

$T \bigcirc PA)K)U)S)T)I)K) \blacksquare$

INSPIRED LISTENING



BEAUTY MEETS PERFORMANCE

Every room engages and impacts our senses. The first impression we gain is visual: we take in the room's design. Then, at a more subconscious level and after some delay, we become aware of its acoustics. TOPAKUSTIK and TOPPERFO will meet all your expectations in terms of design and acoustics: products that deliver inspired listening!

You'll find all our products in this brochure: our tried-and-tested TOPAKUSTIK range with its characteristic grooving as well as TOPPERFO with even smaller perforations so the sound absorption function becomes virtually invisible. Almost fifty photographs from ten different countries show the convincing results of the successful use of our products.

TOPAKUSTIK is far more than a mere brand name. Nearly one hundred individuals work in our planning and production departments, and our team of experienced specialists are at your disposal for advisory services, sales and distribution.

We're looking forward to working on your project!

Georg Hegglin, CEO



HQ "La Française", Boulevard Raspail, Paris Architect: Franklin Azzi, Paris – Photo: Luc Boegly, Paris Product: TOPPERFO Micro 2/2/0.5, Oak veneered

This ceiling, consisting entirely of triangular shapes, adds that special extra touch to the reception area at the headquarters of finance group "La Française" on Boulevard Raspail in Paris.

Over 30 different triangles were first produced in our factory and then the ready-to-install elements were quickly and easily mounted on site.

TECHNIC

CONTENTS



THE REFINED ACOUSTIC SYSTEM 4/5 BASICS $\mathsf{TOP}(\mathsf{A})\mathsf{K})\mathsf{U}(\mathsf{S})\mathsf{T}(\mathsf{I})\mathsf{K})^{\mathsf{B}}$ 6/7 NARROW GROOVES Available in planks with a tongue and groove connection 8/9 MEDIUM-SIZED GROOVES (plank width = 128 mm*) for joint-free surface appearan-10/11 ce or in panels (panel width = $300 - 1200 \, \text{mm}$) for WIDE GROOVES removable or fixed ceilings, walls or cabinet fronts. 14/15 TOPAKUSTIK Special grooves 16/17 TOPAKUSTIK ARIA-Plus

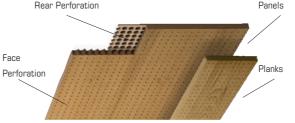
INFORMATION

20/21 SURFACES + FINISHES 22/23 EDGES + DETAILS 24/25 MOUNTING

CORE MATERIAL

18/19

A wide range of perforations for wall and ceiling finishes. Conventional M-Perforation, discrete T-Perforation or micro perforations (Clou + Micro). Available in panels and planks.



| 42 | TOPPERFO Planks |
|-------|------------------|
| 39 | TOPPERFO Graphic |
| 38 | TOPPERFO Special |
| 36/37 | TOPPERFO-M |
| 34/35 | TOPPERFO-T |
| 32/33 | TOPPERFO-Clou |
| 30/31 | TOPPERFO-Micro |
| 28/29 | BASICS |

NEW! = new Products

The information in boxes is very important and should be read carefully!

* 1 INCH = $25.4 \, \text{mm} \, \text{e.q.} \, 128 \, \text{mm} = 5.04$ "

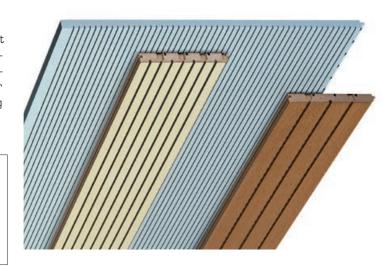
43 SIXTY-SYSTEM (2x2 PANELS) 44 CABINETS FRONTS + DOORS 45 SHAPES GYMNASIA 46 SWIMMING POOLS NH QUALITY + SERVICE 48/49

[✓] WIPO Geneva CH
Architect: Behnisch Architekten, Stuttgart DE – Photo: David Matthiessen, Stuttgart DE
Product: TOPPERFO Micro 2/2/0.5, Silver Fir veneered

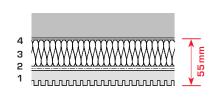
$\mathsf{TOP}(\mathsf{A})\mathsf{K})\mathsf{U})\mathsf{S})\mathsf{T})\mathsf{I})\mathsf{K})^{\scriptscriptstyle \oplus}$

The refined acoustic system for wall and ceiling finishes. Many different groove patterns are available. Narrow spaced grooves appear as a textured surface (6/2, 8/3, 9/2) — wider spaced grooves can be seen individually by the eyes (12/4, 13/3, 14/2, 19/2, 28/4). Thanks to the rear perforation pattern, the core panel remains structurally intact allowing for cutouts (programmed or field performed) to address penetrations required for lighting, HVAC and sprinkler systems.

Please note: Walls finished with lighter veneers (maple, birch) or lighter paint (white) can have a visually disturbing effect (flickering-Moiré Pattern) from the light to dark contrast from the face surface to the grooves. In these areas we recommend using the TOPAKUSTIK designs with 2 mm wide groove e.g. type 9/2 or 14/2 or 19/2 and/or using darker veneers or darker paint colors to minimize this effect.



THE ACOUSTIC SYSTEM



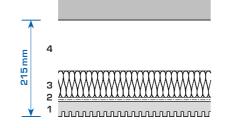
Measured according to ISO 354:

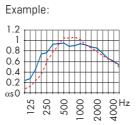
4 air cavity

3 Fiberglass 30 mm $(40-60 \text{ kg/m}^3;$ 2.5-3.75 pcf)

2 Acoustic fleece SP 60 laminated

1 TOPAKUSTIK element in 16 mm MDF

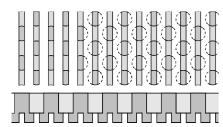




All TOPAKUSTIK types are available with M and T perforations on the rear. This makes it possible for acousticians to match the TOPAKUSTIK surface treatment with the required absorption. The absorption coefficients stated in this brochure were measured according to the ISO 354 standard and are set up as described above. Additional absorption coefficients with other cavity depths and other porous materials in the air cavity (e.g. only fleece, melamine resin foam, etc.) are listed in the TOPAKUSTIK/TOPPERFO sound absorption document.

M-Perforation: For absorption in the medium to high frequency range.

TOPAKUSTIK products with M-Perforation are suited for applications in which the reverberation time is to be lowered across a broad frequency band.



on a chart. You can find such charts in the descriptions of the individual products. The αw value given in the table is the weighted sound absorption level that is calculated using a standardized method.

The classification into Europlasses A. B. C. D and E is calculated and $\frac{\alpha w}{0.80 \, \text{M}} = \frac{0.80 \, \text{M}}{0.80 \, \text{M}} = \frac{0$

The sound absorption of our products is measured in a reverberation room in accordance with

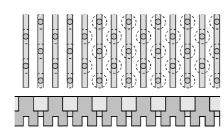
DIN ISO 354:1985. This provides the α s (alpha) values either listed in tabular form or plotted

The classification into Euroclasses A, B, C, D and E is calculated and derived from the αw value (A = highest absorption capacity)

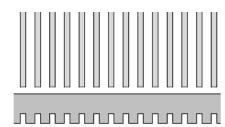
The NRC (noise reduction coefficient) is the value specified according to the US standard ASTM C423.

Behind each α w value are the letters L, M and/or H to indicate if the sound absorption of the product is greater than 0.25 in a specific frequency range. L is for low or 250 Hz, M is for mid or 500 or 1000 Hz, and H is for high or 2000 or 4000 Hz.

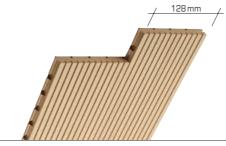
T-Perforation: For absorption in the low to medium frequency range. The high absorption in the low-frequency range is based on the combination of small holes on the visible side and larger holes on the rear.



Reflectors: TOPAKUSTIK products can also be used as reflectors by eliminating the perforations on the rear surface. The absorption figures are then equivalent to those of a standard reflecting panel.



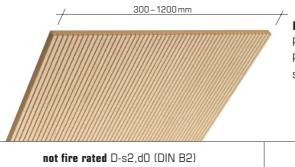
DIMENSIONS AND MATERIALS



Planks

Thanks to the precise tongue and groove connection, planks result in an attractive surface with a joint-free appearance, because the connecting joint matches the dimension of the grooves. The planks permit simple and flexible assembly. They can be installed by stapling to a timber batten or clamping to a T-bar with TOPAKUSTIK clips. (Assembly p. 24)

| not fire rated D-s2,d0 (DIN B2) | | | fire ret | t ardant B-s2,d0 (D | non-flammable | | |
|-----------------------------------|-------------|-----------------------|-------------|----------------------------|-----------------------|-------------|-------------------|
| Paint 16 mm | Wood Veneer | Melamine 16 mm eco | Paint 16 mm | Wood Veneer | Melamine 16 mm eco | Paint 16 mm | Wood Veneer 17 mm |
| Standard | | | | | | | |
| 2780×128 | 2780 × 128 | 2780 × 128 | 2780 × 128 | 2780×128 | 2780 × 128 | 2540×128 | 2540×128 |
| | 3640×128 | | | 3640×128 | | 3080×128 | 3080 × 128 |
| 4080×128 | | 4080×128 | 4080×128 | | 4080 × 128 | | |
| custom lengths are also available | | | | | | | |



anele

Panels are used for removable or fixed ceilings and walls with visible joints.

Panels can be provided with a number of different edges (p. 22) and are also suited for cabinet fronts and room dividers.

| not fire rated D-s2,d0 (DIN B2) | | | fire ret | t ardant B-s2,d0 ([| non-flammable | | |
|---------------------------------|--------------|-------------------|------------------|----------------------------|--------------------|------------|-------------|
| Paint | Wood Veneer | Melamine | Paint | Wood Veneer | Melamine | Paint | Wood Veneer |
| 16 mm • | 17 mm | 16 mm eco | 16 mm • | 17 mm | 16 mm eco | 16 mm • | 17 mm |
| max. | | | | | | | |
| 4080×1216 | 3640×1216 | 4080×1216 | 4080×1216 | 3640×1216 | 4080×1216 | 3080×1216 | 3080 × 1216 |
| | ideal | = means optimal (| use of MDF core- | -custom lengths a | are also available | | |
| 2040 × 992/640 | 2040×992/640 | 2040×992 | 2040×992 | 2040×992 | 2040×992 | 1540×608 | 1540×608 |
| 2780 × 992/640 | 2780×992/640 | 2780×992 | 2780×992 | 2780×992 | 2780×992 | 2540 × 608 | 2540×608 |
| 3640×640 | 3640×640 | | | 3640×640 | | 3080 × 608 | 3080×608 |

Fire category-more information page 18/19











Date 2017 – please check the current dimensions on www.topakustik.ch

Interrupted grooves:

With panels, the grooves can be interrupted. The distance can be chosen as required.

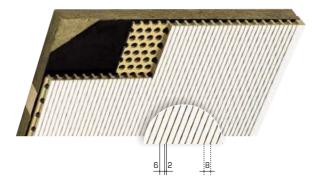
$TOP(A)K(U)S(T)I(K)^{*}$

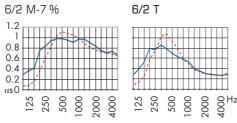
NARROW GROOVING CENTER-TO-CENTER DISTANCE = $8 \, \text{mm}$ or $10.\overline{66} \, \text{mm}$

This grooving is less «visible» as the interaction of light and shadow occurs regularly due to the close spacing of the grooves, thus creating a 2-dimensional effect. The narrow grooves require perfect assembly, as even the smallest differences in the surface are visible.

See page 5 for dimensions and materials See page 20/21 for surfaces







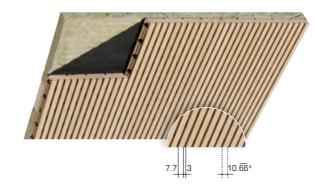
| ≈ 215 mm | | |
|-------------------------|--|--|
| ≈ 55 mm | | |
| More information Page 4 | | |

TOTAL THICKNESS

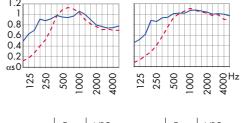
0.85 M B 0.91 0.40 LM D 0.57

0.40 LM D 0.62

Type 8/3 M NEW!

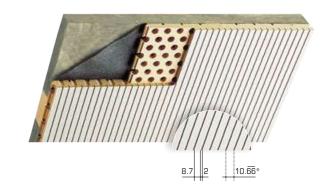


8/3 M-19%



| αw | Euro | NRC | αw | Euro | NRC |
|--------|------|------|--------|------|------|
| 0.85 L | В | 0.92 | 1.00 | Α | 1 |
| 0.8 M | В | 0.85 | 0.7 MH | С | 0.87 |

Type 9/2 M



9/2 M-6%

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

| αν | , | Euro | NRC |
|------|---|------|------|
| 0.75 | L | С | 0.82 |
| 0.75 | М | С | 0.85 |



0.80 M B 0.86



8/3 M-9.5%





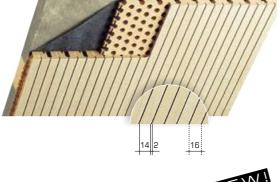


$\mathsf{TOP}(\mathsf{A})\mathsf{K})\mathsf{U}(\mathsf{S})\mathsf{T})\mathsf{I})\mathsf{K})^{\mathfrak{B}}$

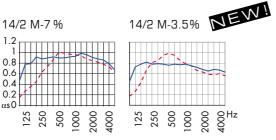
MEDIUM-SIZED GROOVING CENTER-TO-CENTER DISTANCE = 16 mm

The most popular TOPAKUSTIK types. High sound absorption combined with easy assembly. The grooving is visible even from a long distance.

See page 5 for dimensions and materials See page 20/21 for surfaces

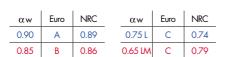


Type 14/2 M

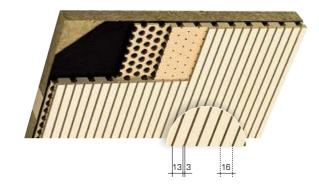


| ≈ 215 mm | | |
|-------------------------|--|--|
| ~ 55 mm | | |
| More information Page 4 | | |

TOTAL THICKNESS



Type 13/3 M or T



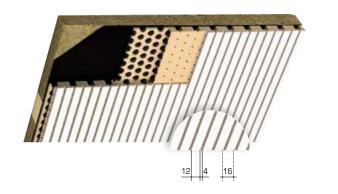
13/3 M-12 %

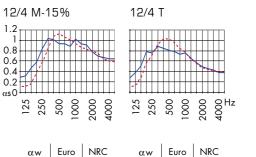
| 1.2 1 0.8 0.6 0.4 0.2 αs0 | 125 | 200 1000 | 2000 | 125 | 1000 | 2000 | 125 | 1000 | 2000 4000 | Чz |
|---|--------|----------|------|---------|------|------|---------|------|-----------|----|
| | αw | Euro | NRC | αw | Euro | NRC | αw | Euro | NRC | |
| | 0.75 L | С | 0.86 | 0.65 L | С | 0.71 | 0.35 LM | D | 0.57 | |
| | 0.75 M | С | 0.88 | 0.60 LM | С | 0.76 | 0.35 LM | D | 0.62 | |

13/3 M-6%

13/3 T

Type 12/4 M or T





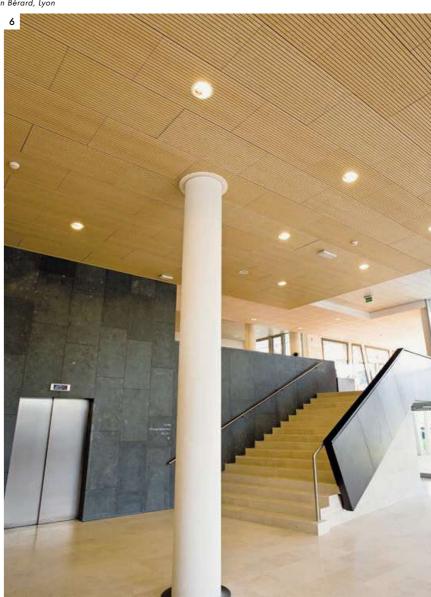
| αw | LUIO | INIC | αw | LUIO | INIC | |
|--------|------|------|---------|------|------|--|
| M 08.0 | В | 0.86 | 0.63 L | С | 0.71 | |
| 0.80 | В | 0.89 | 0.57 LM | С | 0.74 | |

4 AWZ, Kleindöttingen CH – Architect: Birchmeier Uhlmann Architekten, Zürich ZH – Photo: Sibylle Kathriner Fotografie, Stans CH 5 Alfred Wegener Institut, Bremerhaven DE – Architect:









$TOP(A)K(U)S(T)I(K)^{*}$

WIDE GROOVING CENTER-TO-CENTER DISTANCE = 21.3 or 32mm

These grooves are the ideal solution for standard absorption requirements. As with all center-to-center distances, the «wide» grooving also comes with grooves of 2 mm, 3 mm and 4 mm.

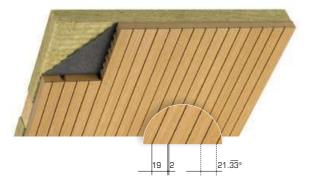
See page 5 for dimensions and materials See page 20/21 for surfaces

TOTAL THICKNESS

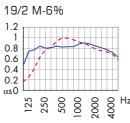
____ ≈ 55 mm More information Page 4

____ ≈ 215 mm

Type 19/2 M NEW!

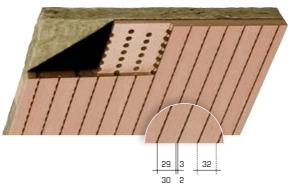


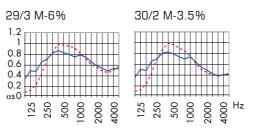
Type 19/2: please respect 21.33 mm* for planification



| αw | Euro | NRC |
|------|------|------|
| 0.85 | В | 0.82 |
| 0.80 | В | 0.85 |

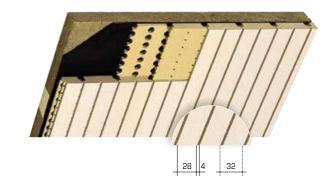
Type 29/3 M & 30/2 M





| αw | Euro | NRC | αw | Euro | NRC | |
|---------|------|------|---------|------|------|---|
| 0.65 L | С | 0.73 | 0.55 LM | D | 0.68 | - |
| 0.60 IM | С | 0.76 | 0.50 IM | D | 0.72 | _ |

Type 28/4 M or T



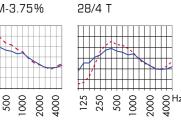
| 3/4 M-7.5% | 28/4 M-3.75% |
|---|---|
| 2 1 8 6 6 4 2 2 2 1 1 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | |
| 250 500 1000 2000 4000 | 125 250 500 1000 2000 4000 |

αw Euro NRC

0.55 LM D 0.78

0.55 M D 0.72





| αw | Euro | NRC |
|--------|------|------|
| 0.5 LM | D | 0.63 |
| 0.5 LM | D | 0.69 |

| αw | LUIO | TAKC | |
|---------|------|------|--|
| 0.25 LM | Е | 0.41 | |
| 0.25 LM | Е | 0.47 | |
| | | | |

7 Landratsamt Ostallgäu, Marktoberdorf DE – Architect: Stadtmüller.Burkhardt.Graf Architekten GbR, Kaufbeuren DE – Photo: Klein & Schneider GbR, Mindelheim DE 8 University of Sydney AU –









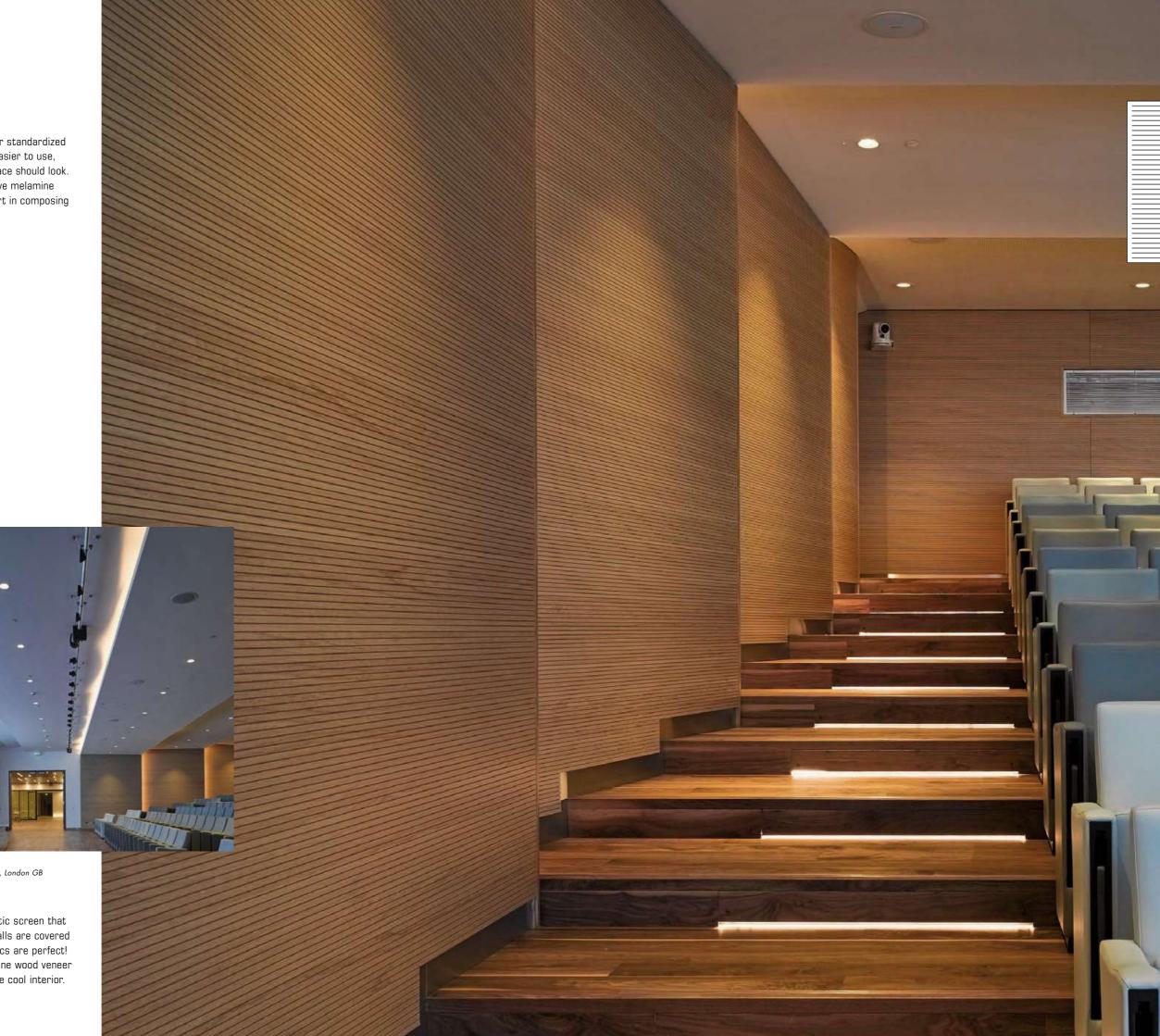
COMPOSING A MASTERPIECE

Should each element be a different shape, or do you prefer standardized solutions? We manufacture both. For products that are easier to use, such as our TOPAKUSTIK planks, you decide how the surface should look. You can choose any color or any wood, and many decorative melamine resins are also available. We'll be delighted to play our part in composing your masterpiece!



Aviva HQ, St. Helens Tower, London GB Architect: TTSP Archi. + Design, London GB – Photo: Nick Guttridge, London GB Product: TOPAKUSTIK Planks 14/2 M-7%

This auditorium is naturally dominated by the gigantic screen that extends across its entire front. But all the other walls are covered with TOPAKUSTIK planks to ensure that the acoustics are perfect! Another benefit: the warmth emanated by the genuine wood veneer provides a pleasant counterbalance to the otherwise cool interior.



$TOP(A)K(U)S(T)I(K)^{*}$

SPECIAL GROOVES

Would you like the grooving to be something special?

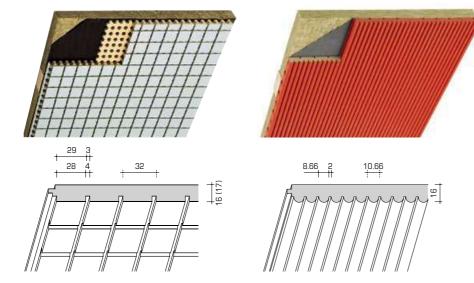
How about our type Caro, or the type HR 9/2 M with its semicircular grooves? Many more variations are possible: for instance, the distance between the grooves can be widened to 48 or 64 mm. Absorption values are available.

| Caro 29/3 M | αw | Euro | NRC |
|-------------|--------|------|------|
| 215 mm | 0.85 | В | 0.84 |
| 55 mm | 0.80 M | В | 0.85 |
| | | | ' |

| HR 9/2 M | αw | Euro | NRC |
|----------|--------|------|------|
| 215 mm | 0.75 L | С | 0.82 |
| 55 mm | 0.75 M | С | 0.85 |

Caro M





| Surface: | ⋘ % €co | (only paint) | |
|-------------------------------------|-------------------------------------|---------------------------|--|
| Grooving: | 28/4 M + 29/3 M | M HR 9/2 M | |
| Fire category core panel: DIN/CH/EN | B2 + B1/4.3 + 5.3/D-s2,d0 + B-s2,d0 | | |
| Formats/Dimensions: | Panels max. 3640 × 1250 mm | Planks max. 3800 × 128 mm | |

$\mathsf{T} \cap \mathsf{P}(\mathsf{A})\mathsf{K}(\mathsf{U})\mathsf{S}(\mathsf{T})\mathsf{I}(\mathsf{K})^{\otimes}$

TOPAKUSTIK-R NEW!

The irregular grooving of our type R gives it a charm all of its own. The panel repeats occur every 336 mm or even every 592 mm, so they are invisible to the naked eye.

The plank repeats are visible because the system requires a width of 128 mm, but this does not detract from the charming effect created by the irregular pattern.

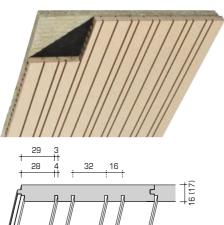
Open area:

| Grooving | Planks | Panels | |
|----------|--------|--------|--|
| 3 mm | 7.4% | 8.6% | |
| 4 mm | 9.4% | 10.7% | |

Comparison values regarding sound absorption:

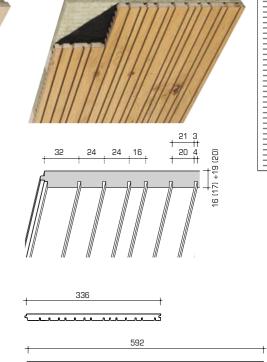
Grooving $3 \, \text{mm} = 28/4 \, \text{M} - 7.5\% - \text{page } 11$ Grooving $4 \, \text{mm} = 8/3 \, \text{M} - 9.5\% - \text{page } 7$

R-Planks





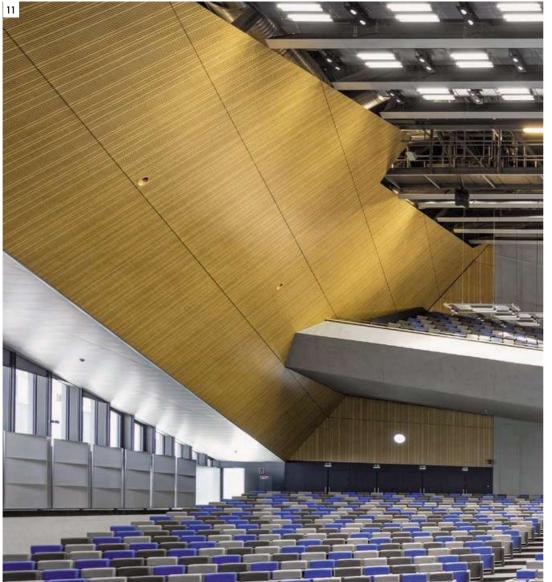
R-Panels



10 Theater Agora, Lelystad NL – Architect: UNStudio, Amsterdam NL 11 EPFL, Lausanne CH – Architecte: Richter-Dahl Rocha & Associés architectes SA, Lausanne CH – Photo: EPFL, Lausanne

12 Family Lodge + Spa, Melchsee-Frutt CH – Architect: Architekturwerk AG, Sarnen CH – Photo: Sibylle Kathriner Fotografie, Stans CH



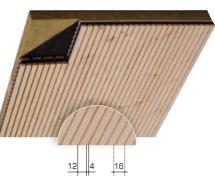


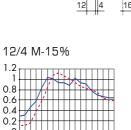


TOPAKUSTIK

The perforation is barely visible thanks to the deep grooving and the black MDF board. The grooves create the effect of individual bars. The product can be promoted as no added Formaldehyde.

| Fire category | D-s2,d0 |
|---------------|-------------|
| Planks | 4080×128 mm |
| Panel max. | 4060×1216mm |
| Panel ideal | 2020×592 mm |





| TOTAL THICKNESS | | | |
|-----------------|--------|------|------|
| ≈ 215 mm | αw | Euro | NRC |
| ≈ 55 mm | 0.80 M | В | 0.86 |
| | 0.90 | D | 0.00 |



| αw | Euro | NRC |
|---------|------|------|
| 0.55 LM | D | 0.78 |
| 0.55 M | D | 0.72 |

TOPAKUSTIK Aria-Plus is available in two types of wood: Spruce Hardwood and finger-jointed silver fir. For ceilings, glazed surface treatment provides protection against yellowing; for walls, we recommend an additional coat of water-based paint. Other glazed paint finishes in various colors are also available. Please consult our website for information, or contact us direct.



Spruce Hardwood – picture shows $90 \times 25 \, \text{cm}$



White Fir, finger – jointed-picture shows $90 \times 25\,\text{cm}$



Silver-Gold Chocolate





White

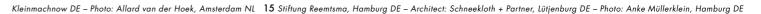


Nordic Blue



White Shade

13 Living room, Gonten CH - Architect and Photo: Roland Koch Innenarchitektur, Gonten CH 14 Pan Zentrum, Berlin DE - Architect: Parmakerli-Fountis Gesellschaft von Architekten mbH,











MEDIUM DENSITY FIBERBOARD (MDF)

TOPAKUSTIK and TOPPERFO products are manufactured from medium density fiberboard (MDF) as a standard. Thanks to the homogeneous structure, MDF is well suited for this application. MDF panels are produced from soft and hard wood fibers with added binding agents. Only panels meeting the international emission values E1 are processed. Panels are also avaiable in No added Formaldehyde and FSC certified upon request.



SPECIAL CORE PANELS

TOPAKUSTIK and TOPPERFO can also be manufactured from other standard core panels. These can be broken down according to requirements with regard to

- Behavior in fire
- Appearance, e.g. special surface or panel design
- Special properties with regard to stability or moisture

FIRE STABILITY ACCORDING TO EUROCLASS EN 13501-1



TOPAKUSTIK and TOPPERFO have successfully passed extensive tests in accordance with Euroclass EN 13501-1 and are classified as follows in the flame-retardant specification: B-s2.d0

| Table of Classification | | | | | | | |
|-------------------------|----|----------|---|--|--|--|--|
| CH DIN EN US | | | | | | | |
| 6.3 | A1 | A1-s1,d0 | Α | | | | |
| 6.q3 | A2 | A2-s1,d0 | Α | | | | |
| 5.3 | B1 | B-s2,d0 | Α | | | | |
| 4.3 | B2 | D-s2,d0 | С | | | | |

as an indication

This code comprises the following value:

- В little or no contribution to the spread of fire
- little or insignificant smoke emission
- no flammable particles or drops in the event of a fire

The system is broken down into the following categories:

- A1 no contribution to the spread of fire
- no significant contribution to the spread of fire
- В little or no contribution to the spread of fire
- С limited contribution to the spread of fire
- D contributor to the spread of fire
- major contributor to the spread of fire

US classifications according to ASTM E84 standard

(A2 - CH: 6q.3) made from natural gypsum and recycled cellulose fihres

RESAP is a non-flammable panel

RESA²P®



Painted panels:

homogenous design - surface and edges can be finished for seamless transition. The RESAP-Plus version is recommended for a largely non-porous coat of paint.



Veneered panels:

The light-brown/beige coloring of the panel is visible in the grooves or perforations and in combination with oak, beech or light veneers gives a high-quality appearance.

EXPANSION AND CONTRACTION OF THE CORE MATERIALS:



Wooden materials are hygroscopic and have a balancing effect on the relative humidity of the room. Changing room humidity also causes the shrinkage and expansion of wooden materials.

In air conditioned rooms the panel and plank dimensions can change by ± 1000 mm. In non air conditioned rooms this can increase to +/-2 mm per 1000 mm. Therefore panels and planks should be separated with joints of 3 mm to 6 mm depending on their size.

The installation should only be done when the normal operating humidity and temperature conditions are in place. After delivery and unloading the plastic transport covering should be removed and the panels or planks left to acclimatize for 3-4 days prior to starting installation.

OVERVIEW OF SPECIAL CORE PANELS

| Core Material designation | Fire category DIN (CH) | Suitable for humid rooms | | • | eco | Basic sizes of core materials | Maximum expansion due to humidity increase for 1000 mm length in air conditioning |
|---------------------------|------------------------------|-----------------------------------|----------|----------|----------|----------------------------------|---|
| RESAP® | A2 (6.3) | _ | + | + | _ | 3080×1250 | 0.4 mm/1 m = 0.4% |
| | | | | | | | |
| Cement | A2 (6.q3) | + | _ | © | _ | 2600/3100×1250 | 0.8 mm/1 m = 0.8% |
| Particle board | B2 (4.3) | _ | © | © | © | DIV | 0.8 mm/1 m = 0.8% |
| Flakeboard OSB | B2 (4.3) | ~ | _ | © | _ | DIV | 0.8 mm/1 m = 0.8% |
| Forex | B1 (5.3) | + | _ | 0 | _ | 3050 × 1220 | |
| Plywood | B2 (4.3) | ~ | + | 0 | _ | DIV | 0.8 mm/1 m = 0.8% |
| Blockboard | B2 (4.3) | ~ | _ | ~ | _ | DIV | |

- + well suited

npon request

~ conditionally suited, take differences in color in untreated panels into account DIV various further formats please inquire

Explanations:

Wood veneer p. 20



Melamine p. 21

CONTENT OF UREA-FORMALDEHYDE

We only use class E1 panels or panels glued without any addition of urea formaldehyde whatsoever. An overview of the panels we use is provided here.

| Finish | No add. urea formaldehyde | Class E1 |
|---------------------------|---------------------------|------------------|
| Veneered | On request | Products |
| Colour or white lacquered | Standard products | Special products |
| Eco (melamine finish) | Standard products | Special products |



TOPAKUSTIK, with MDF fiberboard bonded without formaldehyde, has been examined for volatile pollutants as per ISO 1600: it was awarded the best possible classification (A+).

FOR EXAMPLE: BLACK MDF



Black or colored MDF core boards offer many interesting possibilites. They contrast well with both painted and wood veneer TOPAKUSTIK planks or panels.

When the core is the finish: All of the core panels are industrially manufactured. Color differences, even within one production batch, cannot be avoided. The application of a topcoat can make these differences even more apparent.



WOOD VENEERED SURFACES:

The TOPAKUSTIK products are veneered in all customary types of wood. The veneers are processed for each order in order to obtain the most even appearance possible for color and pattern. Further, the veneer appearance is influenced by the cut and the composition of the veneers. Since wood is a natural product, the matching of the veneer must be done in connection with each individual order.

Disadvantage: not uniform impression for whole project



Different lengths of planks and panels:

Advantage: uniform impression for whole project

The choice of the veneers is tailored to the length of the plank or panel. Different veneers may be used for various lengths. If the entire project needs to be manufactured using the same veneer, that needs to be specified as a condition.

Rift veneers (sliced veneers or true quarters) on panels:

joining rift veneers on the bias is not advisable with certain types of wood such as maple or cherry as the appearance of the veneers becomes striped. We recommend random match veneering = our ,Random matched' range.

VARNISH:

A high quality, clear, flat varnish is provided on all orders unless otherwise specified. Light kinds of wood such as maple or birch are varnished with a slight lightening effect as a matter of principle

natural, gloss varnish

lightening, gloss varnish



PAINT SURFACES

Matching is available for any manufacturer's color specification (RAL/NCS/...). The application is done with the latest generation spray robotics, providing a guaranteed even application. Due to the grooves and perforations of the products, the color appearance is different from that on smooth surfaces. If TOPAKUSTIK products are finished by the client, please remember that an even paint application, even in the grooves, is absolutely necessary for a good final result.



The advantage of painted surfaces is that the grooves are also the same color.



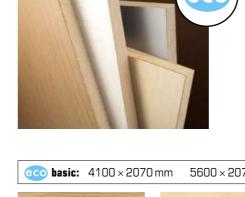
White coating in MDF-eco melamine gives the grooves greater prominence.



MELAMINE (eco)

Details for eco:

- 10 different cutting-edge Decors
- All panels are classified as no added urea formaldehyde NAUF
- Short delivery times, all decors in stock NH
- Both fire classes available D-s2,d0 and B-s2,d0 (FR)
- FSC mix possible on request (depending on quantity)









Oak M3280 NTL

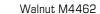
Maple M2106

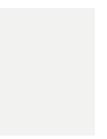






eco extra: 4100 × 2070 mm











Thermo M6222 NTL

White B3002 LP

Silver L4068 LP

Acacia M4451 NTL

Ash M3965 NTL

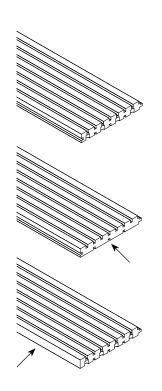


eco plus collection: Further melamine finishes for quantities above 150 m² upon request.

HPL coating: All customary HPL laminate coatings are possible. Contact the factory for details.

TECHNIC

EDGES



TOPAKUSTIK-planks edge details:

Longitudinal edges with tongue and groove
If requested with groove for fitting with mounting clip.
Transverse edges are cut industrialy and at a 90 degree angle. When planks of multiple lengths are requested, the perforations are visible on the front edge.

If requested, perforations on the transverse edges are set back. Edge varnished. The rear stress relief groves are necessary for stability and are visible.

If requested, the first and last plank may have a visible edge without tongue or groove. It may also be veneered or painted.

Product tolerances

Planks:

the front edges of TOPAKUSTIK planks are supplied with a industrial 90 degree angle cut as a standard. The length tolerance amounts to $\pm 1/2$ mm. If requested, the planks can be supplied to a «fixed» dimension with a reduced tolerance of approx. $\pm 1/2$ mm per m¹. This is only recommended for lengths shorter than 2 m because of the potential for greater expansion and contraction of core materials.

Panels: TOPAKUSTIK panels are produced on computer controlled machinery with tolerances of ± -0.5 mm per m¹).

TOPAKUSTIK products are delivered with small tolerances as above. By grooving and perforating, the surface area is increased by a factor of two or three, depending on the design. Therefore TOPAKUSTIK products can react quickly to varying humidity and temperature conditions. Size differences can occur before installation caused by expansion an contraction of core materials during storage and acclimatization. (> page 18)

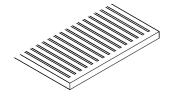
TOPAKUSTIK-Panels edge details:



Visible edge, perforation set back (Edge finished in colored paint version!)



For blind edges, perforations are visible



Groove interrupted at edge

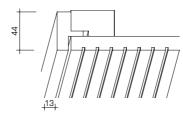
4 mm tongue or groove joint

- Panel joints need to be shown

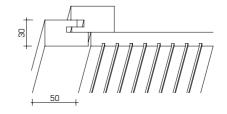
Female (spline jo

Female rabbet joint 4 mm deep for a spline joint

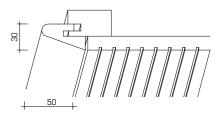
CEILING FINISHES FOR PLANKS + PANELS



Edge Molding Type 1

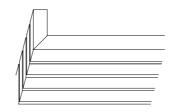


Edge Molding Type 2

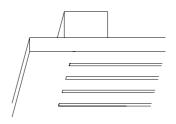


Edge Molding Type 3

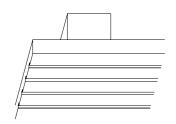
CEILING FINISHES FOR PANELS



Mitre Type 10



Visible Edge with Grooves set back Type 11



Visible Edge with continuous grooves Type 12

CUTOUTS



On site or factory cut

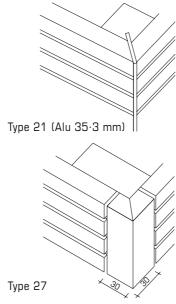


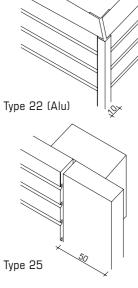
Produced with interrupted grooves

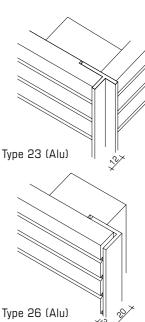


Inserts for planks 128/256/384 mm

WALL CORNERS AND TERMINATIONS

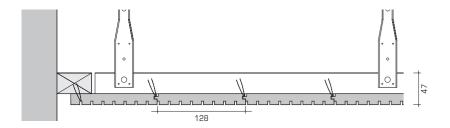




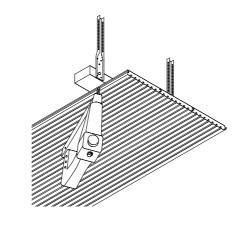


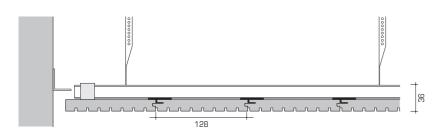
MOUNTING OF TOPAKUSTIK PLANKS

Plank width of 128 mm for joint-free surface appearance.

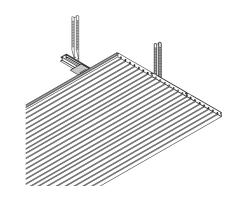


Mounting on wooden Battens: The TOPAKUSTIK planks are installed like conventional tongue and groove planks. It is important that compressed air pressure used for the nailing or stapling gun is set precisely, so the staples do not protrude in the groove or penetrate too deeply.



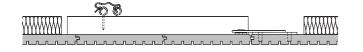


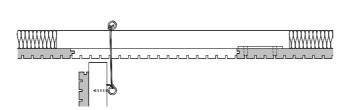
Mounting on Metal Ceiling Grids: The TOPAKUSTIK plank is fitted to the suspended H-bar rail with special «twist on» mounting clips. This form of assembly is ideal for non-flammable ceiling finishes.



ACCESS PANEL

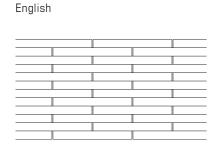
closed:

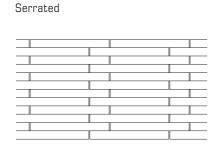




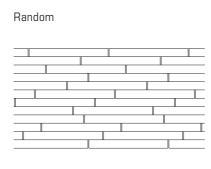
LAYOUT

Offset joints: The installation with offset joints permits a slight material expansion without it becoming visible. In combination with joint widths of about 3 mm, a clear and tidy joint apppearance results.



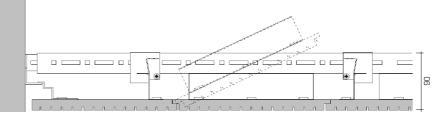


open:



MOUNTING OF TOPAKUSTIK-PANELS

Panel joints will be visible.

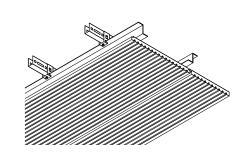


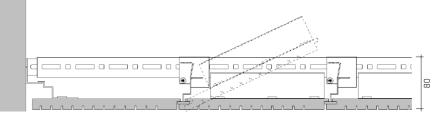
Z-System: Every other panel is inserted and can easily be removed by lifting.

This system is suitable for all ceilings.

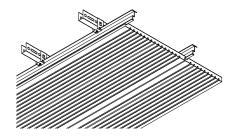
Panel joints: appr. double width of grooves.

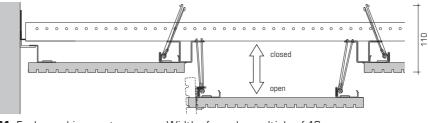
Recommended panel width = 640 mm to max. 800 mm





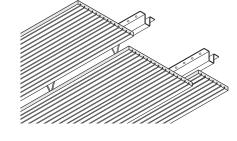
G-System: Each panel is easy to remove by lifting. Panel joints: appr. double width of grooves. Recommended maximum panel width = 640 mm





\$11: Each panel is easy to remove. Width of panel = multiple of $16 \, \text{mm}$. Recommended panel width = $640 \, \text{mm}$

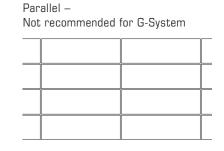
Max. panel length = 2510 mm



LAYOUT

Offset joints: The installation with offset joints permits a slight material expansion without it becoming visible. In combination with joint widths of about 3 mm, a clear and tidy joint appearance results.

| English | | | Serrated | |
|---------|--|---|----------|--|
| | | | | |
| | | | | |
| | | | | |
| | | - | | |



... SMALLER AND SMALLER!

virtually invisible.

For a long time, high sound absorption was equated with large open areas that also entailed large perforations. However, architects and designers wanted, and still want, to make the perforations less visible. Following the launch of our TOPPERFO-T and TOPPERFO-Clou products with smaller perforations, we have now achieved hole diameters of a mere 0.5 mm or even 0.3 mm with our TOPPERFO-Micro range. In other words, the circle has been squared: small perforations and high sound absorption combined in one and the same product!



$\mathsf{TOP}(\mathsf{P})(\mathsf{E})(\mathsf{R})(\mathsf{F})(\mathsf{O})^{\otimes}$

TOPPERFO are perforated acoustic panels tailor made specifically for each project. Various panel sizes and hole diameters are available for selection. TOPPERFO-Micro and TOPPERFO-Clou, developed by NH, are discrete in their appearance and simultaneously very effective in sound absorption thanks to the small hole diameters. TOPPERFO panels can be provided with various edge designs.

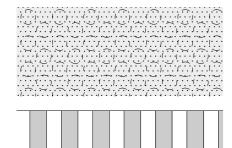
Large perforation diameters may be problematic due to the strong light and dark contrast > risk of flickering! Recommendation: use fine perforations for wall panels (TOPPERFO-T, -Clou or -Micro).



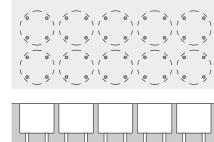
THE ACOUSTIC SYSTEM

All TOPPERFO types are available with M and T perforations on the rear. This makes it possible for acousticians to match the TOPPERFO surface treatment with the required absorption. The absorption coefficients stated in this brochure were measured according to the ISO 354 standard as described previously. Additional absorption coefficients with other porous materials in the air cavity (e.g. only fleece, melamine resin foam, fiberglass, etc.) are listed in the TOPAKUSTIK/TOPPERFO sound absorption document.

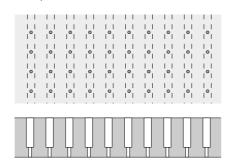
Micro Perforation delivers convincingly high sound absorption - but it can't be seen! The core panel is fully perforated and the covering, veneer or coating material is micro-perforated. TOPPERFO-Micro is suitable for almost all areas, except for outdoor applications.



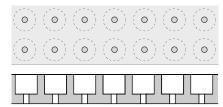
Clou Perforation in core panels with normal flammability. Developed on the basis of T-Perforation, our Clou Perforation product features even smaller bore diameters, starting at 1.2 mm. The sound energy is channeled through four bores on the visible side into one larger bore on the rear side. Materials other than MDF can also be used for core panels.



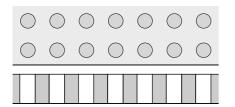
Clou Perforation in low-flammability or non-flammable core panels. The bore on the rear side is replaced by a groove that has a slight influence on the absorption values - note the measurements. The perforation on the visible side remains the same on low-flammability panels; the minimum diameter for non-flammable core panels is 2 mm.



T-Perforation: For absorption in the low to medium frequency range. The absorption in the low-frequency range is based on the combination of small diameter holes on the visible side and larger diameter holes on the rear. The small perforations present an aesthetic surface suited for wall finishes.



M-Perforation: For absorption in the medium to high frequency range. The absorption depends on the percentage open area, the depth of the rear air cavity between the acoustic elements and the ceiling or wall and the porous absorption in the cavity.



Reflector: TOPPERFO products can also be used as reflectors by eliminating the perforations on the rear surface. The absorption figures are then equivalent to those of a standard reflecting panel.



DIMENSIONS AND MATERIALS

PANELS (Planks see page 42)

| Core panel | not fire rated D-s2,d0 (DIN B2) | | | fire retardant B-s2,d0 (DIN B1) | | | non-flammable | |
|-----------------------|---------------------------------|----------------------------|----------------------------|---------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Surface/ Thickness | Paint 16 mm | Wood Veneer | Melamine 16 mm eco | Paint 16 mm | Wood Veneer | Melamine 16 mm eco | Paint 16 mm | Wood Veneer |
| Panels | max. in mm 3648 × 1216 | max. in mm 3648 × 1216 | max. in mm 3648 × 1216 | max. in mm 3648 × 1216 | max. in mm 3648 × 1216 | max. in mm 3648 × 1216 | max. in mm 3080 × 1216 | max. in mm 3080 × 1216 |
| | ideal: in mm 2032 × 992 | ideal: in mm 2032 × 992 | ideal: in mm 2032 × 992 | ideal: in mm 2032 × 992 | ideal: in mm 2032 × 992 | ideal: in mm 2032 × 992 | ideal: in mm 1540 × 608 | ideal: in mm 1540 × 608 |
| | 2780 × 992 | 2780×992 | 2780 × 992 | 2780 × 992 | 2780×992 | 2780 × 992 | 2540 × 608 | 2540 × 608 |
| | 3648×640 | 3648 × 640 | | | 3640×640 | | 3080×608 | 3080×608 |

ideal means optimal use of MDF core - custom lengths are also available Date 2017 - please check the current dimensions on www.topakustik.com

page 18/19 Fire category – more information



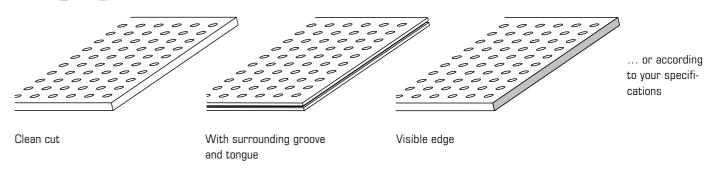




page 20/21

 $\mathsf{TOP}(\mathsf{P})\mathsf{E}(\mathsf{R})\mathsf{F}(\mathsf{O})^{\circ}$ 29

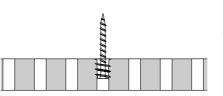
EDGES



MOUNTING



TOPPERFO-T, Ø 4 + 5mm Special screws:in half depth «dummy» perforations



TOPPERFO-M, Ø 8mm With insert from rear



See installation manual

50

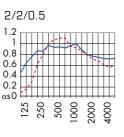
$TOP)P(E)R(F)O)^{*}-Micro$

With TOPPERFO-Micro, the sound absorption function becomes almost completely invisible. The perforation measures a mere 0.5 mm (or even 0.3 mm), so it is virtually invisible from a certain distance. TOPPERFO micro-perforation is available in various grids and diameters, depending on the required level of sound absorption. The choice of surface coverings is also virtually unrestricted. All veneers and paint colors are available, as well as CPL and HPL surfaces by arrangement.









0.75 LM C 0.89

| | 7 | , | | | | | | |
|-----|-----|---|-----|--|---|------|------|-----|
| 125 | 250 | ‡ | 200 | | Н | 2000 | 7000 | 200 |

2.5/2.5/0.5

| 3/3/ | 0.5 | 5 | | |
|------|-----|----------------|------|------|
| | , | | | |
| / | | | 1 | \ |
| 1 | | \blacksquare | | |
| 125 | 000 | 200 | 1000 | 2000 |

0.55 LMM D 0.81

| 1.8 | /1. | 8/0 | 0.3 | | | | |
|---|----------|--|----------|------|------|------|----|
| 1.2 1 0.8 0.6 0.4 0.2 as0 | \ | <i>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</i> | <u> </u> | | | *** | |
| αςυ | 125 | 250 | 200 | 1000 | 2000 | 4000 | Hz |

| αw | Euro | NRC |
|---------|------|------|
| 0.65 LM | С | 0.84 |
| 0.60 LM | С | 0.85 |

αw Euro NRC

0.65 IM C 0.84

| _ | ≈ 220 mm |
|---|---|
| _ | ≈ 66 mm |
| | Mineral wool 40 mm More information Page 4 |

TOTAL THICKNESS



Graphic designs and patterns are available in every imaginable form. Would you like a portrait, or do you prefer an abstract pattern? The possibilities are virtually limitless.

The back cover of this brochure shows a project featuring an abstract pattern.

16 Galerie Lafayette, Paris FR – Architect/Photo: CALQ Architecture, Paris FR 17 Kantonsspital, Luzern CH – Architect: Schärli Architekten, Luzern CH – Photo: Kantonsspital, Luzern CH









TOP)P)E)R)F)O)*-Clou

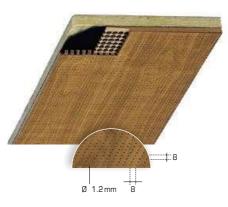
The fine Clou perforation in an 8 mm grid with a diameter of only 1.2 mm can hardly be seen at a distance. The wooden texture is therefore completely retained in its natural beauty.

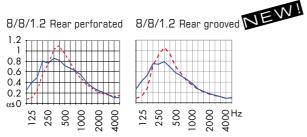
TOPPERFO-Clou has excellent acoustic absorption coefficients in the low to middle frequency range. It is therefore ideally suited for lecture rooms and auditoriums where low frequency control is needed.

- Fire category DIN A2 = Ø 2 mm perforation
- Fire category DIN B1, grooved on the back, 5/3 See page 29 for dimensions and materials.

| lole spacings and bore diameters | |
|-------------------------------------|--|
| 8/8/1.2 | |
| 6.4/6.4/1.2 | |
| 5.3/5.3/1.2 | |
| 4/4/1.2 | |
| 8/8/1.6 | |
| 6.4/6.4/1.6 | |
| 5.3/5.3/1.6 | |
| 8/8/2 | |
| | |

8/8/1.2



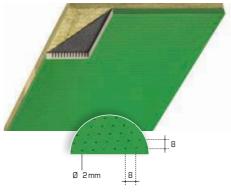


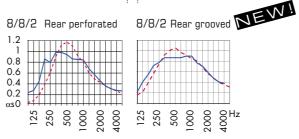
| TOTAL THICKNESS | | | | | |
|-----------------|--|--|--|--|--|
| ≈ 226 mm | | | | | |
| ≈ 66 mm | | | | | |

| αw | Euro | NRC |
|---------|------|------|
| 0.30 LM | D | 0.57 |
| 0.30 IM | D | 0.60 |

| αw | Euro | NF |
|---------|------|-----|
| 0.25 LM | Е | 0.4 |
| 0.25 LM | Е | 0.3 |

8/8/2





| αw | Euro | NRC | | αw | Euro | NRC |
|------------|------|------|----|-------|------|------|
| .45 LM | D | 0.76 | 0. | 45 LM | D | 0.79 |
| .45 LM | D | 0.75 | 0. | 55 LM | D | 0.81 |

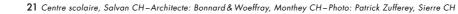
DIGITAL PRINT



TOPPERFO-Clou and -Micro is also ideal for printed walls or cei-

Because the Clou- or Micro-perforation is almost invisible, it does not clash with the printed subject – but the surface still absorbs sound. At the DaVinci College high school in Roosendaal (Netherlands), the pupils, imaginative versions of the Mona Lisa were assembled to create a very unusual collage.

19 Alfa Laval, Denmark DK - Architect: PLH Arkitekter, Copenhagen DK - Photo: Fotograferne, Nibe DK 20 APA Tower, USA - Architect: Gensler, USA - Photo: Keith Trotta, USA









$\mathsf{TOP}(\mathsf{P})\mathsf{E}(\mathsf{R})\mathsf{F}(\mathsf{O})^{\mathsf{®}}-\mathsf{T}$

The T-perforation developed and successfully used by NH Akustik + Design AG has a discreet effect, yet offers appreciable absorption.

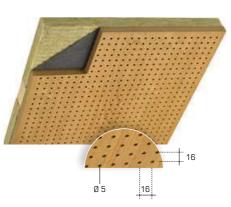
TOPPERFO-T panels are available with perforation bores of \emptyset 2, 3, 4 und 5 mm. Decreasing the diameter of the visible perforations, shifts the absorption maximum to a lower frequency.

See page 29 for dimensions and materials See page 20/21 for surfaces



____ ≈ 215 mm ---- ≈ 55 mm More information Page 4

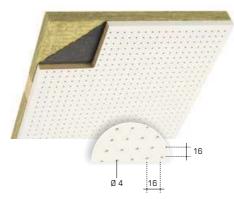
16/16/10-5

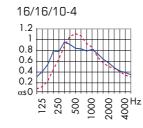




| αw | Euro | NRC |
|--------|------|------|
| 0.70 L | С | 0.82 |
| 0.70 M | С | 0.83 |

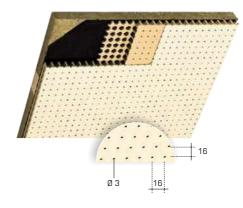
16/16/10-4

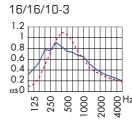




| αw | Euro | NRC |
|---------|------|------|
| 0.55 LM | D | 0.75 |
| 0.50 IM | D | 0.78 |

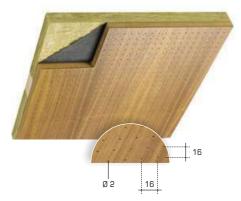
16/16/10-3





| αw | Euro | NRC |
|---------|------|------|
| 0.40 LM | D | 0.63 |
| 0.35 IM | D | 0.68 |

16/16/10-2



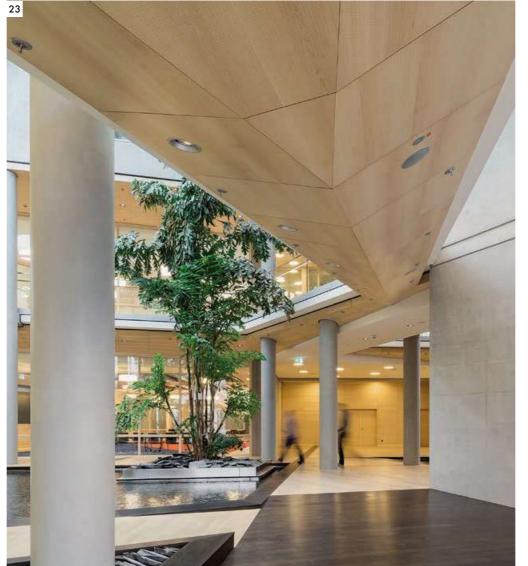
| 16/ | 16/ | /10 | -2 | | | |
|--------------|-----|--------|-------------------|--------|-------------------|------|
| 1.2 | П | П | П | ПП | ПП | П |
| 0.8 | | 1 | | Ш | Ш | Ш |
| 0.6 | | / | | Ш | Ш | Щ |
| 0.4 | 44 | Ш | 11 | Ш | Ш | Ш |
| 0.2 | . 1 | Н | ₩ | ₩ | ₩ | |
| α s O | 5 | \Box | $\overline{\Box}$ | \Box | $\overline{\Box}$ | |
| | 125 | 250 | 500 | 000 | 2000 | O Hz |

| αw | Euro | NRC |
|---------|------|------|
| 0.25 LM | Е | 0.44 |
| 0.25 LM | Е | 0.50 |

22 Swiss Lounge, Flughafen Zürich CH – Architect: Greutmann Bolzer AG für Gestaltung, ZH CH – Photo: Valentin Jeck, Stäfa CH 23 LVM, Münster DE – Architect: HPP Architekten, Düsseldorf, DE –









$\mathsf{T} \cap \mathsf{P} \mathsf{P} \mathsf{E} \mathsf{R} \mathsf{F} \mathsf{O} \mathsf{F} \mathsf{O}$

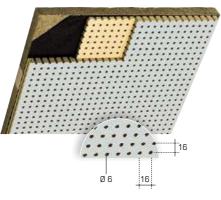
TOPPERFO-M are acoustic panels in their conventional form in all materials and surfaces. Perforation-free edges and un-perforated boarders for cut-outs are available as a client's choice. Other hole spacings and bore diameters are available upon request. See page 29 for dimensions and materials See page 20/21 for surfaces

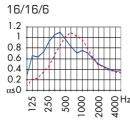
Hole spacings and bore diameters

| Offset 8/16/20/32 | | | | |
|-------------------|-------|----|-----------|--|
| х | у | Ø | open area | |
| 32 | 32 | 12 | 11% | |
| 16 | 16 | 6 | 12% | |
| 16 | 16 | 8 | 19% | |
| 16 | 16 | 10 | 31% | |
| 16 | 8 | 6 | 22% | |
| 16 | 8 | 8 | 39% | |
| 10.66 | 10.66 | 5 | 17% | |
| 8 | 8 | 5 | 31% | |
| 40 | 40 | 12 | 7% | |
| 40 | 20 | 12 | 14% | |
| 20 | 20 | 10 | 20% | |
| 20 | 20 | 8 | 12% | |
| 20 | 20 | 6 | 7% | |
| 20 | 10 | 6 | 14% | |

... and many others!

16/16/6



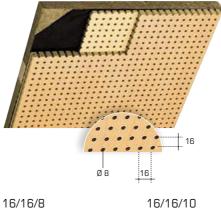


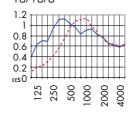
| αw | Euro | NRC |
|---------|------|------|
| 0.50 LM | D | 0.79 |
| 0.50 14 | _ | 0.72 |

TOTAL THICKNESS ____ ≈215 mm ----- ≈55 mm More information Page 4

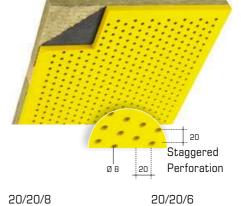
16/16/8 (10) **NEW!**

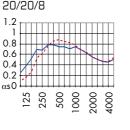
20/20/8 (6)

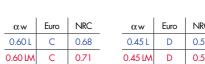




| αw | Euro | NRC |
|---------|------|------|
| 0.75 LM | С | 0.91 |
| 0.70 M | С | 0.81 |







| αw | Euro | NRC |
|---------|------|------|
| 0.45 L | D | 0.53 |
| 0.45 LM | D | 0.56 |

25 Ernst & Young, London GB – Architect: Perkins + Will, London GB – Photo: David Churchill, Hove GB 26 Campus Trivaux Garenne, Clamart FR – Architecte: Le Penhuel Geatan, Paris FR –



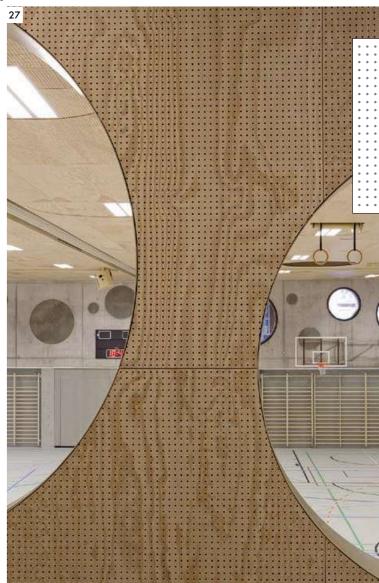
 αw
 Euro
 NRC

 0.95
 A
 0.95

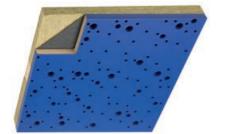
0.90 A 0.90







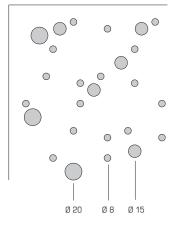
$\mathsf{TOP}(\mathsf{P}(\mathsf{E})\mathsf{R})\mathsf{F}(\mathsf{O})^{\circ}$ -Bubble $\mathsf{TOP}(\mathsf{P}(\mathsf{E})\mathsf{R})\mathsf{F}(\mathsf{O})^{\circ}$ -Split

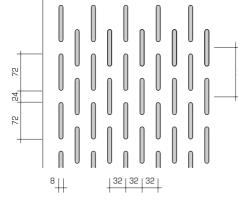


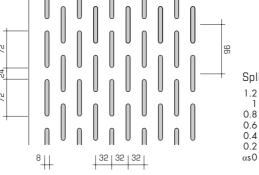
Three different holes



Longitudinal slots







| 5 | | | | 7 | JE | V | 11 | 1 |
|---|---|-----|-----|-----|------|------|------|----|
| | Spli | t 9 | 6/3 | 2/7 | 72-8 | 3 | | |
| | 1.2 1 0.8 0.6 0.4 0.2 αs0 | 125 | 250 | 200 | 1000 | 2000 | 4000 | Hz |

____ ≈ 215 mm ---- ≈ 55 mm More information Page 4

TOTAL THICKNESS

$TOP|P|E|R|F|O|^{\circ}$ -Graphic NEW!

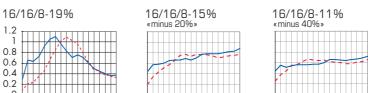




Star 8



UNO GRAPHIC Individual perforations are exposed to create a graphic pattern. This page shows just a few ideas, but the possibilities are almost unlimited. The only rule: the bore grid of 16 mm must always be observed. Sound absorption values are available for «minus 20%» and «minus 40%» of the perforation.



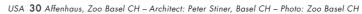
Text 8 (or 6)

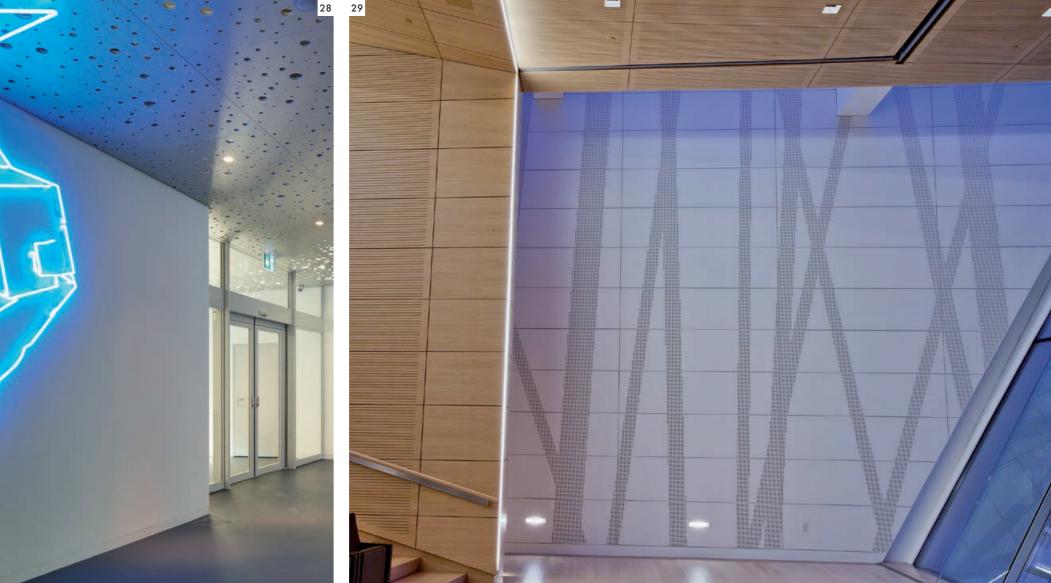
GRAPHIC MULTI Multiple bore diameters offer considerably more possibilities, but production is also more complex.

We'll be happy to advise you!

Rollo

28 Kantonalbank Graubünden, Chur CH – Architect: Domenig Architekten, Chur CH – Photo: Feiner Ralph, Chur CH 29 Devon Energy, USA – Architect: Kendall Heaton Architects, Houston







COLLABORATION

We offer far more than innovative products that bring together architectural materials with acoustical performance. Our strength in systems engineering coupled with the excellent craftsmanship of our fabricators allows us to also bridge invention and reality. We offer time tested engineering and installation strategies for the most unique projects. Early design motifs can be quickly adapted into prototyping for feasibility studies, and our design commitment maintains its endurance through the entire project lifecycle to final commissioning. Our goal is to both encourage creativity and meet its demands.



The extension built onto the Falkonergården high school in Frederiksberg, Denmark, houses a rather unusual gymnasium. The Falko Arkitekter firm created an additional space between two traditional brick buildings, providing accommodation for sports as well as meetings. TOPPERFO panels with a large M-perforation alternating with smooth

TOPPERFO panels with a large M-perforation alternating with smooth veneered areas were used for the wall claddings. The installation was slightly curved.

42 43

$\mathsf{TOP}(\mathsf{P}(\mathsf{E}(\mathsf{R})\mathsf{F})\mathsf{O})^{\mathsf{e}}$ - Planks

TOPPERFO planks allow a line effect combined with circular perforation.
The length can be chosen as required.
All surfaces and fire categories are possible.

Dimensions:

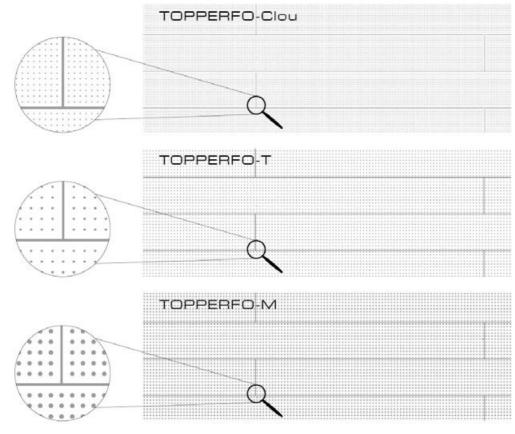
Length: max. 4080 mm

in increments of 16 mm

Width: Micro = 128/176/192 mm

Clou = 128/192 mm

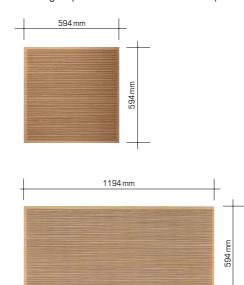
 $M + T = 192 \, mm$



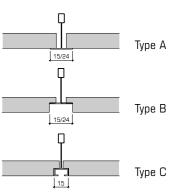
SIXTY-SYSTEM

(US = 2x2 GRID PANELS)

The ceiling system offering maximum choice and extremely easy assembly. Sixty-System 2x2 grid panels fit into all standard T-profiles.

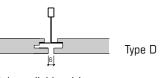






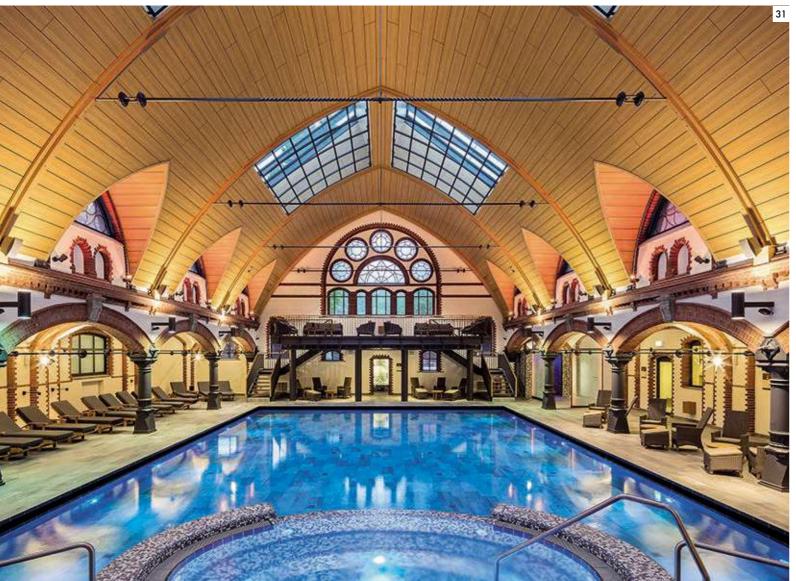
Opening downwards: type D





Only available with ungrooved borders.

31 Kaifu-Solebad, Hamburg DE – Architect: MRLV Architekten, Hamburg DE – Photo: Bernadette Grimmstein, Hamburg DE





32 Restaurant Compas, Vernier CH 33 TOPAKUSTIK Sixty Typ 29/3 M 34 TOPPERFO Sixty Typ M, 16/16/6

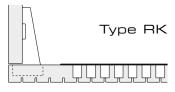




44 45

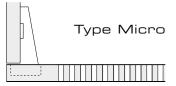
CABINET FRONTS

Cabinet fronts or rear walls of cabinets can be used as sound absorbers. The following products are most suitable: TOPAKUSTIK 14/2, 19/2, 6/2, TOPPERFO-Micro/-T and Clou.



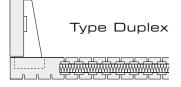
In conjunction with the fleece attached to the inside (RK 280), the acoustic surface ensures an absorption across the entire frequency band. The fleece developed by NH is tear-proof and set back from the hinges and handles.

 \rightarrow 3 point-lock must be used!



A perforated MDF panel (thickness: 19 mm) in the middle and a micro-perforated covering on both sides. The structure of the Micro cabinet door is symmetrical, so it ensures perfect stability.

 \rightarrow 3 point-lock must be used!



Duplex is particularly suited to large hinged or sliding doors. These have invisible, integrated absorptive panels.

 \rightarrow 3 point-lock must be used!

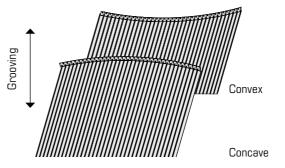


Door RK inside

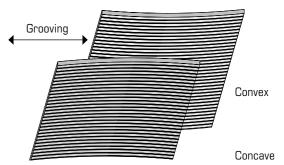
| Туре | αw | Euro | NRC |
|---------------------|-----------|------|------|
| RK 9/2 M | 0.55 | D | 0.56 |
| RK 14/2 M | 0.60 (H) | С | 0.68 |
| RK Clou 8/8/1.2 | 0.33 (LM) | D | 0.54 |
| Micro 2/2/0.5 | 0.60 (L) | С | 0.61 |
| Duplex14/2 M | 0.50 | D | 0.55 |
| Duplex16/16/10-3 | 0.25 (L) | E | 0.27 |
| Duplex Clou 8/8/1.2 | 0.35 (L) | D | 0.39 |
| | | | |

FORMED SHAPES

For ceiling clouds, curved walls and other shapes TOPAKUSTIK and TOPPERFO elements can be used for shaped wall and ceiling finishes without significant additional effort. For radii above 10 meters, the standard TOPAKUSTIK planks are assembled on the round sub-construction in a segmented way. For smaller radii, the planks or panels can be made flexible by deeper relief grooving on the rear side. In this way, the panels can simply be adapted to the curved sub-construction.



| | Radius | Machining |
|--------|-----------------|--|
| Planks | > 10 m > 5 m | Assembled in segments Grooved on the back |
| Panels | > 5m > 1m | Grooved on the back Prepared as shapes in the factory |



| | Radius | Machining |
|--------|-----------------|--|
| Planks | > 15 m > 8 m | No special machining Grooved on the back |
| Panels | > 8 m > 1 m | Grooved on the back Prepared as shapes in the factory |

35 Centre scolaire, Fully CH – Architect: Suter Sauthier Achitectes SA, Sion CH – Photo: Patrick Zufferey, Sierre CH 36 Binagadi Auditorium, AZE – Architect: Lider Monolit, Baku AZE – Photo:









GYMNASIA

Wall and ceiling finishes are subjected to high impacts in gymnasia. TOPAKUSTIK and TOPPERFO finishes, in combination with the subconstruction systems specifically developed for sports venues, fulfil the high requirements with regard to physical impact and room acoustics. Various TOPAKUSTIK and TOPPERFO products have been tested and certified to DIN 18 032 part 3.

L 4266-III/IV L 4266-IV/IV L 4266-I/IV L 4266-II/IV

L 4266-I/II L 4266-II/II

| 13/3M, 12% | Planks MDF 19 mm |
|-------------|------------------|
| 28/4M, 7.5% | Planks MDF 19 mm |
| 16/16/8 | Panels MDF 19 mm |
| 16/16/10-5 | Panels MDF 19 mm |
| 16/16/8 | Impact wall test |
| 28/4M | Impact wall test |

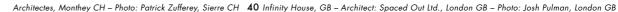
SWIMMING POOLS

For acoustic finishes in high humidity rooms, requirements corresponding to the application are to be fulfilled, e.g.:

- Ceilings and walls constructed to local code requirements
- Rear ventilation of wall and ceiling finish
- Use of corrosion-proof subconstruction materials
- Use of specific, moisture-resistant core panels in production
- Use of specific varnishes or impregnations
- Consideration of the (extraordinary) shrinkage and swelling properties of the core panels
- Water-repellent absorbers such as polyester fleece

The use of acoustic surfaces in damp areas is highly complex. Please contact us with your project and we shall be happy to assist you with deve-











QUALITY IS NEVER A COINCIDENCE

What we do, we do perfectly: to the highest quality for our customers, with respect for the environment, with products that comply with EN standards and with world-wide patent protection for our inventions.

 $\mathsf{TOP}(\mathsf{A})\mathsf{K})\mathsf{U}(\mathsf{S})\mathsf{T}(\mathsf{I})\mathsf{K})^{\circ}$

RESA²P®



USA-PATENT No 5, 362, 931 No 5, 422, 446



CH-PATENT No 683 112



EN 13501-1







Basic sample box

Eco sample box

Contains 4 samples

TOPAKUSTIK-SERVICE

Deluxe sample box

17 different samples

including 5 different

veneers

TOPAKUSTIK installation manual with sub-construc-(subject to a nominal charge) tions, guidelines and tips for the tried and tested TOPAKUSTIK installation systems. For specific installation solutions, please contact our technical department.



 $\mathsf{TOP}(\mathsf{P})\mathsf{E}(\mathsf{R})\mathsf{F}(\mathsf{O})^{\mathsf{B}}$

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Reichstag Berlin DE

43 New York Times, New York USA

44 Burj Khalifa 828 m, UAE

Architect: Jean Nouvel, Paris FR

Architect: Foster + Partner, London GB

Architect: Renzo Piano, Genova/Paris Architect: Adrian Smith SOM, Chicago USA







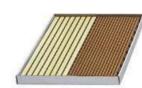




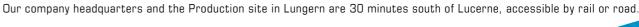


A5 sample from stock:





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