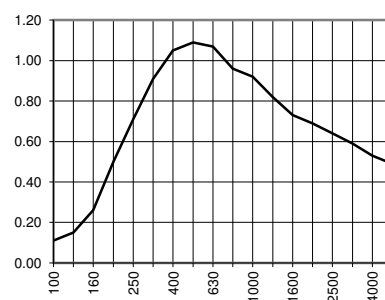
**EN C**  
**a<sub>w</sub> 0.7 L**  
**NRC 0.82**

**Acoustical Absorption - Medium values**

Low frequency range (100-315 Hz): 0.44  
Medium frequency range (400-1250 Hz): 0.99  
High frequency range (1600-5000 Hz): 0.61

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.11 |
| 125  | 0.15 |
| 160  | 0.26 |
| 200  | 0.50 |
| 250  | 0.71 |
| 315  | 0.91 |
| 400  | 1.05 |
| 500  | 1.09 |
| 630  | 1.07 |
| 800  | 0.96 |
| 1000 | 0.92 |
| 1250 | 0.82 |
| 1600 | 0.73 |
| 2000 | 0.69 |
| 2500 | 0.64 |
| 3150 | 0.59 |
| 4000 | 0.53 |
| 5000 | 0.49 |

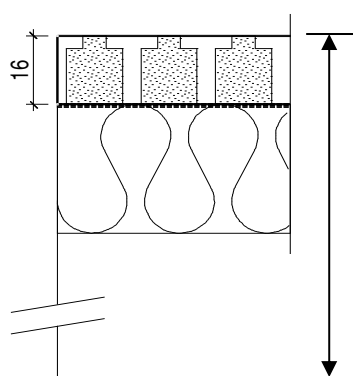
**Suspension height 76 mm**

**EN C**  
**a<sub>w</sub> 0.7 M**  
**NRC 0.85**

**Acoustical Absorption Coefficient according to ISO 354**

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® T **16/16/10-5**

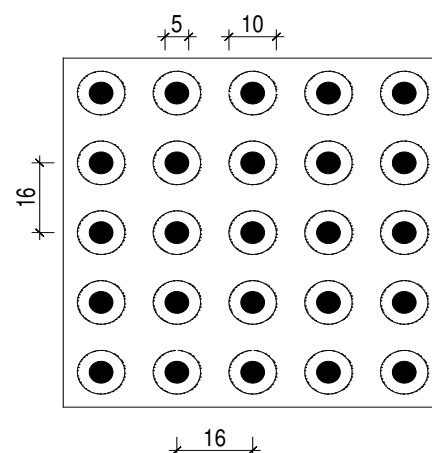
Research: Laboratory: SWISSCOM AG 01.06.2007  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 50%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 20.1 degrees



**TOPPERFO® T 16/16/10-5**  
Acoustic fleece

Mineral wool 30 mm

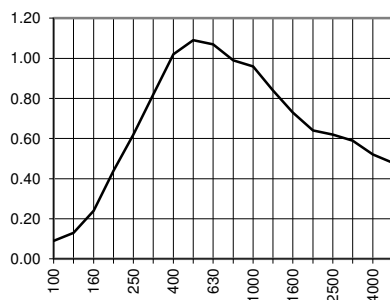
**Suspension height:**  
**56 mm**  
Cavity 10 mm

**Acoustical Absorption - Medium values**

Low frequency range (100-315 Hz): 0.39  
Medium frequency range (400-1250 Hz): 1.00  
High frequency range (1600-5000 Hz): 0.60

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.09 |
| 125  | 0.13 |
| 160  | 0.24 |
| 200  | 0.44 |
| 250  | 0.62 |
| 315  | 0.82 |
| 400  | 1.02 |
| 500  | 1.09 |
| 630  | 1.07 |
| 800  | 0.99 |
| 1000 | 0.96 |
| 1250 | 0.84 |
| 1600 | 0.73 |
| 2000 | 0.64 |
| 2500 | 0.62 |
| 3150 | 0.59 |
| 4000 | 0.52 |
| 5000 | 0.48 |

**Suspension height 56 mm**

**EN C**  
**a<sub>w</sub> 0.7 M**  
**NRC 0.83**

**Sound absorption in accordance with ISO 354: 1985**  
**Rating in acc. with ISO 11654:1997E and NRC acc. ASTM C423 (USA)**

All datas from the brochure 2017 listed according page number of brochure

| Brochure 2017<br>Page | File sheet<br>NH A+D AG | Type | % | Absorber | Suspension<br>height | NRC | Euro | a <sub>w</sub> |
|-----------------------|-------------------------|------|---|----------|----------------------|-----|------|----------------|
|-----------------------|-------------------------|------|---|----------|----------------------|-----|------|----------------|

**TOPPERFO®**

|         |          |                           |             |          |        |      |   |         |
|---------|----------|---------------------------|-------------|----------|--------|------|---|---------|
| 30      | 10.12.1  | Micro                     | 2/2/Ø 0,5   | MW 40 mm | 226 mm | 0.89 | B | 0.85 L  |
|         |          | Micro                     | 2/2/Ø 0,5   | MW 40 mm | 86 mm  | 0.88 | C | 0.75 LM |
|         | 10.12.2  | Micro                     | 2/2/Ø 0,5   | MW 40 mm | 66 mm  | 0.89 | C | 0.75 LM |
|         |          | Micro                     | 2,5/2,5/0,5 | MW 40 mm | 226 mm | 0.85 | C | 0.75 L  |
|         | 10.13.1  | Micro                     | 2,5/2,5/0,5 | MW 40 mm | 86 mm  | 0.87 | C | 0.65 LM |
|         |          | Micro                     | 2,5/2,5/0,5 | MW 40 mm | 66 mm  | 0.85 | C | 0.65 LM |
|         | 10.14.1  | Micro                     | 3/3/0,5     | MW 40 mm | 226 mm | 0.79 | C | 0.6 LM  |
|         |          | Micro                     | 3/3/0,5     | MW 40 mm | 66 mm  | 0.83 | C | 0.6 LM  |
| 31      | 10.14.2  | Micro                     | 3/3/0,5     | MW 40 mm | 86 mm  | 0.80 | D | 0.55 LM |
|         |          | Micro                     | 1.8/1.8/0.3 | MW 40 mm | 227 mm | 0.84 | C | 0.65 LM |
| 31 add. | 10.15.3  | Micro                     | 1.8/1.8/0.3 | MW 40 mm | 67 mm  | 0.85 | C | 0.60 LM |
|         |          | Micro                     | 2/2/Ø 0,5   | MW 40 mm | 226 mm | 0.93 | C | 0.75 LM |
|         | 12.0.1   | Micro 2018                | 2/2/Ø 0,5   | MW 40 mm | 66 mm  | 0.92 | C | 0.75 M  |
|         |          | Micro 2018                | 2/2/Ø 0,5   | MW 40 mm | 226 mm | 0.93 | B | 0.80 L  |
| 32      | 12.0.2   | Micro 2018                | 2/2/Ø 0,5   | MW 40 mm | 66 mm  | 0.95 | C | 0.75 LM |
|         |          | Micro 2018                | 2/2/Ø 0,5   | MW 40 mm | 226 mm | 0.93 | B | 0.80 L  |
|         | 10.1.1   | Clou 8/8/1.2              |             | MW 30 mm | 56 mm  | 0.60 | D | 0.3 LM  |
|         |          | Clou 8/8/1.2              |             | MW 30 mm | 216 mm | 0.57 | D | 0.3 LM  |
|         | 10.1.2   | Clou 8/8/1.2              |             | MW 30 mm | 76 mm  | 0.61 | E | 0.25 LM |
|         |          | Clou 8/8/1.2              |             | MW 30 mm | 56 mm  | 0.52 | E | 0.25 LM |
| 33      | 10.3.1   | Clou 8/8/1.2 rear grooved |             | MW 30 mm | 56 mm  | 0.52 | E | 0.25 LM |
|         |          | Clou 8/8/1.2 rear grooved |             | MW 30 mm | 216 mm | 0.47 | E | 0.25 LM |
|         | 10.3.2   | Clou 8/8/1.2 rear grooved |             | MW 30 mm | 76 mm  | 0.53 | E | 0.2 LM  |
|         |          | Clou 8/8/1.2 rear grooved |             | MW 30 mm | 216 mm | 0.76 | D | 0.45 LM |
|         | 10.5.1   | Clou 8/8/2                |             | MW 30 mm | 76 mm  | 0.74 | D | 0.45 LM |
|         |          | Clou 8/8/2                |             | MW 30 mm | 56 mm  | 0.75 | D | 0.45 LM |
| 34      | 10.5.2   | Clou 8/8/2 rear grooved   |             | MW 30 mm | 246 mm | 0.79 | D | 0.55 LM |
|         |          | Clou 8/8/2 rear grooved   |             | MW 30 mm | 96 mm  | 0.81 | D | 0.55 LM |
|         | 6.13.2.1 | 16/16/10-4                |             | MW 30 mm | 216 mm | 0.75 | D | 0.55 LM |
|         |          | 16/16/10-4                |             | MW 30 mm | 76 mm  | 0.80 | D | 0.55 LM |
|         | 6.13.2.2 | 16/16/10-4                |             | MW 30 mm | 56 mm  | 0.78 | D | 0.5 LM  |
|         |          | 16/16/10-5                |             | MW 30 mm | 216 mm | 0.82 | C | 0.7 L   |
| 35      | 6.14.1a  | 16/16/10-5                |             | MW 30 mm | 76 mm  | 0.85 | C | 0.7 M   |
|         |          | 16/16/10-5                |             | MW 30 mm | 56 mm  | 0.83 | C | 0.7 M   |
|         | 6.11.1a  | 16/16/10-2                |             | MW 30 mm | 216 mm | 0.44 | E | 0.25 LM |
|         |          | 16/16/10-2                |             | MW 30 mm | 76 mm  | 0.51 | E | 0.25 LM |
|         | 6.11.2   | 16/16/10-2                |             | MW 30 mm | 56 mm  | 0.50 | E | 0.25 LM |
|         |          | 16/16/10-3                |             | MW 30 mm | 216 mm | 0.63 | D | 0.4 LM  |
| 36      | 6.13.1a  | 16/16/10-3                |             | MW 30 mm | 76 mm  | 0.69 | D | 0.4 LM  |
|         |          | 16/16/10-3                |             | MW 30 mm | 56 mm  | 0.68 | D | 0.35 LM |
|         | 5.11.1   | 16/16/6                   | 11%         | MW 30 mm | 216 mm | 0.79 | D | 0.5 LM  |
|         |          | 16/16/6                   | 11%         | MW 30 mm | 46 mm  | 0.73 | D | 0.5 M   |
|         | 5.12.1   | 16/16/8                   | 19%         | MW 30 mm | 216 mm | 0.91 | C | 0.75 LM |
|         |          | 16/16/8                   | 19%         | MW 30 mm | 46 mm  | 0.81 | C | 0.7 M   |
| 37      | 5.13.1   | 20/20/6                   | 7%          | MW 30 mm | 56 mm  | 0.56 | D | 0.45 LM |
|         |          | 20/20/6                   | 7%          | MW 30 mm | 216 mm | 0.53 | D | 0.45 L  |
|         | 5.13.2   | 20/20/6                   | 7%          | MW 30 mm | 76 mm  | 0.57 | D | 0.45 LM |
|         |          | 20/20/6                   | 7%          | MW 30 mm | 56 mm  | 0.71 | C | 0.6 LM  |
|         | 5.14.1   | 20/20/8                   | 12%         | MW 30 mm | 56 mm  | 0.68 | C | 0.6 L   |
|         |          | 20/20/8                   | 12%         | MW 30 mm | 216 mm | 0.72 | C | 0.6 LM  |
| 38      | 5.17.1   | 16/16/10                  | 31%         | MW 30 mm | 216 mm | 0.95 | A | 1.00    |
|         |          | 16/16/10                  | 31%         | MW 30 mm | 56 mm  | 0.90 | A | 0.90    |
|         | 9.4.1    | Split                     | 19%         | MW 30 mm | 200 mm | 0.77 | B | 0.8     |
|         |          | Split                     | 19%         | MW 30 mm | 56 mm  | 0.73 | B | 0.8     |
|         | 5.12.3   | 16/16/8 Graphic 15%       |             | MW 30 mm | 200 mm | 0.72 | C | 0.75    |
|         |          | 16/16/8 Graphic 15%       |             | MW 30 mm | 60 mm  | 0.70 | C | 0.75    |
| 39      | 5.12.4   | 16/16/8 Graphic 11.5%     |             | MW 30 mm | 200 mm | 0.61 | C | 0.65    |
|         |          | 16/16/8 Graphic 11.5%     |             | MW 30 mm | 56 mm  | 0.65 | C | 0.65    |

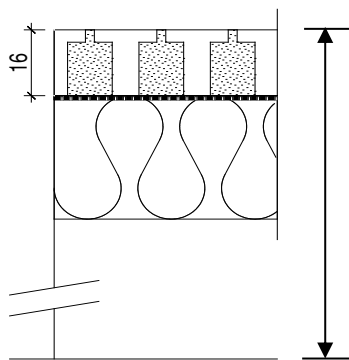
**Cabinet door**

|    |         |                   |           |                  |        |      |   |         |
|----|---------|-------------------|-----------|------------------|--------|------|---|---------|
| 44 | 8.1.2   | 9/2 M - RK        | 6%        | Cabinet door RK  | 419 mm | 0.56 | D | 0.55    |
|    | 8.2.1   | 14/2 M - RK       | 7%        | Cabinet door RK  | 419 mm | 0.68 | C | 0.6 H   |
|    | 8.4.1   | 14/2 M - SW       | 7%        | Cabinet door SW  | 419 mm | 0.55 | D | 0.5     |
|    | 8.8.1   | 16/16/10-3 - SW   |           | Cabinet door SW  | 419 mm | 0.27 | E | 0.25 L  |
|    | 8.10.1  | Clou 8/8/1.2 - SW |           | Cabinet door SW  | 419 mm | 0.39 | D | 0.35 L  |
|    | 8.12.1  | Clou 8/8/1.2 - RK |           | Cabinet door RK  | 419 mm | 0.54 | D | 0.35 LM |
|    | 8.13.2a | Micro door        | 2/2/Ø 0,5 | Micro both sides | 419 mm | 0.61 | C | 0.6 L   |
|    |         | Micro door        | 2/2/Ø 0,5 | Micro both sides | 419 mm | 0.61 | C | 0.6 L   |

**Acoustical Absorption Coefficient according to ISO 354**

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® T 16/16/10-2

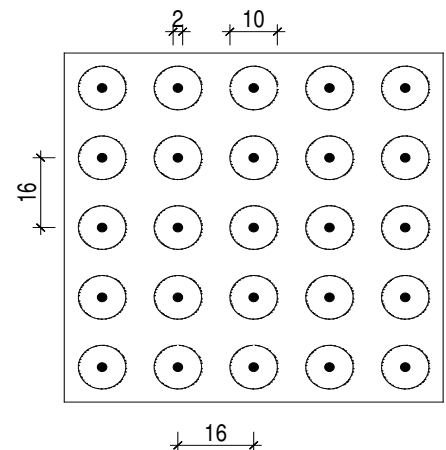
Research: Laboratory: SWISSCOM AG 31.05.2007 / 01.06.2007  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 52.7%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 20 degrees



**TOPPERFO® T 16/16/10-2**  
Acoustic fleece

Mineral wool 30 mm

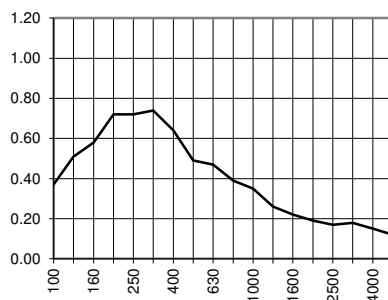
**Suspension heights:**  
**216/76 mm**  
Cavity 170/30 mm

**Acoustical Absorption - Medium values**

Low frequency range (100-315 Hz): 0.61  
Medium frequency range (400-1250 Hz): 0.43  
High frequency range (1600-5000 Hz): 0.17

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.37 |
| 125  | 0.51 |
| 160  | 0.58 |
| 200  | 0.72 |
| 250  | 0.72 |
| 315  | 0.74 |
| 400  | 0.64 |
| 500  | 0.49 |
| 630  | 0.47 |
| 800  | 0.39 |
| 1000 | 0.35 |
| 1250 | 0.26 |
| 1600 | 0.22 |
| 2000 | 0.19 |
| 2500 | 0.17 |
| 3150 | 0.18 |
| 4000 | 0.15 |
| 5000 | 0.12 |

**Suspension height 216 mm**

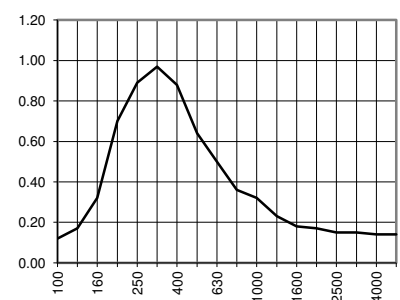
**EN E**  
**a<sub>w</sub> 0.25 LM**  
**NRC 0.44**

**Acoustical Absorption - Medium values**

Low frequency range (100-315 Hz): 0.53  
Medium frequency range (400-1250 Hz): 0.49  
High frequency range (1600-5000 Hz): 0.16

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.12 |
| 125  | 0.17 |
| 160  | 0.32 |
| 200  | 0.70 |
| 250  | 0.89 |
| 315  | 0.97 |
| 400  | 0.88 |
| 500  | 0.64 |
| 630  | 0.50 |
| 800  | 0.36 |
| 1000 | 0.32 |
| 1250 | 0.23 |
| 1600 | 0.18 |
| 2000 | 0.17 |
| 2500 | 0.15 |
| 3150 | 0.15 |
| 4000 | 0.14 |
| 5000 | 0.14 |

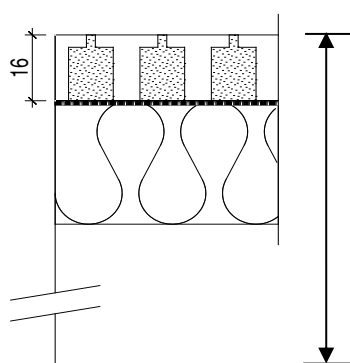
**Suspension height 76 mm**

**EN E**  
**a<sub>w</sub> 0.25 LM**  
**NRC 0.51**

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® T 16/16/10-2

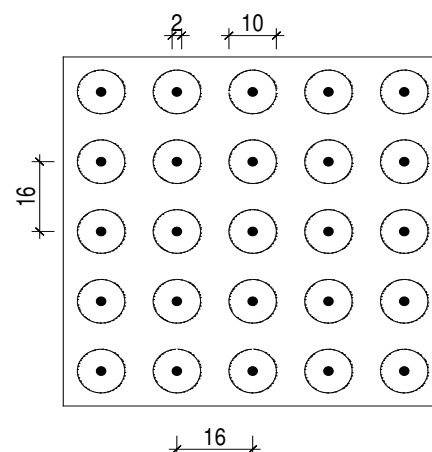
Research: Laboratory: SWISSCOM AG 01.06.2007  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 49.8%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 20.1 degrees



TOPPERFO® T 16/16/10-2  
Acoustic fleece

Mineral wool 30 mm

**Suspension height:**  
**56 mm**  
Cavity 10 mm



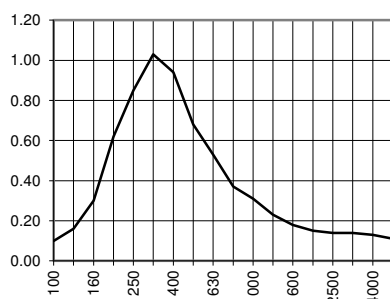
## Acoustical Absorption - Medium values

Low frequency range (100-315 Hz): 0.51  
Medium frequency range (400-1250 Hz): 0.51  
High frequency range (1600-5000 Hz): 0.14

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.10 |
| 125  | 0.16 |
| 160  | 0.30 |
| 200  | 0.62 |
| 250  | 0.85 |
| 315  | 1.03 |
| 400  | 0.94 |
| 500  | 0.68 |
| 630  | 0.53 |
| 800  | 0.37 |
| 1000 | 0.31 |
| 1250 | 0.23 |
| 1600 | 0.18 |
| 2000 | 0.15 |
| 2500 | 0.14 |
| 3150 | 0.14 |
| 4000 | 0.13 |
| 5000 | 0.11 |

## Suspension height 56 mm

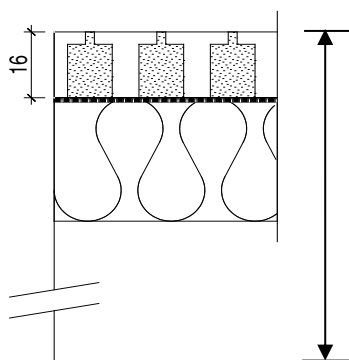


**EN E**  
**a<sub>w</sub> 0.25 LM**  
**NRC 0.50**

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® T 16/16/10-3

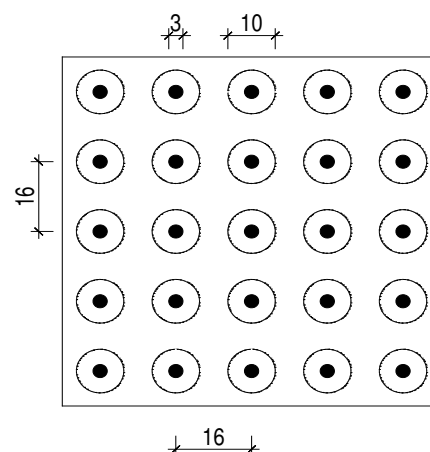
Research: Laboratory: SWISSCOM AG 31.05.2007 / 01.06.2007  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 52.2%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 20.2 degrees



TOPPERFO® T 16/16/10-3  
Acoustic fleece

Mineral wool 30 mm

**Suspension heights:**  
**216/76 mm**  
Cavity 170/30 mm



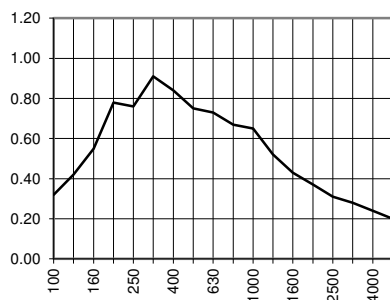
## Acoustical Absorption - Medium values:

Low frequency range (100-315 Hz): 0.62  
Medium frequency range (400-1250 Hz): 0.69  
High frequency range (1600-5000 Hz): 0.31

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.32 |
| 125  | 0.42 |
| 160  | 0.55 |
| 200  | 0.78 |
| 250  | 0.76 |
| 315  | 0.91 |
| 400  | 0.84 |
| 500  | 0.75 |
| 630  | 0.73 |
| 800  | 0.67 |
| 1000 | 0.65 |
| 1250 | 0.52 |
| 1600 | 0.43 |
| 2000 | 0.37 |
| 2500 | 0.31 |
| 3150 | 0.28 |
| 4000 | 0.24 |
| 5000 | 0.20 |

## Suspension height 216 mm



**EN D**  
**a<sub>w</sub> 0.4 LM**  
**NRC 0.63**

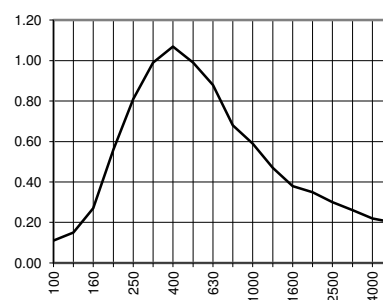
## Acoustical Absorption - Medium values:

Low frequency range (100-315 Hz): 0.48  
Medium frequency range (400-1250 Hz): 0.78  
High frequency range (1600-5000 Hz): 0.29

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.11 |
| 125  | 0.15 |
| 160  | 0.27 |
| 200  | 0.56 |
| 250  | 0.81 |
| 315  | 0.99 |
| 400  | 1.07 |
| 500  | 0.99 |
| 630  | 0.88 |
| 800  | 0.68 |
| 1000 | 0.59 |
| 1250 | 0.47 |
| 1600 | 0.38 |
| 2000 | 0.35 |
| 2500 | 0.30 |
| 3150 | 0.26 |
| 4000 | 0.22 |
| 5000 | 0.20 |

## Suspension height 76 mm

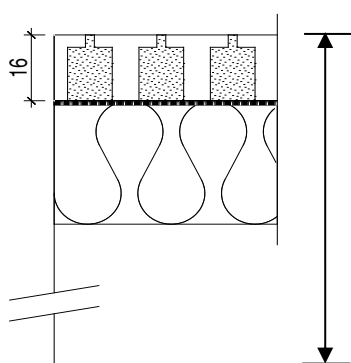


**EN D**  
**a<sub>w</sub> 0.4 LM**  
**NRC 0.69**

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® T **16/16/10-3**

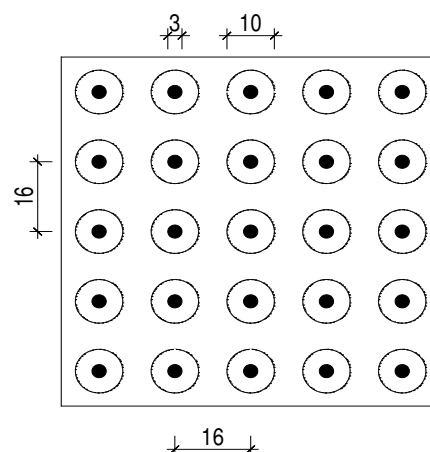
Research: Laboratory: SWISSCOM AG 01.06.2007  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 50.2%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 20 degrees



TOPPERFO® T 16/16/10-3  
Acoustic fleece

Mineral wool 30 mm

**Suspension height:**  
**56 mm**  
Cavity 10 mm

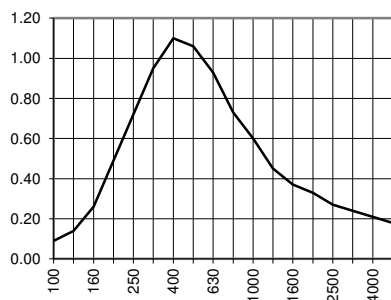


## Acoustical Absorption - Medium values

Low frequency range (100-315 Hz): 0.44  
Medium frequency range (400-1250 Hz): 0.81  
High frequency range (1600-5000 Hz): 0.27

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.09 |
| 125  | 0.14 |
| 160  | 0.26 |
| 200  | 0.49 |
| 250  | 0.72 |
| 315  | 0.95 |
| 400  | 1.10 |
| 500  | 1.06 |
| 630  | 0.93 |
| 800  | 0.73 |
| 1000 | 0.60 |
| 1250 | 0.45 |
| 1600 | 0.37 |
| 2000 | 0.33 |
| 2500 | 0.27 |
| 3150 | 0.24 |
| 4000 | 0.21 |
| 5000 | 0.18 |

**Suspension height 56 mm**

**EN D**  
**a<sub>w</sub>** 0.35 LM  
**NRC** 0.68

**Sound absorption in accordance with ISO 354: 1985**  
**Rating in acc. with ISO 11654:1997E and NRC acc. ASTM C423 (USA)**

All datas from the brochure 2017 listed according page number of brochure

| Brochure 2017<br>Page | File sheet<br>NH A+D AG | Type | % | Absorber | Suspension<br>height | NRC | Euro | a <sub>w</sub> |
|-----------------------|-------------------------|------|---|----------|----------------------|-----|------|----------------|
|-----------------------|-------------------------|------|---|----------|----------------------|-----|------|----------------|

**TOPPERFO®**

|         |          |                       |              |          |        |      |   |         |
|---------|----------|-----------------------|--------------|----------|--------|------|---|---------|
| 30      | 10.12.1  | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.89 | B | 0.85 L  |
|         |          | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 86 mm  | 0.88 | C | 0.75 LM |
|         | 10.12.2  | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.89 | C | 0.75 LM |
|         |          | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 226 mm | 0.85 | C | 0.75 L  |
|         | 10.13.1  | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 86 mm  | 0.87 | C | 0.65 LM |
|         |          | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 66 mm  | 0.85 | C | 0.65 LM |
|         | 10.14.1  | Micro                 | 3/3/0,5      | MW 40 mm | 226 mm | 0.79 | C | 0.6 LM  |
|         |          | Micro                 | 3/3/0,5      | MW 40 mm | 66 mm  | 0.83 | C | 0.6 LM  |
| 31      | 10.15.3  | Micro                 | 1.8/1.8/0.3  | MW 40 mm | 227 mm | 0.84 | C | 0.65 LM |
|         |          | Micro                 | 1.8/1.8/0.3  | MW 40 mm | 67 mm  | 0.85 | C | 0.60 LM |
| 31 add. | 12.0.1   | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.93 | C | 0.75 LM |
|         |          | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.92 | C | 0.75 M  |
|         | 12.0.2   | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.93 | B | 0.80 L  |
|         |          | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.95 | C | 0.75 LM |
| 32      | 10.1.1   | Clou 8/8/1.2          |              | MW 30 mm | 56 mm  | 0.60 | D | 0.3 LM  |
|         |          | Clou 8/8/1.2          |              | MW 30 mm | 216 mm | 0.57 | D | 0.3 LM  |
|         | 10.1.2   | Clou 8/8/1.2          |              | MW 30 mm | 76 mm  | 0.61 | E | 0.25 LM |
|         |          | Clou 8/8/1.2          | rear grooved | MW 30 mm | 56 mm  | 0.52 | E | 0.25 LM |
|         | 10.3.2   | Clou 8/8/1.2          | rear grooved | MW 30 mm | 216 mm | 0.47 | E | 0.25 LM |
|         |          | Clou 8/8/1.2          | rear grooved | MW 30 mm | 76 mm  | 0.53 | E | 0.2 LM  |
| 33      | 10.5.1   | Clou 8/8/2            |              | MW 30 mm | 216 mm | 0.76 | D | 0.45 LM |
|         |          | Clou 8/8/2            |              | MW 30 mm | 76 mm  | 0.74 | D | 0.45 LM |
|         | 10.5.2   | Clou 8/8/2            |              | MW 30 mm | 56 mm  | 0.75 | D | 0.45 LM |
|         |          | Clou 8/8/2            | rear grooved | MW 30 mm | 246 mm | 0.79 | D | 0.55 LM |
|         | 10.5.3   | Clou 8/8/2            | rear grooved | MW 30 mm | 96 mm  | 0.81 | D | 0.55 LM |
| 34      | 6.13.2.1 | 16/16/10-4            |              | MW 30 mm | 216 mm | 0.75 | D | 0.55 LM |
|         |          | 16/16/10-4            |              | MW 30 mm | 76 mm  | 0.80 | D | 0.55 LM |
|         | 6.13.2.2 | 16/16/10-4            |              | MW 30 mm | 56 mm  | 0.78 | D | 0.5 LM  |
|         |          | 16/16/10-5            |              | MW 30 mm | 216 mm | 0.82 | C | 0.7 L   |
|         | 6.14.1a  | 16/16/10-5            |              | MW 30 mm | 76 mm  | 0.85 | C | 0.7 M   |
|         |          | 16/16/10-5            |              | MW 30 mm | 56 mm  | 0.83 | C | 0.7 M   |
| 35      | 6.11.1a  | 16/16/10-2            |              | MW 30 mm | 216 mm | 0.44 | E | 0.25 LM |
|         |          | 16/16/10-2            |              | MW 30 mm | 76 mm  | 0.51 | E | 0.25 LM |
|         | 6.11.2   | 16/16/10-2            |              | MW 30 mm | 56 mm  | 0.50 | E | 0.25 LM |
|         |          | 16/16/10-3            |              | MW 30 mm | 216 mm | 0.63 | D | 0.4 LM  |
|         | 6.13.1a  | 16/16/10-3            |              | MW 30 mm | 76 mm  | 0.69 | D | 0.4 LM  |
|         |          | 16/16/10-3            |              | MW 30 mm | 56 mm  | 0.68 | D | 0.35 LM |
| 36      | 5.11.1   | 16/16/6               | 11%          | MW 30 mm | 216 mm | 0.79 | D | 0.5 LM  |
|         |          | 16/16/6               | 11%          | MW 30 mm | 46 mm  | 0.73 | D | 0.5 M   |
| 37      | 5.12.1   | 16/16/8               | 19%          | MW 30 mm | 216 mm | 0.91 | C | 0.75 LM |
|         |          | 16/16/8               | 19%          | MW 30 mm | 46 mm  | 0.81 | C | 0.7 M   |
|         | 5.13.1   | 20/20/6               | 7%           | MW 30 mm | 56 mm  | 0.56 | D | 0.45 LM |
|         |          | 20/20/6               | 7%           | MW 30 mm | 216 mm | 0.53 | D | 0.45 L  |
|         | 5.13.2   | 20/20/6               | 7%           | MW 30 mm | 76 mm  | 0.57 | D | 0.45 LM |
|         |          | 20/20/6               | 7%           | MW 30 mm | 56 mm  | 0.71 | C | 0.6 LM  |
|         | 5.14.1   | 20/20/8               | 12%          | MW 30 mm | 56 mm  | 0.71 | C | 0.6 LM  |
|         |          | 20/20/8               | 12%          | MW 30 mm | 216 mm | 0.68 | C | 0.6 L   |
| 38      | 9.4.1    | Split                 | 19%          | MW 30 mm | 200 mm | 0.77 | B | 0.8     |
|         |          | Split                 | 19%          | MW 30 mm | 56 mm  | 0.73 | B | 0.8     |
| 39      | 5.12.3   | 16/16/8 Graphic 15%   |              | MW 30 mm | 200 mm | 0.72 | C | 0.75    |
|         |          | 16/16/8 Graphic 15%   |              | MW 30 mm | 60 mm  | 0.70 | C | 0.75    |
|         | 5.12.4   | 16/16/8 Graphic 11.5% |              | MW 30 mm | 200 mm | 0.61 | C | 0.65    |
|         |          | 16/16/8 Graphic 11.5% |              | MW 30 mm | 56 mm  | 0.65 | C | 0.65    |

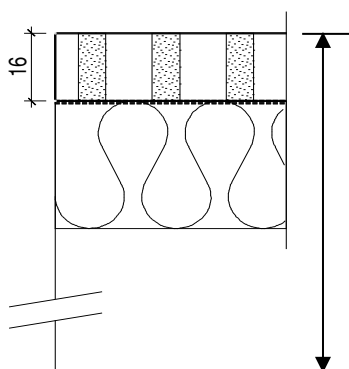
**Cabinet door**

|    |         |                   |           |                  |        |      |   |         |
|----|---------|-------------------|-----------|------------------|--------|------|---|---------|
| 44 | 8.1.2   | 9/2 M - RK        | 6%        | Cabinet door RK  | 419 mm | 0.56 | D | 0.55    |
|    | 8.2.1   | 14/2 M - RK       | 7%        | Cabinet door RK  | 419 mm | 0.68 | C | 0.6 H   |
|    | 8.4.1   | 14/2 M - SW       | 7%        | Cabinet door SW  | 419 mm | 0.55 | D | 0.5     |
|    | 8.8.1   | 16/16/10-3 - SW   |           | Cabinet door SW  | 419 mm | 0.27 | E | 0.25 L  |
|    | 8.10.1  | Clou 8/8/1.2 - SW |           | Cabinet door SW  | 419 mm | 0.39 | D | 0.35 L  |
|    | 8.12.1  | Clou 8/8/1.2 - RK |           | Cabinet door RK  | 419 mm | 0.54 | D | 0.35 LM |
|    | 8.13.2a | Micro door        | 2/2/Ø 0,5 | Micro both sides | 419 mm | 0.61 | C | 0.6 L   |
|    |         |                   |           |                  |        |      |   |         |

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® M 16/16/6 11%

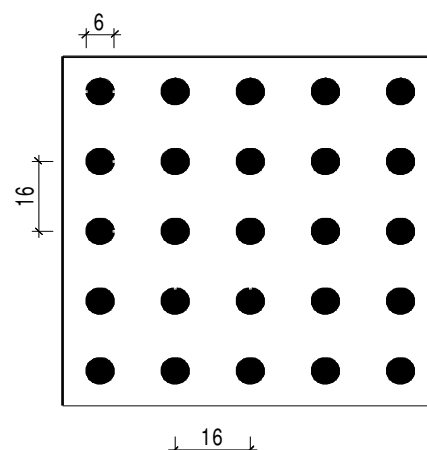
Research: Laboratory: ITA 19.12.1994  
Test area: 10 m<sup>2</sup> Relative atmospheric humidity: 80%  
Echo space volume: 218 m<sup>3</sup> Temperature: 13 degrees



TOPPERFO® M 16/16/6  
Acoustic fleece

Mineral wool 30 mm

**Suspension heights:**  
**216/46 mm**  
Cavity 170/00 mm

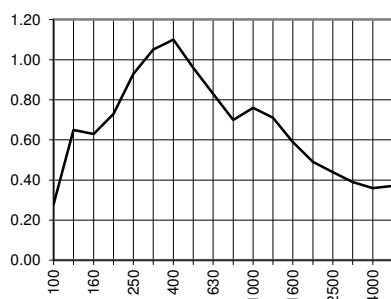


## Acoustical absorption - Medium values

Low frequency range: (100-315 Hz): 0.71  
Medium frequency range: (400-1250 Hz): 0.84  
High frequency range: (1600-5000 Hz): 0.44

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.28 |
| 125  | 0.65 |
| 160  | 0.63 |
| 200  | 0.73 |
| 250  | 0.93 |
| 315  | 1.05 |
| 400  | 1.10 |
| 500  | 0.96 |
| 630  | 0.83 |
| 800  | 0.70 |
| 1000 | 0.76 |
| 1250 | 0.71 |
| 1600 | 0.59 |
| 2000 | 0.49 |
| 2500 | 0.44 |
| 3150 | 0.39 |
| 4000 | 0.36 |
| 5000 | 0.37 |

**Suspension height 216 mm**

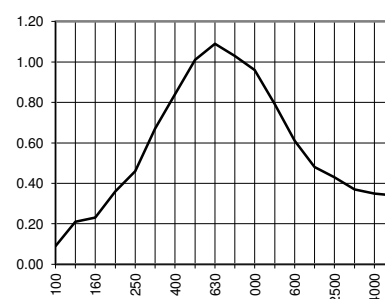
**EN D**  
**a<sub>w</sub> 0.5 LM**  
**NRC 0.79**

## Acoustical absorption - Medium values

Low frequency range: (100-315 Hz): 0.34  
Medium frequency range: (400-1250 Hz): 0.95  
High frequency range: (1600-5000 Hz): 0.43

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.09 |
| 125  | 0.21 |
| 160  | 0.23 |
| 200  | 0.36 |
| 250  | 0.46 |
| 315  | 0.67 |
| 400  | 0.84 |
| 500  | 1.01 |
| 630  | 1.09 |
| 800  | 1.03 |
| 1000 | 0.96 |
| 1250 | 0.79 |
| 1600 | 0.61 |
| 2000 | 0.48 |
| 2500 | 0.43 |
| 3150 | 0.37 |
| 4000 | 0.35 |
| 5000 | 0.34 |

**Suspension height 46 mm**

**EN D**  
**a<sub>w</sub> 0.5 M**  
**NRC 0.73**

**Sound absorption in accordance with ISO 354: 1985**  
**Rating in acc. with ISO 11654:1997E and NRC acc. ASTM C423 (USA)**

All datas from the brochure 2017 listed according page number of brochure

| Brochure 2017<br>Page | File sheet<br>NH A+D AG | Type | % | Absorber | Suspension<br>height | NRC | Euro | a <sub>w</sub> |
|-----------------------|-------------------------|------|---|----------|----------------------|-----|------|----------------|
|-----------------------|-------------------------|------|---|----------|----------------------|-----|------|----------------|

**TOPPERFO®**

|         |          |                       |              |          |        |      |   |         |
|---------|----------|-----------------------|--------------|----------|--------|------|---|---------|
| 30      | 10.12.1  | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.89 | B | 0.85 L  |
|         |          | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 86 mm  | 0.88 | C | 0.75 LM |
|         | 10.12.2  | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.89 | C | 0.75 LM |
|         |          | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 226 mm | 0.85 | C | 0.75 L  |
|         | 10.13.1  | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 86 mm  | 0.87 | C | 0.65 LM |
|         |          | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 66 mm  | 0.85 | C | 0.65 LM |
|         | 10.14.1  | Micro                 | 3/3/0,5      | MW 40 mm | 226 mm | 0.79 | C | 0.6 LM  |
|         |          | Micro                 | 3/3/0,5      | MW 40 mm | 66 mm  | 0.83 | C | 0.6 LM  |
| 31      | 10.14.2  | Micro                 | 3/3/0,5      | MW 40 mm | 86 mm  | 0.80 | D | 0.55 LM |
|         |          | Micro                 | 1.8/1.8/0.3  | MW 40 mm | 227 mm | 0.84 | C | 0.65 LM |
| 31 add. | 10.15.3  | Micro                 | 1.8/1.8/0.3  | MW 40 mm | 67 mm  | 0.85 | C | 0.60 LM |
|         |          | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.93 | C | 0.75 LM |
|         | 12.0.1   | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.92 | C | 0.75 M  |
|         |          | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.93 | B | 0.80 L  |
| 32      | 12.0.2   | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.95 | C | 0.75 LM |
|         |          | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.93 | C | 0.75 LM |
|         | 10.1.1   | Clou 8/8/1.2          |              | MW 30 mm | 56 mm  | 0.60 | D | 0.3 LM  |
|         |          | Clou 8/8/1.2          |              | MW 30 mm | 216 mm | 0.57 | D | 0.3 LM  |
|         | 10.1.2   | Clou 8/8/1.2          |              | MW 30 mm | 76 mm  | 0.61 | E | 0.25 LM |
|         |          | Clou 8/8/1.2          | rear grooved | MW 30 mm | 56 mm  | 0.52 | E | 0.25 LM |
| 33      | 10.3.1   | Clou 8/8/1.2          | rear grooved | MW 30 mm | 216 mm | 0.47 | E | 0.25 LM |
|         |          | Clou 8/8/1.2          | rear grooved | MW 30 mm | 76 mm  | 0.53 | E | 0.2 LM  |
|         | 10.5.1   | Clou 8/8/2            |              | MW 30 mm | 216 mm | 0.76 | D | 0.45 LM |
|         |          | Clou 8/8/2            |              | MW 30 mm | 76 mm  | 0.74 | D | 0.45 LM |
|         | 10.5.2   | Clou 8/8/2            |              | MW 30 mm | 56 mm  | 0.75 | D | 0.45 LM |
|         |          | Clou 8/8/2            | rear grooved | MW 30 mm | 246 mm | 0.79 | D | 0.55 LM |
| 34      | 10.5.3   | Clou 8/8/2            | rear grooved | MW 30 mm | 96 mm  | 0.81 | D | 0.55 LM |
|         |          | Clou 8/8/2            | rear grooved | MW 30 mm | 96 mm  | 0.81 | D | 0.55 LM |
|         | 6.13.2.1 | 16/16/10-4            |              | MW 30 mm | 216 mm | 0.75 | D | 0.55 LM |
|         |          | 16/16/10-4            |              | MW 30 mm | 76 mm  | 0.80 | D | 0.55 LM |
|         | 6.13.2.2 | 16/16/10-4            |              | MW 30 mm | 56 mm  | 0.78 | D | 0.5 LM  |
|         |          | 16/16/10-4            |              | MW 30 mm | 56 mm  | 0.78 | D | 0.5 LM  |
| 35      | 6.14.1a  | 16/16/10-5            |              | MW 30 mm | 216 mm | 0.82 | C | 0.7 L   |
|         |          | 16/16/10-5            |              | MW 30 mm | 76 mm  | 0.85 | C | 0.7 M   |
|         | 6.14.2a  | 16/16/10-5            |              | MW 30 mm | 56 mm  | 0.83 | C | 0.7 M   |
|         |          | 16/16/10-5            |              | MW 30 mm | 56 mm  | 0.83 | C | 0.7 M   |
|         | 6.11.1a  | 16/16/10-2            |              | MW 30 mm | 216 mm | 0.44 | E | 0.25 LM |
|         |          | 16/16/10-2            |              | MW 30 mm | 76 mm  | 0.51 | E | 0.25 LM |
| 36      | 6.11.2   | 16/16/10-2            |              | MW 30 mm | 56 mm  | 0.50 | E | 0.25 LM |
|         |          | 16/16/10-2            |              | MW 30 mm | 56 mm  | 0.50 | E | 0.25 LM |
|         | 6.13.1a  | 16/16/10-3            |              | MW 30 mm | 216 mm | 0.63 | D | 0.4 LM  |
|         |          | 16/16/10-3            |              | MW 30 mm | 76 mm  | 0.69 | D | 0.4 LM  |
|         | 6.13.2a  | 16/16/10-3            |              | MW 30 mm | 56 mm  | 0.68 | D | 0.35 LM |
|         |          | 16/16/10-3            |              | MW 30 mm | 56 mm  | 0.68 | D | 0.35 LM |
| 37      | 5.11.1   | 16/16/6               | 11%          | MW 30 mm | 216 mm | 0.79 | D | 0.5 LM  |
|         |          | 16/16/6               | 11%          | MW 30 mm | 46 mm  | 0.73 | D | 0.5 M   |
|         | 5.12.1   | 16/16/8               | 19%          | MW 30 mm | 216 mm | 0.91 | C | 0.75 LM |
|         |          | 16/16/8               | 19%          | MW 30 mm | 46 mm  | 0.81 | C | 0.7 M   |
|         | 5.13.1   | 20/20/6               | 7%           | MW 30 mm | 56 mm  | 0.56 | D | 0.45 LM |
|         |          | 20/20/6               | 7%           | MW 30 mm | 216 mm | 0.53 | D | 0.45 L  |
| 38      | 5.13.2   | 20/20/6               | 7%           | MW 30 mm | 76 mm  | 0.57 | D | 0.45 LM |
|         |          | 20/20/6               | 7%           | MW 30 mm | 76 mm  | 0.57 | D | 0.45 LM |
|         | 5.14.1   | 20/20/8               | 12%          | MW 30 mm | 56 mm  | 0.71 | C | 0.6 LM  |
|         |          | 20/20/8               | 12%          | MW 30 mm | 216 mm | 0.68 | C | 0.6 L   |
|         | 5.14.2   | 20/20/8               | 12%          | MW 30 mm | 76 mm  | 0.72 | C | 0.6 LM  |
|         |          | 20/20/8               | 12%          | MW 30 mm | 76 mm  | 0.72 | C | 0.6 LM  |
| 39      | 5.17.1   | 16/16/10              | 31%          | MW 30 mm | 216 mm | 0.95 | A | 1.00    |
|         |          | 16/16/10              | 31%          | MW 30 mm | 56 mm  | 0.90 | A | 0.90    |
|         | 9.4.1    | Split                 | 19%          | MW 30 mm | 200 mm | 0.77 | B | 0.8     |
|         |          | Split                 | 19%          | MW 30 mm | 56 mm  | 0.73 | B | 0.8     |
|         | 5.12.3   | 16/16/8 Graphic 15%   |              | MW 30 mm | 200 mm | 0.72 | C | 0.75    |
|         |          | 16/16/8 Graphic 15%   |              | MW 30 mm | 60 mm  | 0.70 | C | 0.75    |
| 40      | 5.12.4   | 16/16/8 Graphic 11.5% |              | MW 30 mm | 200 mm | 0.61 | C | 0.65    |
|         |          | 16/16/8 Graphic 11.5% |              | MW 30 mm | 56 mm  | 0.65 | C | 0.65    |

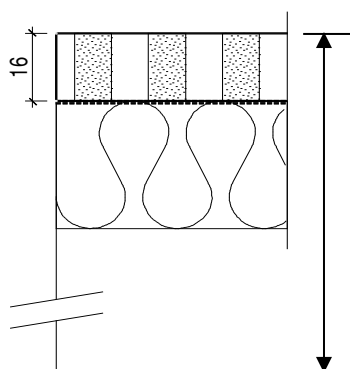
**Cabinet door**

|    |         |                   |           |                  |        |      |   |         |
|----|---------|-------------------|-----------|------------------|--------|------|---|---------|
| 44 | 8.1.2   | 9/2 M - RK        | 6%        | Cabinet door RK  | 419 mm | 0.56 | D | 0.55    |
|    | 8.2.1   | 14/2 M - RK       | 7%        | Cabinet door RK  | 419 mm | 0.68 | C | 0.6 H   |
|    | 8.4.1   | 14/2 M - SW       | 7%        | Cabinet door SW  | 419 mm | 0.55 | D | 0.5     |
|    | 8.8.1   | 16/16/10-3 - SW   |           | Cabinet door SW  | 419 mm | 0.27 | E | 0.25 L  |
|    | 8.10.1  | Clou 8/8/1.2 - SW |           | Cabinet door SW  | 419 mm | 0.39 | D | 0.35 L  |
|    | 8.12.1  | Clou 8/8/1.2 - RK |           | Cabinet door RK  | 419 mm | 0.54 | D | 0.35 LM |
|    | 8.13.2a | Micro door        | 2/2/Ø 0,5 | Micro both sides | 419 mm | 0.61 | C | 0.6 L   |
|    |         | Micro door        | 2/2/Ø 0,5 | Micro both sides | 419 mm | 0.61 | C | 0.6 L   |

**Acoustical Absorption Coefficient according to ISO 354**

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® M 16/16/8 19%

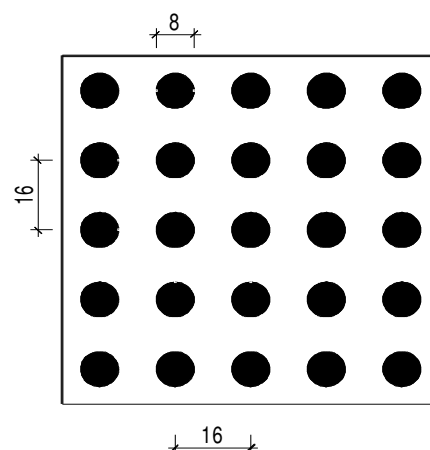
Research: Laboratory: ITA 19.12.1994  
Test area: 10 m<sup>2</sup> Relative atmospheric humidity: 80%  
Echo space volume: 218 m<sup>3</sup> Temperature: 13 degrees



TOPPERFO® M 16/16/8  
Acoustic fleece

Mineral wool 30 mm

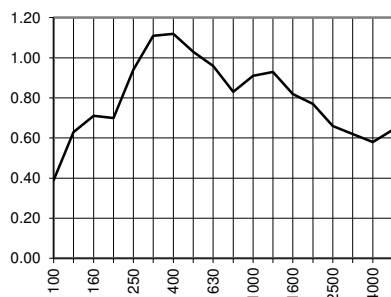
**Suspension heights:**  
**216/46 mm**  
Cavity 170/00 mm

**Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz): 0.75  
Medium frequency range: (400-1250 Hz): 0.96  
High frequency range: (1600-5000 Hz): 0.68

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.39 |
| 125  | 0.63 |
| 160  | 0.71 |
| 200  | 0.70 |
| 250  | 0.94 |
| 315  | 1.11 |
| 400  | 1.12 |
| 500  | 1.03 |
| 630  | 0.96 |
| 800  | 0.83 |
| 1000 | 0.91 |
| 1250 | 0.93 |
| 1600 | 0.82 |
| 2000 | 0.77 |
| 2500 | 0.66 |
| 3150 | 0.62 |
| 4000 | 0.58 |
| 5000 | 0.64 |

**Suspension height 216 mm**

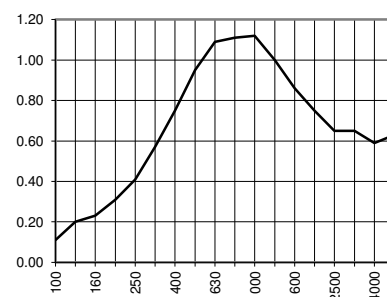
**EN C**  
**a<sub>w</sub> 0.75 LM**  
**NRC 0.91**

**Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz): 0.31  
Medium frequency range: (400-1250 Hz): 1.00  
High frequency range: (1600-5000 Hz): 0.69

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.11 |
| 125  | 0.20 |
| 160  | 0.23 |
| 200  | 0.31 |
| 250  | 0.41 |
| 315  | 0.57 |
| 400  | 0.75 |
| 500  | 0.95 |
| 630  | 1.09 |
| 800  | 1.11 |
| 1000 | 1.12 |
| 1250 | 1.00 |
| 1600 | 0.86 |
| 2000 | 0.75 |
| 2500 | 0.65 |
| 3150 | 0.65 |
| 4000 | 0.59 |
| 5000 | 0.63 |

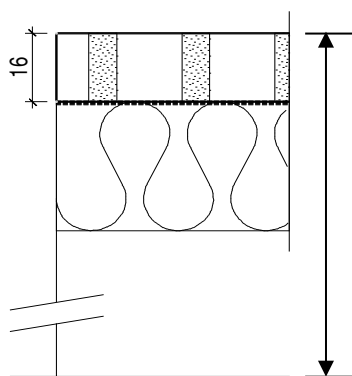
**Suspension height 46 mm**

**EN C**  
**a<sub>w</sub> 0.7 M**  
**NRC 0.81**

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® M 20/20/6 7%

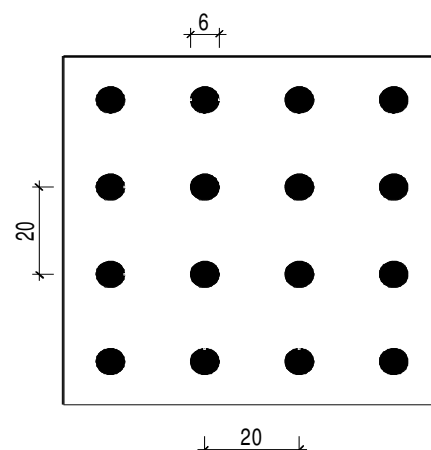
Research: Laboratory: SWISSCOM AG 11.08.2000  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 57%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 19 degrees



TOPPERFO® M 20/20/6  
Acoustic fleece

Mineral wool 30 mm

**Suspension height:**  
**56 mm**  
Cavity 10 mm

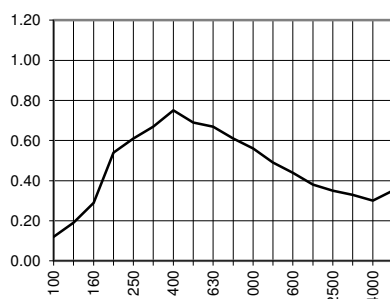


## Acoustical Absorption - Medium values

Low frequency range (100-315 Hz): 0.40  
Medium frequency range (400-1250 Hz): 0.63  
High frequency range (1600-5000 Hz): 0.36

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.12 |
| 125  | 0.19 |
| 160  | 0.29 |
| 200  | 0.54 |
| 250  | 0.61 |
| 315  | 0.67 |
| 400  | 0.75 |
| 500  | 0.69 |
| 630  | 0.67 |
| 800  | 0.61 |
| 1000 | 0.56 |
| 1250 | 0.49 |
| 1600 | 0.44 |
| 2000 | 0.38 |
| 2500 | 0.35 |
| 3150 | 0.33 |
| 4000 | 0.30 |
| 5000 | 0.35 |

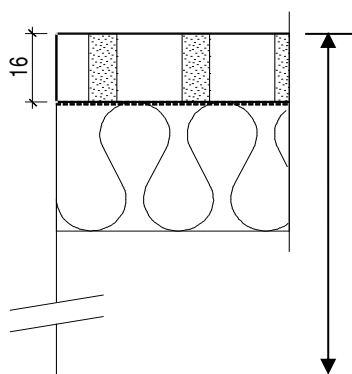
**Suspension height 56 mm**

**EN D**  
**a<sub>w</sub> 0.45 LM**  
**NRC 0.56**

## Acoustical Absorption according to ISO 354

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® M **20/20/6** **7%**

Research: Laboratory: SWISSCOM AG 11.08.2000  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 58%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 19 degrees



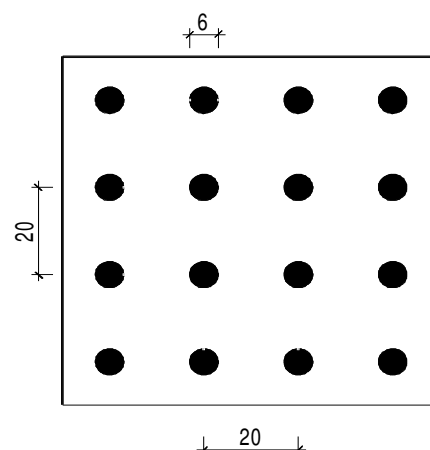
TOPPERFO® M 20/20/6  
Acoustic fleece

Mineral wool 30 mm

**Suspension heights:**

**216/76 mm**

Cavity 170/30 mm



## Acoustical Absorption - Medium values

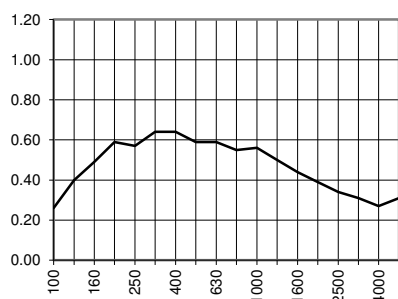
Low frequency range: (100-315 Hz): 0.49

Medium frequency range: (400-1250 Hz): 0.57

High frequency range: (1600-5000 Hz): 0.34

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.26 |
| 125  | 0.40 |
| 160  | 0.49 |
| 200  | 0.59 |
| 250  | 0.57 |
| 315  | 0.64 |
| 400  | 0.64 |
| 500  | 0.59 |
| 630  | 0.59 |
| 800  | 0.55 |
| 1000 | 0.56 |
| 1250 | 0.50 |
| 1600 | 0.44 |
| 2000 | 0.39 |
| 2500 | 0.34 |
| 3150 | 0.31 |
| 4000 | 0.27 |
| 5000 | 0.31 |

**Suspension height 216 mm**

**EN D**  
**a<sub>w</sub>** 0.45 L  
**NRC** 0.53

## Acoustical Absorption - Medium values

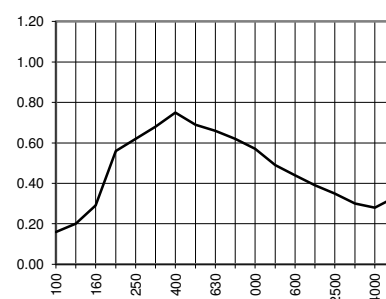
Low frequency range: (100-315 Hz): 0.42

Medium frequency range: (400-1250 Hz): 0.63

High frequency range: (1600-5000 Hz): 0.35

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.16 |
| 125  | 0.20 |
| 160  | 0.29 |
| 200  | 0.56 |
| 250  | 0.62 |
| 315  | 0.68 |
| 400  | 0.75 |
| 500  | 0.69 |
| 630  | 0.66 |
| 800  | 0.62 |
| 1000 | 0.57 |
| 1250 | 0.49 |
| 1600 | 0.44 |
| 2000 | 0.39 |
| 2500 | 0.35 |
| 3150 | 0.30 |
| 4000 | 0.28 |
| 5000 | 0.33 |

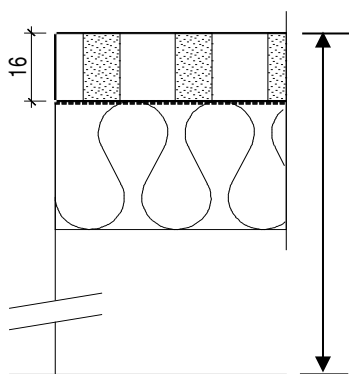
**Suspension height 76 mm**

**EN D**  
**a<sub>w</sub>** 0.45 LM  
**NRC** 0.57

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® M **20/20/8 12%**

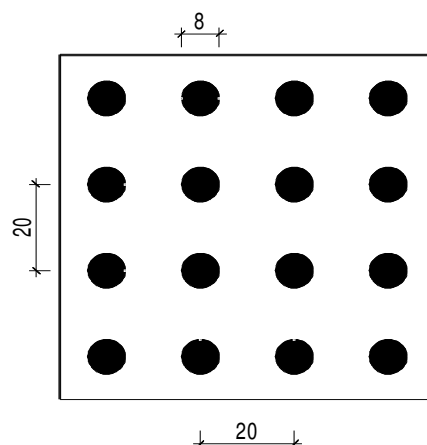
Research: Laboratory: SWISSCOM AG 11.08.2000  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 57%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 19 degrees



TOPPERFO® M 20/20/8  
Acoustic fleece

Mineral wool 30 mm

**Suspension height:**  
**56 mm**  
Cavity 10 mm



## Acoustical Absorption - Medium values

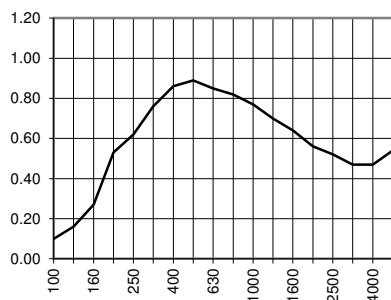
Low frequency range (100-315 Hz): 0.41

Medium frequency range (400-1250 Hz): 0.82

High frequency range (1600-5000 Hz): 0.53

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.10 |
| 125  | 0.16 |
| 160  | 0.27 |
| 200  | 0.53 |
| 250  | 0.62 |
| 315  | 0.76 |
| 400  | 0.86 |
| 500  | 0.89 |
| 630  | 0.85 |
| 800  | 0.82 |
| 1000 | 0.77 |
| 1250 | 0.70 |
| 1600 | 0.64 |
| 2000 | 0.56 |
| 2500 | 0.52 |
| 3150 | 0.47 |
| 4000 | 0.47 |
| 5000 | 0.54 |

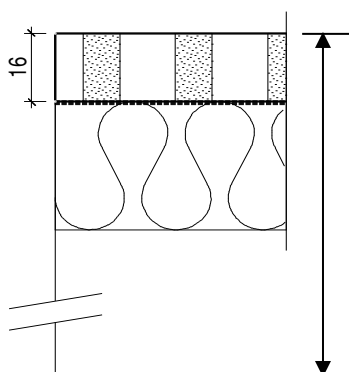
**Suspension height 56 mm**

**EN C**  
**a<sub>w</sub> 0.6 LM**  
**NRC 0.71**

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® M 20/20/8 12%

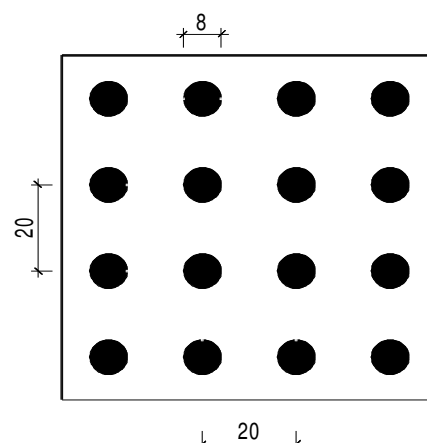
Research: Laboratory: SWISSCOM AG 11.08.2000  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 58%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 19 degrees



TOPPERFO® M 20/20/8  
Acoustic fleece

Mineral wool 30 mm

**Suspension heights:**  
**216/76 mm**  
Cavity 170/30 mm

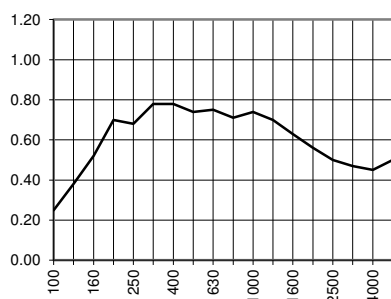


## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.55  
Medium frequency range: (400-1250 Hz): 0.74  
High frequency range: (1600-5000 Hz): 0.52

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.25 |
| 125  | 0.38 |
| 160  | 0.52 |
| 200  | 0.70 |
| 250  | 0.68 |
| 315  | 0.78 |
| 400  | 0.78 |
| 500  | 0.74 |
| 630  | 0.75 |
| 800  | 0.71 |
| 1000 | 0.74 |
| 1250 | 0.70 |
| 1600 | 0.63 |
| 2000 | 0.56 |
| 2500 | 0.50 |
| 3150 | 0.47 |
| 4000 | 0.45 |
| 5000 | 0.50 |

**Suspension height 216 mm**

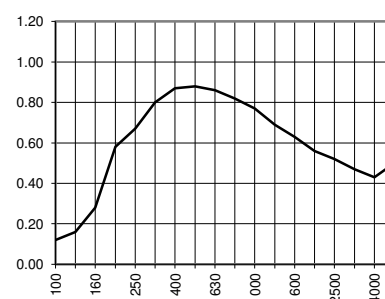
**EN C**  
**a<sub>w</sub> 0.6 L**  
**NRC 0.68**

## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz): 0.44  
Medium frequency range: (400-1250 Hz): 0.82  
High frequency range: (1600-5000 Hz): 0.52

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.12 |
| 125  | 0.16 |
| 160  | 0.28 |
| 200  | 0.58 |
| 250  | 0.67 |
| 315  | 0.80 |
| 400  | 0.87 |
| 500  | 0.88 |
| 630  | 0.86 |
| 800  | 0.82 |
| 1000 | 0.77 |
| 1250 | 0.69 |
| 1600 | 0.63 |
| 2000 | 0.56 |
| 2500 | 0.52 |
| 3150 | 0.47 |
| 4000 | 0.43 |
| 5000 | 0.50 |

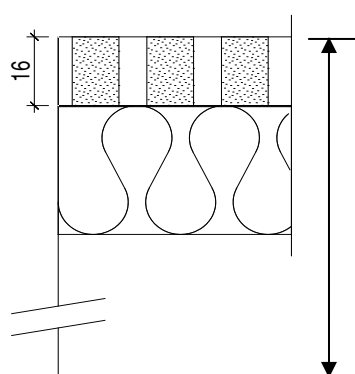
**Suspension height 76 mm**

**EN C**  
**a<sub>w</sub> 0.6 LM**  
**NRC 0.72**

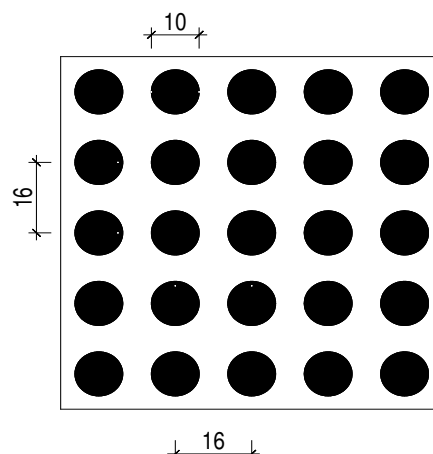
**Acoustical Absorption Coefficient according to ISO 354**

Object: TOPPERFO® wall- and ceiling panelling  
Type TOPPERFO® M 16/16/10 31%

Research: Laboratory: Hochschule Luzern 14.07.2015  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 53.2%  
Echo space volume: 214.5 m<sup>3</sup> Temperature: 23.7 degrees

**TOPPERFO® M 16/16/10**

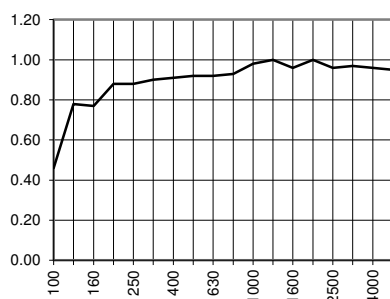
Acoustic fleece SP 60 F

Mineral wool 30 mm  
60 kg / m<sup>3</sup>**Suspension heights:  
216/56 mm****Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz): 0.78  
Medium frequency range: (400-1250 Hz): 0.94  
High frequency range: (1600-5000 Hz): 0.97

Freq.

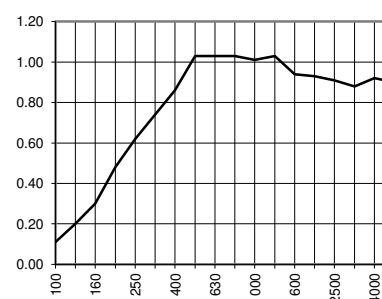
| [Hz] | Terz |
|------|------|
| 100  | 0.46 |
| 125  | 0.78 |
| 160  | 0.77 |
| 200  | 0.88 |
| 250  | 0.88 |
| 315  | 0.90 |
| 400  | 0.91 |
| 500  | 0.92 |
| 630  | 0.92 |
| 800  | 0.93 |
| 1000 | 0.98 |
| 1250 | 1.00 |
| 1600 | 0.96 |
| 2000 | 1.00 |
| 2500 | 0.96 |
| 3150 | 0.97 |
| 4000 | 0.96 |
| 5000 | 0.95 |

**Suspension height 216 mm****a<sub>w</sub> 1.0 (A)  
NRC 0.95****Acoustical Absorption - Medium values**

Low frequency range: (100-315 Hz): 0.41  
Medium frequency range: (400-1250 Hz): 1.00  
High frequency range: (1600-5000 Hz): 0.91

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.11 |
| 125  | 0.20 |
| 160  | 0.30 |
| 200  | 0.48 |
| 250  | 0.62 |
| 315  | 0.74 |
| 400  | 0.86 |
| 500  | 1.03 |
| 630  | 1.03 |
| 800  | 1.03 |
| 1000 | 1.01 |
| 1250 | 1.03 |
| 1600 | 0.94 |
| 2000 | 0.93 |
| 2500 | 0.91 |
| 3150 | 0.88 |
| 4000 | 0.92 |
| 5000 | 0.90 |

**Suspension height 56 mm****a<sub>w</sub> 0.9 (A)  
NRC 0.90**

**Sound absorption in accordance with ISO 354: 1985**  
**Rating in acc. with ISO 11654:1997E and NRC acc. ASTM C423 (USA)**

All datas from the brochure 2017 listed according page number of brochure

| Brochure 2017<br>Page | File sheet<br>NH A+D AG | Type | % | Absorber | Suspension<br>height | NRC | Euro | a <sub>w</sub> |
|-----------------------|-------------------------|------|---|----------|----------------------|-----|------|----------------|
|-----------------------|-------------------------|------|---|----------|----------------------|-----|------|----------------|

**TOPPERFO®**

|         |          |                       |              |          |        |      |   |         |
|---------|----------|-----------------------|--------------|----------|--------|------|---|---------|
| 30      | 10.12.1  | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.89 | B | 0.85 L  |
|         |          | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 86 mm  | 0.88 | C | 0.75 LM |
|         | 10.12.2  | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.89 | C | 0.75 LM |
|         |          | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 226 mm | 0.85 | C | 0.75 L  |
|         | 10.13.1  | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 86 mm  | 0.87 | C | 0.65 LM |
|         |          | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 66 mm  | 0.85 | C | 0.65 LM |
|         | 10.14.1  | Micro                 | 3/3/0,5      | MW 40 mm | 226 mm | 0.79 | C | 0.6 LM  |
|         |          | Micro                 | 3/3/0,5      | MW 40 mm | 66 mm  | 0.83 | C | 0.6 LM  |
| 31      | 10.15.3  | Micro                 | 1.8/1.8/0.3  | MW 40 mm | 227 mm | 0.84 | C | 0.65 LM |
|         |          | Micro                 | 1.8/1.8/0.3  | MW 40 mm | 67 mm  | 0.85 | C | 0.60 LM |
| 31 add. | 12.0.1   | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.93 | C | 0.75 LM |
|         |          | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.92 | C | 0.75 M  |
|         | 12.0.2   | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.93 | B | 0.80 L  |
|         |          | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.95 | C | 0.75 LM |
| 32      | 10.1.1   | Clou 8/8/1.2          |              | MW 30 mm | 56 mm  | 0.60 | D | 0.3 LM  |
|         |          | Clou 8/8/1.2          |              | MW 30 mm | 216 mm | 0.57 | D | 0.3 LM  |
|         | 10.1.2   | Clou 8/8/1.2          |              | MW 30 mm | 76 mm  | 0.61 | E | 0.25 LM |
|         |          | Clou 8/8/1.2          | rear grooved | MW 30 mm | 56 mm  | 0.52 | E | 0.25 LM |
|         | 10.3.2   | Clou 8/8/1.2          | rear grooved | MW 30 mm | 216 mm | 0.47 | E | 0.25 LM |
|         |          | Clou 8/8/1.2          | rear grooved | MW 30 mm | 76 mm  | 0.53 | E | 0.2 LM  |
| 33      | 10.5.1   | Clou 8/8/2            |              | MW 30 mm | 216 mm | 0.76 | D | 0.45 LM |
|         |          | Clou 8/8/2            |              | MW 30 mm | 76 mm  | 0.74 | D | 0.45 LM |
|         | 10.5.2   | Clou 8/8/2            |              | MW 30 mm | 56 mm  | 0.75 | D | 0.45 LM |
|         |          | Clou 8/8/2            | rear grooved | MW 30 mm | 246 mm | 0.79 | D | 0.55 LM |
|         | 10.5.3   | Clou 8/8/2            | rear grooved | MW 30 mm | 96 mm  | 0.81 | D | 0.55 LM |
| 34      | 6.13.2.1 | 16/16/10-4            |              | MW 30 mm | 216 mm | 0.75 | D | 0.55 LM |
|         |          | 16/16/10-4            |              | MW 30 mm | 76 mm  | 0.80 | D | 0.55 LM |
|         | 6.13.2.2 | 16/16/10-4            |              | MW 30 mm | 56 mm  | 0.78 | D | 0.5 LM  |
|         |          | 16/16/10-5            |              | MW 30 mm | 216 mm | 0.82 | C | 0.7 L   |
|         | 6.14.1a  | 16/16/10-5            |              | MW 30 mm | 76 mm  | 0.85 | C | 0.7 M   |
|         |          | 16/16/10-5            |              | MW 30 mm | 56 mm  | 0.83 | C | 0.7 M   |
| 35      | 6.11.1a  | 16/16/10-2            |              | MW 30 mm | 216 mm | 0.44 | E | 0.25 LM |
|         |          | 16/16/10-2            |              | MW 30 mm | 76 mm  | 0.51 | E | 0.25 LM |
|         | 6.11.2   | 16/16/10-2            |              | MW 30 mm | 56 mm  | 0.50 | E | 0.25 LM |
|         |          | 16/16/10-3            |              | MW 30 mm | 216 mm | 0.63 | D | 0.4 LM  |
|         | 6.13.1a  | 16/16/10-3            |              | MW 30 mm | 76 mm  | 0.69 | D | 0.4 LM  |
|         |          | 16/16/10-3            |              | MW 30 mm | 56 mm  | 0.68 | D | 0.35 LM |
|         | 6.13.2a  | 16/16/10-3            |              | MW 30 mm | 56 mm  | 0.68 | D | 0.35 LM |
| 36      | 5.11.1   | 16/16/6               | 11%          | MW 30 mm | 216 mm | 0.79 | D | 0.5 LM  |
|         |          | 16/16/6               | 11%          | MW 30 mm | 46 mm  | 0.73 | D | 0.5 M   |
| 37      | 5.12.1   | 16/16/8               | 19%          | MW 30 mm | 216 mm | 0.91 | C | 0.75 LM |
|         |          | 16/16/8               | 19%          | MW 30 mm | 46 mm  | 0.81 | C | 0.7 M   |
|         | 5.13.1   | 20/20/6               | 7%           | MW 30 mm | 56 mm  | 0.56 | D | 0.45 LM |
|         |          | 20/20/6               | 7%           | MW 30 mm | 216 mm | 0.53 | D | 0.45 L  |
|         | 5.13.2   | 20/20/6               | 7%           | MW 30 mm | 76 mm  | 0.57 | D | 0.45 LM |
|         |          | 20/20/6               | 7%           | MW 30 mm | 56 mm  | 0.71 | C | 0.6 LM  |
|         | 5.14.1   | 20/20/8               | 12%          | MW 30 mm | 56 mm  | 0.71 | C | 0.6 LM  |
|         |          | 20/20/8               | 12%          | MW 30 mm | 216 mm | 0.68 | C | 0.6 L   |
|         | 5.17.1   | 20/20/8               | 12%          | MW 30 mm | 76 mm  | 0.72 | C | 0.6 LM  |
| 38      | 9.4.1    | Split                 | 19%          | MW 30 mm | 200 mm | 0.77 | B | 0.8     |
|         |          | Split                 | 19%          | MW 30 mm | 56 mm  | 0.73 | B | 0.8     |
| 39      | 5.12.3   | 16/16/8 Graphic 15%   |              | MW 30 mm | 200 mm | 0.72 | C | 0.75    |
|         |          | 16/16/8 Graphic 15%   |              | MW 30 mm | 60 mm  | 0.70 | C | 0.75    |
|         | 5.12.4   | 16/16/8 Graphic 11.5% |              | MW 30 mm | 200 mm | 0.61 | C | 0.65    |
|         |          | 16/16/8 Graphic 11.5% |              | MW 30 mm | 56 mm  | 0.65 | C | 0.65    |

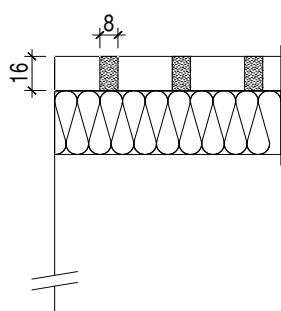
**Cabinet door**

|    |         |                   |           |                  |        |      |   |         |
|----|---------|-------------------|-----------|------------------|--------|------|---|---------|
| 44 | 8.1.2   | 9/2 M - RK        | 6%        | Cabinet door RK  | 419 mm | 0.56 | D | 0.55    |
|    | 8.2.1   | 14/2 M - RK       | 7%        | Cabinet door RK  | 419 mm | 0.68 | C | 0.6 H   |
|    | 8.4.1   | 14/2 M - SW       | 7%        | Cabinet door SW  | 419 mm | 0.55 | D | 0.5     |
|    | 8.8.1   | 16/16/10-3 - SW   |           | Cabinet door SW  | 419 mm | 0.27 | E | 0.25 L  |
|    | 8.10.1  | Clou 8/8/1.2 - SW |           | Cabinet door SW  | 419 mm | 0.39 | D | 0.35 L  |
|    | 8.12.1  | Clou 8/8/1.2 - RK |           | Cabinet door RK  | 419 mm | 0.54 | D | 0.35 LM |
|    | 8.13.2a | Micro door        | 2/2/Ø 0,5 | Micro both sides | 419 mm | 0.61 | C | 0.6 L   |
|    |         |                   |           |                  |        |      |   |         |

Acoustical Absorption Coefficient according to ISO 354

Object: Type TOPPERFO® - Split 96/32/72 x 8 = 19 %

|           |                    |                    |                                    |
|-----------|--------------------|--------------------|------------------------------------|
| Research: | Laboratory:        | ITA                | 22.01.2014                         |
|           | Test area:         | 12 m <sup>2</sup>  | Relative atmospheric humidity: 45% |
|           | Echo space volume: | 218 m <sup>3</sup> | Temperature: 20 degrees            |

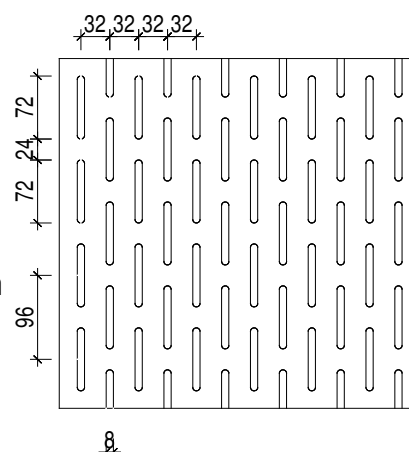


TOPAKUSTIK 16/50/4R

Vlies SP 60

Mineral wool 30 mm - 60 kg/m<sup>3</sup>**Suspension heights: 200/56 mm**

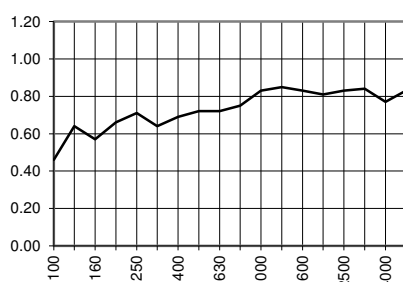
Cavity 154/10 mm



## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz) 0.61  
 Medium frequency range: (400-1250 Hz) 0.76  
 High frequency range: (1600-5000 Hz) 0.82

| Freq. |      |
|-------|------|
| [Hz]  | Terz |
| 100   | 0.46 |
| 125   | 0.64 |
| 160   | 0.57 |
| 200   | 0.66 |
| 250   | 0.71 |
| 315   | 0.64 |
| 400   | 0.69 |
| 500   | 0.72 |
| 630   | 0.72 |
| 800   | 0.75 |
| 1000  | 0.83 |
| 1250  | 0.85 |
| 1600  | 0.83 |
| 2000  | 0.81 |
| 2500  | 0.83 |
| 3150  | 0.84 |
| 4000  | 0.77 |
| 5000  | 0.83 |

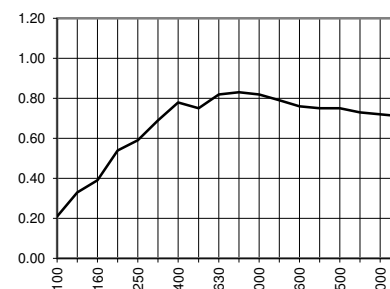
**Suspension height 200 mm**

**a<sub>w</sub> 0.80 (B)**  
**NRC 0.77**

## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz) 0.46  
 Medium frequency range: (400-1250 Hz) 0.80  
 High frequency range: (1600-5000 Hz) 0.74

| Freq. |      |
|-------|------|
| [Hz]  | Terz |
| 100   | 0.21 |
| 125   | 0.33 |
| 160   | 0.39 |
| 200   | 0.54 |
| 250   | 0.59 |
| 315   | 0.69 |
| 400   | 0.78 |
| 500   | 0.75 |
| 630   | 0.82 |
| 800   | 0.83 |
| 1000  | 0.82 |
| 1250  | 0.79 |
| 1600  | 0.76 |
| 2000  | 0.75 |
| 2500  | 0.75 |
| 3150  | 0.73 |
| 4000  | 0.72 |
| 5000  | 0.71 |

**Suspension height 56 mm**

**a<sub>w</sub> 0.80 (B)**  
**NRC 0.73**

**Sound absorption in accordance with ISO 354: 1985**  
**Rating in acc. with ISO 11654:1997E and NRC acc. ASTM C423 (USA)**

All datas from the brochure 2017 listed according page number of brochure

| Brochure 2017<br>Page | File sheet<br>NH A+D AG | Type | % | Absorber | Suspension<br>height | NRC | Euro | a <sub>w</sub> |
|-----------------------|-------------------------|------|---|----------|----------------------|-----|------|----------------|
|-----------------------|-------------------------|------|---|----------|----------------------|-----|------|----------------|

**TOPPERFO®**

|         |          |                       |              |          |        |      |   |         |
|---------|----------|-----------------------|--------------|----------|--------|------|---|---------|
| 30      | 10.12.1  | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.89 | B | 0.85 L  |
|         |          | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 86 mm  | 0.88 | C | 0.75 LM |
|         | 10.12.2  | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.89 | C | 0.75 LM |
|         |          | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 226 mm | 0.85 | C | 0.75 L  |
|         | 10.13.1  | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 86 mm  | 0.87 | C | 0.65 LM |
|         |          | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 66 mm  | 0.85 | C | 0.65 LM |
|         | 10.14.1  | Micro                 | 3/3/0,5      | MW 40 mm | 226 mm | 0.79 | C | 0.6 LM  |
|         |          | Micro                 | 3/3/0,5      | MW 40 mm | 66 mm  | 0.83 | C | 0.6 LM  |
| 31      | 10.14.2  | Micro                 | 3/3/0,5      | MW 40 mm | 86 mm  | 0.80 | D | 0.55 LM |
|         |          | Micro                 | 1.8/1.8/0.3  | MW 40 mm | 227 mm | 0.84 | C | 0.65 LM |
| 31 add. | 12.0.1   | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.93 | C | 0.75 LM |
|         |          | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.92 | C | 0.75 M  |
|         | 12.0.2   | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.93 | B | 0.80 L  |
|         |          | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.95 | C | 0.75 LM |
| 32      | 10.1.1   | Clou 8/8/1.2          |              | MW 30 mm | 56 mm  | 0.60 | D | 0.3 LM  |
|         |          | Clou 8/8/1.2          |              | MW 30 mm | 216 mm | 0.57 | D | 0.3 LM  |
|         | 10.1.2   | Clou 8/8/1.2          |              | MW 30 mm | 76 mm  | 0.61 | E | 0.25 LM |
|         |          | Clou 8/8/1.2          | rear grooved | MW 30 mm | 56 mm  | 0.52 | E | 0.25 LM |
|         | 10.3.1   | Clou 8/8/1.2          | rear grooved | MW 30 mm | 216 mm | 0.47 | E | 0.25 LM |
|         |          | Clou 8/8/1.2          | rear grooved | MW 30 mm | 76 mm  | 0.53 | E | 0.2 LM  |
| 33      | 10.5.1   | Clou 8/8/2            |              | MW 30 mm | 216 mm | 0.76 | D | 0.45 LM |
|         |          | Clou 8/8/2            |              | MW 30 mm | 76 mm  | 0.74 | D | 0.45 LM |
|         | 10.5.2   | Clou 8/8/2            |              | MW 30 mm | 56 mm  | 0.75 | D | 0.45 LM |
|         |          | Clou 8/8/2            | rear grooved | MW 30 mm | 246 mm | 0.79 | D | 0.55 LM |
|         | 10.5.3   | Clou 8/8/2            | rear grooved | MW 30 mm | 96 mm  | 0.81 | D | 0.55 LM |
| 34      | 6.13.2.1 | 16/16/10-4            |              | MW 30 mm | 216 mm | 0.75 | D | 0.55 LM |
|         |          | 16/16/10-4            |              | MW 30 mm | 76 mm  | 0.80 | D | 0.55 LM |
|         | 6.13.2.2 | 16/16/10-4            |              | MW 30 mm | 56 mm  | 0.78 | D | 0.5 LM  |
|         |          | 16/16/10-5            |              | MW 30 mm | 216 mm | 0.82 | C | 0.7 L   |
|         | 6.14.1a  | 16/16/10-5            |              | MW 30 mm | 76 mm  | 0.85 | C | 0.7 M   |
|         |          | 16/16/10-5            |              | MW 30 mm | 56 mm  | 0.83 | C | 0.7 M   |
| 35      | 6.11.1a  | 16/16/10-2            |              | MW 30 mm | 216 mm | 0.44 | E | 0.25 LM |
|         |          | 16/16/10-2            |              | MW 30 mm | 76 mm  | 0.51 | E | 0.25 LM |
|         | 6.11.2   | 16/16/10-2            |              | MW 30 mm | 56 mm  | 0.50 | E | 0.25 LM |
|         |          | 16/16/10-3            |              | MW 30 mm | 216 mm | 0.63 | D | 0.4 LM  |
|         | 6.13.1a  | 16/16/10-3            |              | MW 30 mm | 76 mm  | 0.69 | D | 0.4 LM  |
|         |          | 16/16/10-3            |              | MW 30 mm | 56 mm  | 0.68 | D | 0.35 LM |
|         | 6.13.2a  | 16/16/10-3            |              | MW 30 mm | 56 mm  | 0.68 | D | 0.35 LM |
| 36      | 5.11.1   | 16/16/6               | 11%          | MW 30 mm | 216 mm | 0.79 | D | 0.5 LM  |
|         |          | 16/16/6               | 11%          | MW 30 mm | 46 mm  | 0.73 | D | 0.5 M   |
| 37      | 5.12.1   | 16/16/8               | 19%          | MW 30 mm | 216 mm | 0.91 | C | 0.75 LM |
|         |          | 16/16/8               | 19%          | MW 30 mm | 46 mm  | 0.81 | C | 0.7 M   |
|         | 5.13.1   | 20/20/6               | 7%           | MW 30 mm | 56 mm  | 0.56 | D | 0.45 LM |
|         |          | 20/20/6               | 7%           | MW 30 mm | 216 mm | 0.53 | D | 0.45 L  |
|         | 5.13.2   | 20/20/6               | 7%           | MW 30 mm | 76 mm  | 0.57 | D | 0.45 LM |
|         |          | 20/20/6               | 7%           | MW 30 mm | 56 mm  | 0.71 | C | 0.6 LM  |
|         | 5.14.1   | 20/20/8               | 12%          | MW 30 mm | 56 mm  | 0.71 | C | 0.6 LM  |
|         |          | 20/20/8               | 12%          | MW 30 mm | 216 mm | 0.68 | C | 0.6 L   |
|         | 5.17.1   | 20/20/8               | 12%          | MW 30 mm | 76 mm  | 0.72 | C | 0.6 LM  |
| 38      | 9.4.1    | 16/16/10              | 31%          | MW 30 mm | 216 mm | 0.95 | A | 1.00    |
|         |          | 16/16/10              | 31%          | MW 30 mm | 56 mm  | 0.90 | A | 0.90    |
| 39      | 5.12.3   | Split                 | 19%          | MW 30 mm | 200 mm | 0.77 | B | 0.8     |
|         |          | Split                 | 19%          | MW 30 mm | 56 mm  | 0.73 | B | 0.8     |
|         | 5.12.4   | 16/16/8 Graphic 15%   |              | MW 30 mm | 200 mm | 0.72 | C | 0.75    |
|         |          | 16/16/8 Graphic 15%   |              | MW 30 mm | 60 mm  | 0.70 | C | 0.75    |
| 40      | 5.12.4   | 16/16/8 Graphic 11.5% |              | MW 30 mm | 200 mm | 0.61 | C | 0.65    |
|         |          | 16/16/8 Graphic 11.5% |              | MW 30 mm | 56 mm  | 0.65 | C | 0.65    |

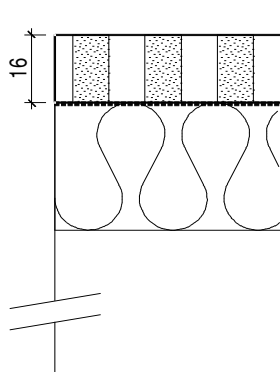
**Cabinet door**

|    |         |                   |           |                  |        |      |   |         |
|----|---------|-------------------|-----------|------------------|--------|------|---|---------|
| 44 | 8.1.2   | 9/2 M - RK        | 6%        | Cabinet door RK  | 419 mm | 0.56 | D | 0.55    |
|    | 8.2.1   | 14/2 M - RK       | 7%        | Cabinet door RK  | 419 mm | 0.68 | C | 0.6 H   |
|    | 8.4.1   | 14/2 M - SW       | 7%        | Cabinet door SW  | 419 mm | 0.55 | D | 0.5     |
|    | 8.8.1   | 16/16/10-3 - SW   |           | Cabinet door SW  | 419 mm | 0.27 | E | 0.25 L  |
|    | 8.10.1  | Clou 8/8/1.2 - SW |           | Cabinet door SW  | 419 mm | 0.39 | D | 0.35 L  |
|    | 8.12.1  | Clou 8/8/1.2 - RK |           | Cabinet door RK  | 419 mm | 0.54 | D | 0.35 LM |
|    | 8.13.2a | Micro door        | 2/2/Ø 0,5 | Micro both sides | 419 mm | 0.61 | C | 0.6 L   |
|    |         | Micro door        | 2/2/Ø 0,5 | Micro both sides | 419 mm | 0.61 | C | 0.6 L   |

Acoustical Absorption Coefficient according to ISO 354

Object: TOPAKUSTIK® wall- and ceiling panelling  
Type TOPPERFO® M 16/16/8 Graphic - 20 % Perfo = 15.2 %

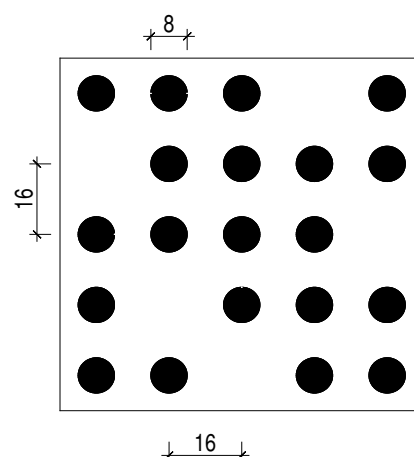
Research: Laboratory: ITA 22.01.2014  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 45%  
Echo space volume: 218 m<sup>3</sup> Temperature: 20 degrees



TOPPERFO® - Graphic

Vlies SP 60  
Mineral wool 30 mm - 60 kg/m<sup>3</sup>

**Suspension heights: 200/60 mm**  
Cavity 154/10 mm

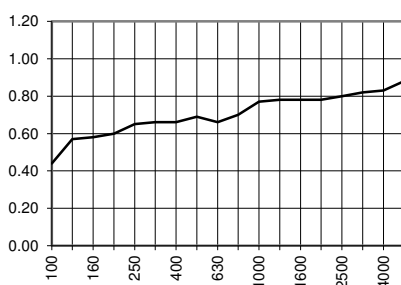


## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz) 0.58  
Medium frequency range: (400-1250 Hz) 0.71  
High frequency range: (1600-5000 Hz) 0.82

| Freq. |      |
|-------|------|
| [Hz]  | Terz |
| 100   | 0.44 |
| 125   | 0.57 |
| 160   | 0.58 |
| 200   | 0.60 |
| 250   | 0.65 |
| 315   | 0.66 |
| 400   | 0.66 |
| 500   | 0.69 |
| 630   | 0.66 |
| 800   | 0.70 |
| 1000  | 0.77 |
| 1250  | 0.78 |
| 1600  | 0.78 |
| 2000  | 0.78 |
| 2500  | 0.80 |
| 3150  | 0.82 |
| 4000  | 0.83 |
| 5000  | 0.88 |

## Suspension height 200 mm



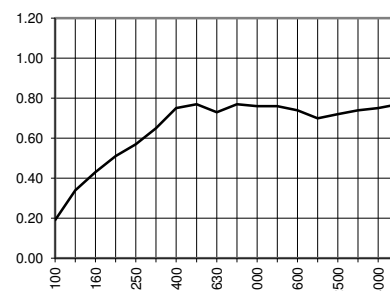
**a<sub>w</sub> 0.75 (C)**  
**NRC 0.72**

## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz) 0.45  
Medium frequency range: (400-1250 Hz) 0.76  
High frequency range: (1600-5000 Hz) 0.74

| Freq. |      |
|-------|------|
| [Hz]  | Terz |
| 100   | 0.19 |
| 125   | 0.34 |
| 160   | 0.43 |
| 200   | 0.51 |
| 250   | 0.57 |
| 315   | 0.65 |
| 400   | 0.75 |
| 500   | 0.77 |
| 630   | 0.73 |
| 800   | 0.77 |
| 1000  | 0.76 |
| 1250  | 0.76 |
| 1600  | 0.74 |
| 2000  | 0.70 |
| 2500  | 0.72 |
| 3150  | 0.74 |
| 4000  | 0.75 |
| 5000  | 0.77 |

## Suspension height 56 mm

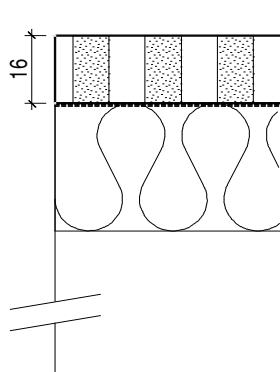


**a<sub>w</sub> 0.75 (C)**  
**NRC 0.70**

Acoustical Absorption Coefficient according to ISO 354

Object: TOPAKUSTIK® wall- and ceiling panelling  
Type TOPPERFO® M 16/16/8 Graphic - 40 % Perfo = 11.5 %

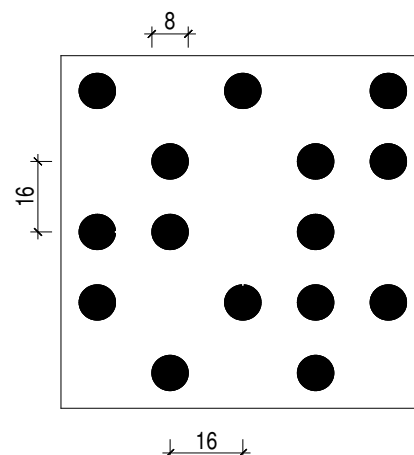
Research: Laboratory: ITA 22.01.2014  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 45%  
Echo space volume: 218 m<sup>3</sup> Temperature: 20 degrees



TOPPERFO® M - Graphic

Vlies SP 60  
Mineral wool 30 mm - 60 kg/m<sup>3</sup>

**Suspension heights: 200/56 mm**  
**Cavity 154/10 mm**

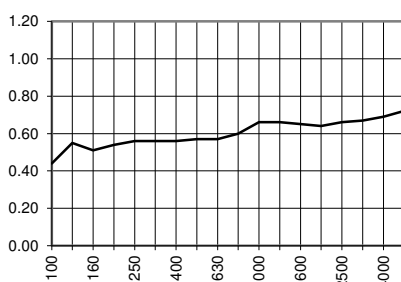


## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz) 0.53  
Medium frequency range: (400-1250 Hz) 0.60  
High frequency range: (1600-5000 Hz) 0.67

| Freq. |      |
|-------|------|
| [Hz]  | Terz |
| 100   | 0.44 |
| 125   | 0.55 |
| 160   | 0.51 |
| 200   | 0.54 |
| 250   | 0.56 |
| 315   | 0.56 |
| 400   | 0.56 |
| 500   | 0.57 |
| 630   | 0.57 |
| 800   | 0.60 |
| 1000  | 0.66 |
| 1250  | 0.66 |
| 1600  | 0.65 |
| 2000  | 0.64 |
| 2500  | 0.66 |
| 3150  | 0.67 |
| 4000  | 0.69 |
| 5000  | 0.72 |

## Suspension height 200 mm



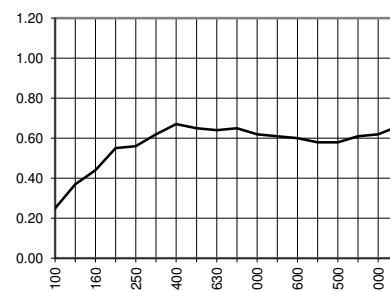
**a<sub>w</sub> 0.65 (C)**  
**NRC 0.61**

## Acoustical Absorption - Medium values

Low frequency range: (100-315 Hz) 0.47  
Medium frequency range: (400-1250 Hz) 0.64  
High frequency range: (1600-5000 Hz) 0.61

| Freq. |      |
|-------|------|
| [Hz]  | Terz |
| 100   | 0.25 |
| 125   | 0.37 |
| 160   | 0.44 |
| 200   | 0.55 |
| 250   | 0.56 |
| 315   | 0.62 |
| 400   | 0.67 |
| 500   | 0.65 |
| 630   | 0.64 |
| 800   | 0.65 |
| 1000  | 0.62 |
| 1250  | 0.61 |
| 1600  | 0.60 |
| 2000  | 0.58 |
| 2500  | 0.58 |
| 3150  | 0.61 |
| 4000  | 0.62 |
| 5000  | 0.66 |

## Suspension height 56 mm



**a<sub>w</sub> 0.65 (C)**  
**NRC 0.60**

**Sound absorption in accordance with ISO 354: 1985**  
**Rating in acc. with ISO 11654:1997E and NRC acc. ASTM C423 (USA)**

All datas from the brochure 2017 listed according page number of brochure

| Brochure 2017<br>Page | File sheet<br>NH A+D AG | Type | % | Absorber | Suspension<br>height | NRC | Euro | a <sub>w</sub> |
|-----------------------|-------------------------|------|---|----------|----------------------|-----|------|----------------|
|-----------------------|-------------------------|------|---|----------|----------------------|-----|------|----------------|

**TOPPERFO®**

|         |          |                       |              |          |        |      |   |         |
|---------|----------|-----------------------|--------------|----------|--------|------|---|---------|
| 30      | 10.12.1  | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.89 | B | 0.85 L  |
|         |          | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 86 mm  | 0.88 | C | 0.75 LM |
|         | 10.12.2  | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.89 | C | 0.75 LM |
|         |          | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 226 mm | 0.85 | C | 0.75 L  |
|         | 10.13.1  | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 86 mm  | 0.87 | C | 0.65 LM |
|         |          | Micro                 | 2,5/2,5/0,5  | MW 40 mm | 66 mm  | 0.85 | C | 0.65 LM |
|         | 10.14.1  | Micro                 | 3/3/0,5      | MW 40 mm | 226 mm | 0.79 | C | 0.6 LM  |
|         |          | Micro                 | 3/3/0,5      | MW 40 mm | 66 mm  | 0.83 | C | 0.6 LM  |
| 31      | 10.14.2  | Micro                 | 3/3/0,5      | MW 40 mm | 86 mm  | 0.80 | D | 0.55 LM |
|         |          | Micro                 | 1.8/1.8/0.3  | MW 40 mm | 227 mm | 0.84 | C | 0.65 LM |
| 31 add. | 10.15.3  | Micro                 | 1.8/1.8/0.3  | MW 40 mm | 67 mm  | 0.85 | C | 0.60 LM |
|         |          | Micro                 | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.93 | C | 0.75 LM |
|         | 12.0.1   | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.92 | C | 0.75 M  |
|         |          | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.93 | B | 0.80 L  |
| 32      | 12.0.2   | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 66 mm  | 0.95 | C | 0.75 LM |
|         |          | Micro 2018            | 2/2/Ø 0,5    | MW 40 mm | 226 mm | 0.93 | C | 0.75 LM |
|         | 10.1.1   | Clou 8/8/1.2          |              | MW 30 mm | 56 mm  | 0.60 | D | 0.3 LM  |
|         |          | Clou 8/8/1.2          |              | MW 30 mm | 216 mm | 0.57 | D | 0.3 LM  |
|         | 10.1.2   | Clou 8/8/1.2          |              | MW 30 mm | 76 mm  | 0.61 | E | 0.25 LM |
|         |          | Clou 8/8/1.2          | rear grooved | MW 30 mm | 56 mm  | 0.52 | E | 0.25 LM |
|         | 10.3.1   | Clou 8/8/1.2          | rear grooved | MW 30 mm | 216 mm | 0.47 | E | 0.25 LM |
|         |          | Clou 8/8/1.2          | rear grooved | MW 30 mm | 76 mm  | 0.53 | E | 0.2 LM  |
| 33      | 10.5.1   | Clou 8/8/2            |              | MW 30 mm | 216 mm | 0.76 | D | 0.45 LM |
|         |          | Clou 8/8/2            |              | MW 30 mm | 76 mm  | 0.74 | D | 0.45 LM |
|         | 10.5.2   | Clou 8/8/2            |              | MW 30 mm | 56 mm  | 0.75 | D | 0.45 LM |
|         |          | Clou 8/8/2            | rear grooved | MW 30 mm | 246 mm | 0.79 | D | 0.55 LM |
|         | 10.5.3   | Clou 8/8/2            | rear grooved | MW 30 mm | 96 mm  | 0.81 | D | 0.55 LM |
|         |          | Clou 8/8/2            | rear grooved | MW 30 mm | 76 mm  | 0.81 | D | 0.55 LM |
| 34      | 6.13.2.1 | 16/16/10-4            |              | MW 30 mm | 216 mm | 0.75 | D | 0.55 LM |
|         |          | 16/16/10-4            |              | MW 30 mm | 76 mm  | 0.80 | D | 0.55 LM |
|         | 6.13.2.2 | 16/16/10-4            |              | MW 30 mm | 56 mm  | 0.78 | D | 0.5 LM  |
|         |          | 16/16/10-5            |              | MW 30 mm | 216 mm | 0.82 | C | 0.7 L   |
|         | 6.14.1a  | 16/16/10-5            |              | MW 30 mm | 76 mm  | 0.85 | C | 0.7 M   |
|         |          | 16/16/10-5            |              | MW 30 mm | 56 mm  | 0.83 | C | 0.7 M   |
| 35      | 6.14.2a  | 16/16/10-5            |              | MW 30 mm | 56 mm  | 0.83 | C | 0.7 M   |
|         |          | 16/16/10-2            |              | MW 30 mm | 216 mm | 0.44 | E | 0.25 LM |
|         | 6.11.1a  | 16/16/10-2            |              | MW 30 mm | 76 mm  | 0.51 | E | 0.25 LM |
|         |          | 16/16/10-2            |              | MW 30 mm | 56 mm  | 0.50 | E | 0.25 LM |
|         | 6.11.2   | 16/16/10-2            |              | MW 30 mm | 56 mm  | 0.50 | E | 0.25 LM |
|         |          | 16/16/10-3            |              | MW 30 mm | 216 mm | 0.63 | D | 0.4 LM  |
|         | 6.13.1a  | 16/16/10-3            |              | MW 30 mm | 76 mm  | 0.69 | D | 0.4 LM  |
|         |          | 16/16/10-3            |              | MW 30 mm | 56 mm  | 0.68 | D | 0.35 LM |
| 36      | 6.13.2a  | 16/16/10-3            |              | MW 30 mm | 56 mm  | 0.68 | D | 0.35 LM |
|         |          | 16/16/6               | 11%          | MW 30 mm | 216 mm | 0.79 | D | 0.5 LM  |
| 37      | 5.11.1   | 16/16/6               | 11%          | MW 30 mm | 46 mm  | 0.73 | D | 0.5 M   |
|         |          | 16/16/8               | 19%          | MW 30 mm | 216 mm | 0.91 | C | 0.75 LM |
|         | 5.12.1   | 16/16/8               | 19%          | MW 30 mm | 46 mm  | 0.81 | C | 0.7 M   |
|         |          | 16/16/8               | 19%          | MW 30 mm | 46 mm  | 0.81 | C | 0.7 M   |
|         | 5.13.1   | 20/20/6               | 7%           | MW 30 mm | 56 mm  | 0.56 | D | 0.45 LM |
|         |          | 20/20/6               | 7%           | MW 30 mm | 216 mm | 0.53 | D | 0.45 L  |
|         | 5.13.2   | 20/20/6               | 7%           | MW 30 mm | 76 mm  | 0.57 | D | 0.45 LM |
|         |          | 20/20/6               | 7%           | MW 30 mm | 56 mm  | 0.71 | C | 0.6 LM  |
|         | 5.14.1   | 20/20/8               | 12%          | MW 30 mm | 56 mm  | 0.71 | C | 0.6 LM  |
|         |          | 20/20/8               | 12%          | MW 30 mm | 216 mm | 0.68 | C | 0.6 L   |
| 38      | 5.14.2   | 20/20/8               | 12%          | MW 30 mm | 76 mm  | 0.72 | C | 0.6 LM  |
|         |          | 20/20/8               | 12%          | MW 30 mm | 76 mm  | 0.72 | C | 0.6 LM  |
|         | 5.17.1   | 16/16/10              | 31%          | MW 30 mm | 216 mm | 0.95 | A | 1.00    |
|         |          | 16/16/10              | 31%          | MW 30 mm | 56 mm  | 0.90 | A | 0.90    |
| 39      | 9.4.1    | Split                 | 19%          | MW 30 mm | 200 mm | 0.77 | B | 0.8     |
|         |          | Split                 | 19%          | MW 30 mm | 56 mm  | 0.73 | B | 0.8     |
| 39      | 5.12.3   | 16/16/8 Graphic 15%   |              | MW 30 mm | 200 mm | 0.72 | C | 0.75    |
|         |          | 16/16/8 Graphic 15%   |              | MW 30 mm | 60 mm  | 0.70 | C | 0.75    |
|         | 5.12.4   | 16/16/8 Graphic 11.5% |              | MW 30 mm | 200 mm | 0.61 | C | 0.65    |
|         |          | 16/16/8 Graphic 11.5% |              | MW 30 mm | 56 mm  | 0.65 | C | 0.65    |

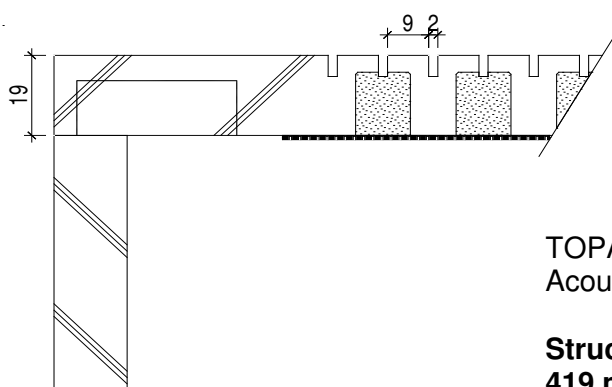
**Cabinet door**

|    |         |                   |           |                  |        |      |   |         |
|----|---------|-------------------|-----------|------------------|--------|------|---|---------|
| 44 | 8.1.2   | 9/2 M - RK        | 6%        | Cabinet door RK  | 419 mm | 0.56 | D | 0.55    |
|    | 8.2.1   | 14/2 M - RK       | 7%        | Cabinet door RK  | 419 mm | 0.68 | C | 0.6 H   |
|    | 8.4.1   | 14/2 M - SW       | 7%        | Cabinet door SW  | 419 mm | 0.55 | D | 0.5     |
|    | 8.8.1   | 16/16/10-3 - SW   |           | Cabinet door SW  | 419 mm | 0.27 | E | 0.25 L  |
|    | 8.10.1  | Clou 8/8/1.2 - SW |           | Cabinet door SW  | 419 mm | 0.39 | D | 0.35 L  |
|    | 8.12.1  | Clou 8/8/1.2 - RK |           | Cabinet door RK  | 419 mm | 0.54 | D | 0.35 LM |
|    | 8.13.2a | Micro door        | 2/2/Ø 0,5 | Micro both sides | 419 mm | 0.61 | C | 0.6 L   |
|    |         | Micro door        | 2/2/Ø 0,5 | Micro both sides | 419 mm | 0.61 | C | 0.6 L   |

**Acoustical Absorption Coefficient according to ISO 354**

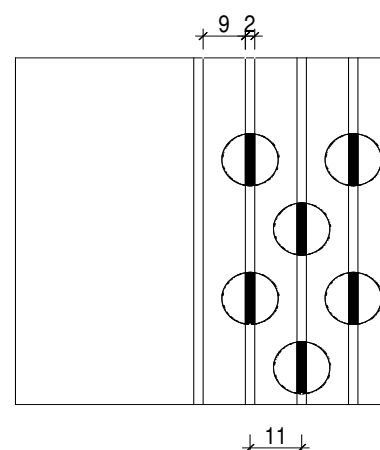
Object: TOPAKUSTIK® cabinet door type RK  
Type TOPAKUSTIK® **9/2 M 6 % 32/11/10**

Research: Laboratory: SWISSCOM AG 03.02.2004  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 30.1%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 19.2 degrees



TOPAKUSTIK® 9/2 M  
Acoustic fleece RK 280

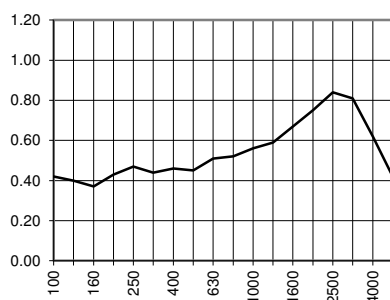
**Structure height:**  
**419 mm**  
Cavity 400 mm

**Acoustical Absorption - Medium values**

Low frequency range (100-315 Hz): 0.42  
Medium frequency range (400-1250 Hz): 0.52  
High frequency range (1600-5000 Hz): 0.69

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.42 |
| 125  | 0.40 |
| 160  | 0.37 |
| 200  | 0.43 |
| 250  | 0.47 |
| 315  | 0.44 |
| 400  | 0.46 |
| 500  | 0.45 |
| 630  | 0.51 |
| 800  | 0.52 |
| 1000 | 0.56 |
| 1250 | 0.59 |
| 1600 | 0.67 |
| 2000 | 0.75 |
| 2500 | 0.84 |
| 3150 | 0.81 |
| 4000 | 0.62 |
| 5000 | 0.42 |

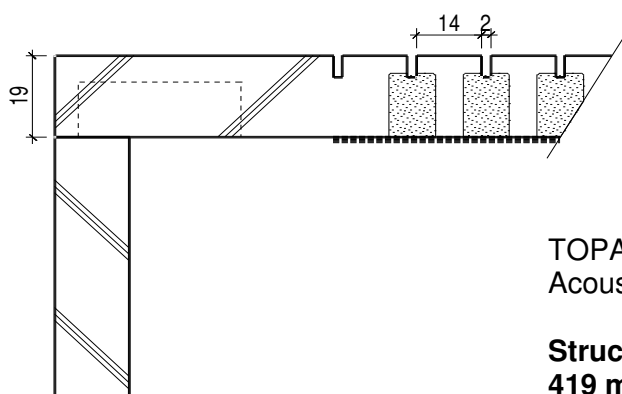
**Structure height 419 mm**

**EN D**  
**a<sub>w</sub> 0.55**  
**NRC 0.56**

Acoustical Absorption Coefficient according to ISO 354

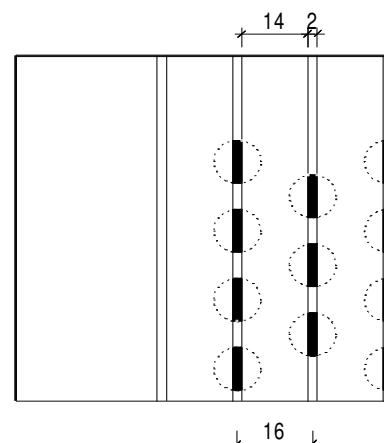
Object: TOPAKUSTIK® cabinet door type RK  
Type TOPAKUSTIK® **14/2 M 7 % 16/16/10**

Research: Laboratory: SWISSCOM AG 11.08.2000  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 57%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 19 degrees



TOPAKUSTIK® 14/2 M  
Acoustic fleece RK 280

**Structure height:**  
**419 mm**  
Cavity 400 mm

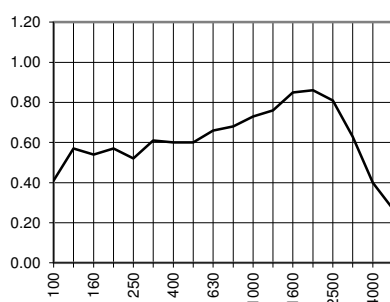


Acoustical Absorption - Medium values

Low frequency range (100-315 Hz): 0.54  
Medium frequency range (400-1250 Hz): 0.67  
High frequency range (1600-5000 Hz): 0.64

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.41 |
| 125  | 0.57 |
| 160  | 0.54 |
| 200  | 0.57 |
| 250  | 0.52 |
| 315  | 0.61 |
| 400  | 0.60 |
| 500  | 0.60 |
| 630  | 0.66 |
| 800  | 0.68 |
| 1000 | 0.73 |
| 1250 | 0.76 |
| 1600 | 0.85 |
| 2000 | 0.86 |
| 2500 | 0.81 |
| 3150 | 0.63 |
| 4000 | 0.40 |
| 5000 | 0.27 |

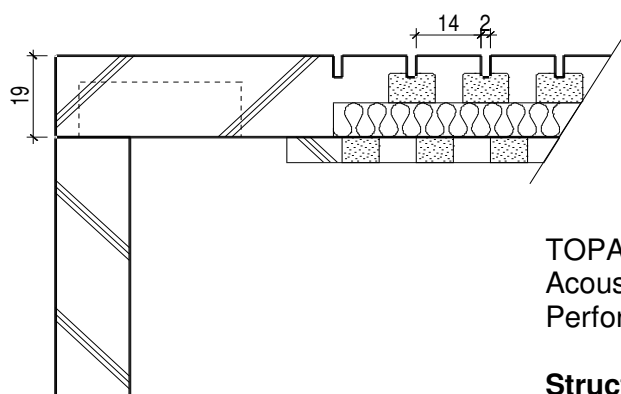
**Structure height 419 mm**

**EN C**  
**a<sub>w</sub> 0.6 H**  
**NRC 0.68**

Acoustical Absorption Coefficient according to ISO 354

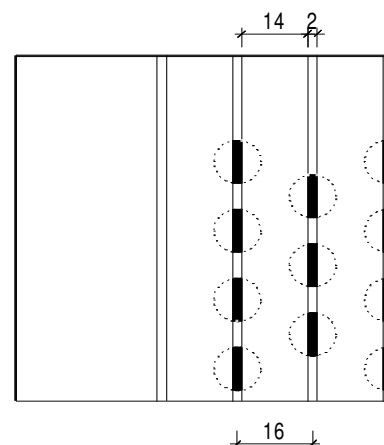
Object: TOPAKUSTIK® cabinet door type SW  
Type TOPAKUSTIK® **14/2 M 7 % 16/16/10**

Research: Laboratory: SWISSCOM AG 11.08.2000  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 57%  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 19 degree



TOPAKUSTIK® 14/2 M  
Acoustic fleece SP7  
Perforated cover

**Structure height:**  
**419 mm**  
Cavity 400 mm



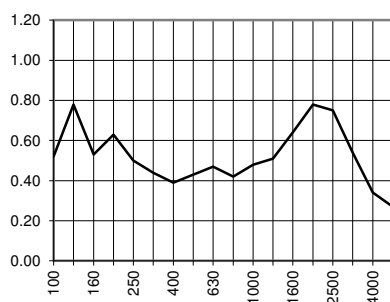
Acoustical Absorption - Medium values

Low frequency range (100-315 Hz): 0.57  
Medium frequency range (400-1250 Hz): 0.45  
High frequency range (1600-5000 Hz): 0.55

Freq.

[Hz] Terz

|      |      |
|------|------|
| 100  | 0.52 |
| 125  | 0.78 |
| 160  | 0.53 |
| 200  | 0.63 |
| 250  | 0.50 |
| 315  | 0.44 |
| 400  | 0.39 |
| 500  | 0.43 |
| 630  | 0.47 |
| 800  | 0.42 |
| 1000 | 0.48 |
| 1250 | 0.51 |
| 1600 | 0.64 |
| 2000 | 0.78 |
| 2500 | 0.75 |
| 3150 | 0.54 |
| 4000 | 0.34 |
| 5000 | 0.27 |

**Structure height 419 mm**

**EN D**  
**a<sub>w</sub> 0.5**  
**NRC 0.55**

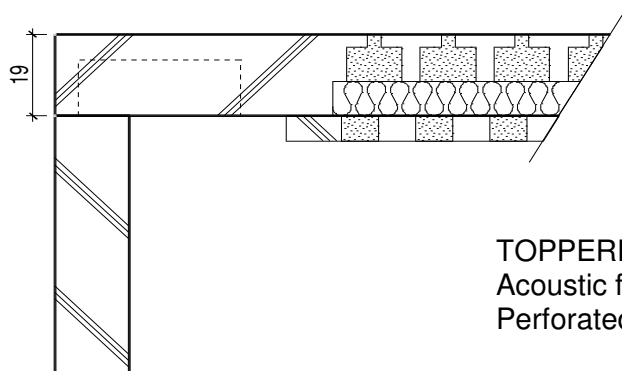
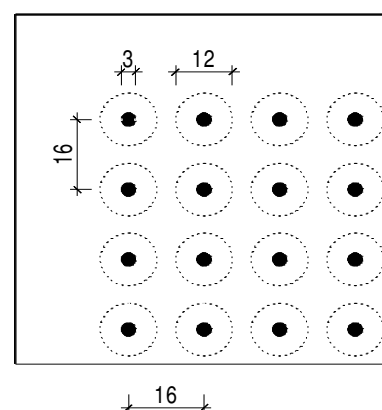
Acoustical Absorption Coefficient according to ISO 354

Object: TOPPERFO® cabinet door type SW  
Type TOPPERFO® T 16/16/12-3Research: Laboratory: SWISSCOM AG  
Test area: 12 m<sup>2</sup>  
Echo space volume: 214.3 m<sup>3</sup>

11.08.2000

Relative atmospheric humidity: 57%

Temperature: 19 degrees

TOPPERFO® T 16/16/12-3  
Acoustic fleece SP7  
Perforated cover**Structure height:**  
**419 mm**  
Cavity 400 mm

Acoustical Absorption - Medium values

Low frequency range (100-315 Hz): 0.43  
Medium frequency range (400-1250 Hz): 0.26  
High frequency range (1600-5000 Hz): 0.16

Freq.

[Hz] Terz

|      |      |
|------|------|
| 100  | 0.55 |
| 125  | 0.60 |
| 160  | 0.43 |
| 200  | 0.40 |
| 250  | 0.34 |
| 315  | 0.28 |
| 400  | 0.24 |
| 500  | 0.29 |
| 630  | 0.25 |
| 800  | 0.22 |
| 1000 | 0.26 |
| 1250 | 0.27 |
| 1600 | 0.26 |
| 2000 | 0.20 |
| 2500 | 0.14 |
| 3150 | 0.11 |
| 4000 | 0.09 |
| 5000 | 0.17 |

**Structure height 419 mm****EN E**  
**a<sub>w</sub> 0.25 L**  
**NRC 0.27**

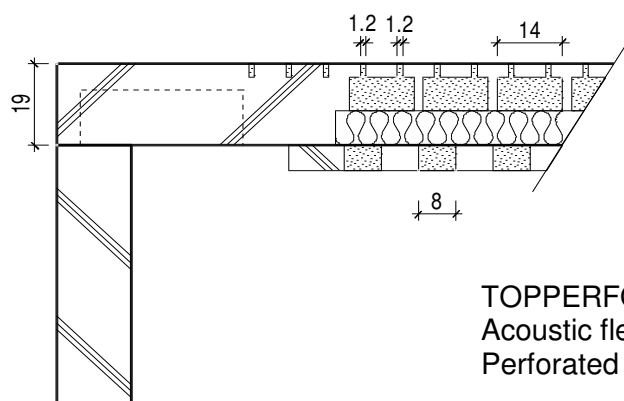
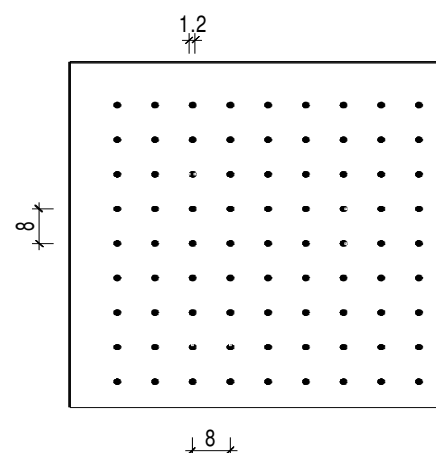
Acoustical Absorption Coefficient according to ISO 354

Object: TOPPERFO® cabinet door type SW  
Type TOPPERFO® **CLOU 8/8/1.2**Research: Laboratory: SWISSCOM AG  
Test area: 12 m<sup>2</sup>  
Echo space volume: 214.3 m<sup>3</sup>

11.08.2000

Relative atmospheric humidity: 57%

Temperature: 19 degrees

TOPPERFO® CLOU 8/8/1.2  
Acoustic fleece SP7  
Perforated cover**Structure height:**  
**419 mm**  
Cavity 400 mm

Acoustical Absorption - Medium values

Low frequency range (100-315 Hz): 0.54

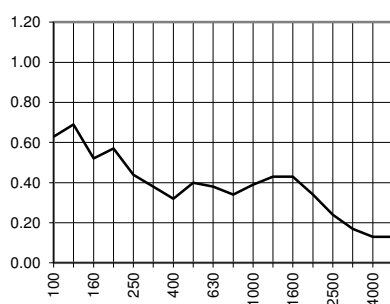
Medium frequency range (400-1250 Hz): 0.38

High frequency range (1600-5000 Hz): 0.24

Freq.

[Hz] Terz

|      |      |
|------|------|
| 100  | 0.63 |
| 125  | 0.69 |
| 160  | 0.52 |
| 200  | 0.57 |
| 250  | 0.44 |
| 315  | 0.38 |
| 400  | 0.32 |
| 500  | 0.40 |
| 630  | 0.38 |
| 800  | 0.34 |
| 1000 | 0.39 |
| 1250 | 0.43 |
| 1600 | 0.43 |
| 2000 | 0.34 |
| 2500 | 0.24 |
| 3150 | 0.17 |
| 4000 | 0.13 |
| 5000 | 0.13 |

**Structure height 419 mm****EN D**  
**a<sub>w</sub> 0.35 L**  
**NRC 0.39**

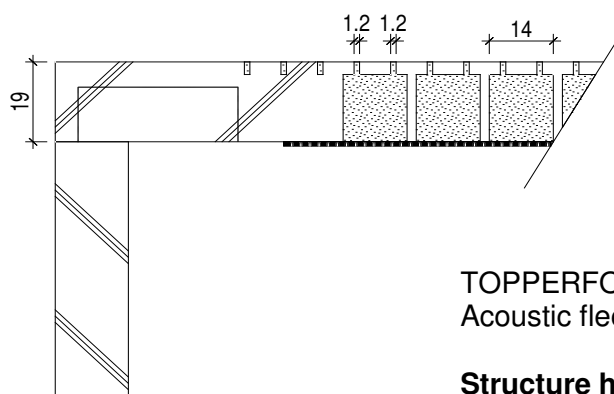
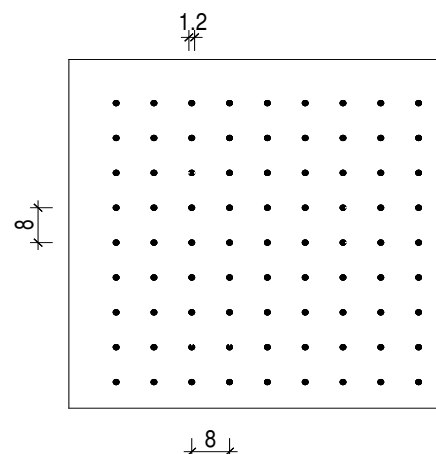
Acoustical Absorption Coefficient according to ISO 354

Object: TOPPERFO® cabinet door type RK  
Type TOPPERFO® **CLOU 8/8/1.2**Research: Laboratory: SWISSCOM AG  
Test area: 12 m<sup>2</sup>  
Echo space volume: 214.3 m<sup>3</sup>

03.02.2004

Relative atmospheric humidity: 29.5%

Temperature: 19 degrees

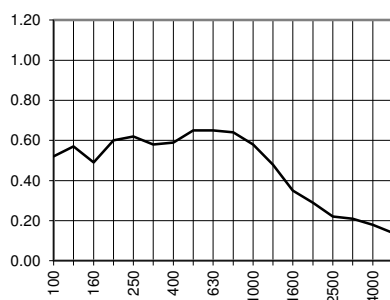
TOPPERFO® CLOU 8/8/1.2  
Acoustic fleece RK280**Structure height:**  
**419 mm**  
Cavity 400 mm

Acoustical Absorption - Medium values

Low frequency range (100-315 Hz): 0.56  
Medium frequency range (400-1250 Hz): 0.60  
High frequency range (1600-5000 Hz): 0.23

Freq.

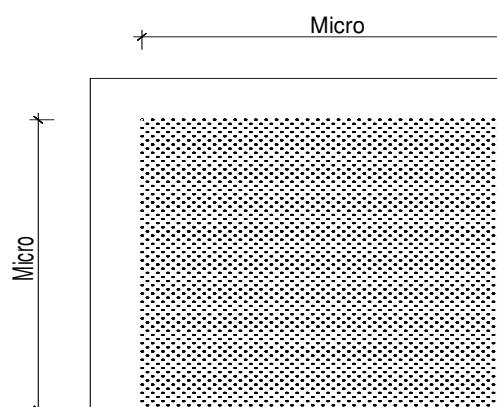
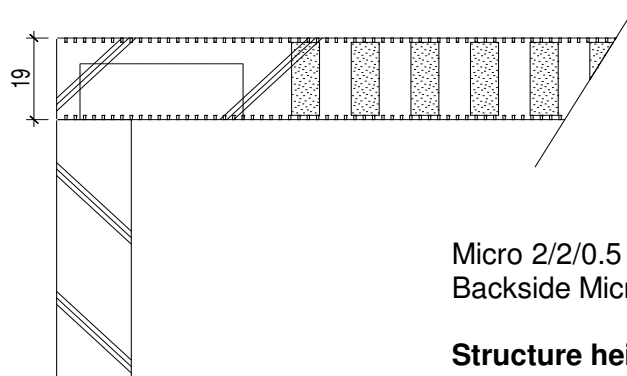
| [Hz] | Terz |
|------|------|
| 100  | 0.52 |
| 125  | 0.57 |
| 160  | 0.49 |
| 200  | 0.60 |
| 250  | 0.62 |
| 315  | 0.58 |
| 400  | 0.59 |
| 500  | 0.65 |
| 630  | 0.65 |
| 800  | 0.64 |
| 1000 | 0.58 |
| 1250 | 0.48 |
| 1600 | 0.35 |
| 2000 | 0.29 |
| 2500 | 0.22 |
| 3150 | 0.21 |
| 4000 | 0.18 |
| 5000 | 0.14 |

**Structure height 419 mm****EN D**  
**a<sub>w</sub> 0.35 LM**  
**NRC 0.54**

## Acoustical Absorption Coefficient according to ISO 354

Object: TOPPERFO® cabinet door  
Type TOPPERFO® **Micro 2/2/0,5** (on both sides)

Research: Laboratory: SWISSCOM AG 08.06.2010  
Test area: 12 m<sup>2</sup> Relative atmospheric humidity: 48.3 %  
Echo space volume: 214.3 m<sup>3</sup> Temperature: 23.3 degrees

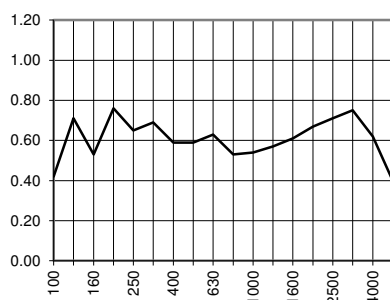


## Acoustical Absorption - Medium values

Low frequency range (100-315 Hz): 0.63  
Medium frequency range (400-1250 Hz): 0.58  
High frequency range (1600-5000 Hz): 0.63

Freq.

| [Hz] | Terz |
|------|------|
| 100  | 0.42 |
| 125  | 0.71 |
| 160  | 0.53 |
| 200  | 0.76 |
| 250  | 0.65 |
| 315  | 0.69 |
| 400  | 0.59 |
| 500  | 0.59 |
| 630  | 0.63 |
| 800  | 0.53 |
| 1000 | 0.54 |
| 1250 | 0.57 |
| 1600 | 0.61 |
| 2000 | 0.67 |
| 2500 | 0.71 |
| 3150 | 0.75 |
| 4000 | 0.62 |
| 5000 | 0.40 |

**Structure height 419 mm**

**EN C**  
**a<sub>w</sub> 0.6 L**  
**NRC 0.61**