DESIGN

Gustafs Panel System® offers many possibilities to create environments with the highest demands for design and appearance. Form and function go hand in hand. We collaborate closely with architects and designers and are attentive to what lies in the future. Our design is constantly evolving as we develop different surfaces, such as veneer, laminates, textiles, metals, and colours.

PLAIN PANELS

Plain panels are anything but plain. It is when we are commissioned to create a wooden clad interior that our true expertise is called on. A wall or ceiling solution covered in natural wood is a challenge involving craftsmanship and experience. Our veneering experts can offer many alternative choices of veneering techniques from the finest choice of materials. Depending on the wood species, the veneer cut, the colour tone and ultimately the installation precision, a plain wooden panel becomes one of nature´s strongest interior expressions. The passage of time and light exposure will continue to affect the natural maturing process of the material until it achieves a life-long classic appearance. There is nothing plain about a Gustafs panel.

ACOUSTIC PANELS

Gustafs Panel System® can help create an aesthetically satisfying and acoustically adjusted environment. Sound absorption, for example, is attained by using perforated or slotted panels in combination with mineral wool and air space to achieve the correct acoustic profile.
Our various acoustic standard patterns are tested and documented to achieve known sound absorption coefficients for both walls and ceilings. We also give the possibility to create your own perforation pattern. Contact us and we will tell you more.

CURVED PANELS & BESPOKE SOLUTIONS

Gustafs has a long history within the joinery industry. We know what it takes to make unique items. Even though many of today´s projects involve thousands of square meters we are still able, thanks to our flexible production, to assist you even with specially formed parts. Parts that make a big difference!
To curve parts of a wall or a ceiling is a beautiful design possibility that we offer. We can form press panels from a radius of 0,5 meter and larger. Some panels can be curved during installation.

HIGH IMPACT PANELS

For interiors with an extra high level of traffic, we can offer our high impact panels (HIP). These panels are also extra scratch resistant and are available with veneered and colored surfaces.

PRINTED PANELS

You can design every panel in a completely unique way. Design panel by panel or spread your graphics over several panels with a seamless transference. You can get your print directly on the veneer or on laminate or on craft paper.

SURFACES

VENEER

Wood has a natural variation in structure and colour tone which ages in harmony with nature. The fact that wood is a natural material is an intrinsic aspect of its charm and attraction.
On the following pages we present our standard veneer selection. It goes without saying that we do our outmost to fulfill requests for other veneers. We offer two choices of genuine veneer, NATURE and GEMINI.

LACQUER & GLOSS

Prior to delivery the panels are given a resilient and attractive surface finish.
The finish is determined by the customer from a choice of lacquered, oiled, stained, pigmented or painted surface. A clear lacquered finish is by far the most common maintenance-free and durable finish for wooden surfaces. Utilizing a multi-stage UV-lacquering process, our surface finish achieves these demands while aspiring to maintain technical aspects such as our fire retardation and environmental goals. Our lacquer is a multi-layer UV-cured process which is available in a range of gloss finishes. The lowest gloss gives the impression of a subdued oiled surface whereas the highest reaches almost a mirror-like surface.


Grey pigmented drift wood

STAINED & PIGMENTED

You can also apply pigmented lacquers or stain the veneer to achieve different effects on your wall or ceiling. Different veneers react different to certain treatments so contact us to guarantee that the final result matches your vision.

A pigment can be used to change the colour tone of the veneer on Gustafs Panels and we have for example developed a three stage scale of white pigment for veneers.

SOLID PAINT

Some surfaces are very highly demanding. Among the many advantages of a Gustafs panel is its plain and even surface. This enables us to create a painted surface finish which otherwise is extremely difficult to achieve on site. Utilizing our production technology we can produce painted surfaces in a multitude of colors in accordance with for example NCS or RAL codes up to a gloss rate up to 50.

ART

With Gustafs Art there are many options to decorate the panel surface, route out your logo or create a printed pattern over the entire surface come to us with your idea.

BF-PRINT
Gustafs can now offer new design opportunities with Gustafs BF-Print. You can design every panel in a completely unique way. Design panel by panel or spread your graphics over several panels with a seamless transference.
You can have your print directly on the veneer, laminate or craft paper.

ROUTED PATTERNS
On our plain panels we can rout out text or patterns. This gives you the opportunity to get for example a logo or maybe directions routed out directly on the panel surface.

INTARSIA
Design your panels with classic wood inlays.

LAMINATE

Many interiors utilize the beauty, simplicity and resistance to impact of laminated surfaces. You choose what laminate* we should use. With laminates you can design beautiful surfaces that are durable, impact resistant and easy to clean. Of course we can supply these laminated panels with acoustic perforations and a fire classification that meets the high standards for public rooms.

We also offer a standard collection of metal laminates including, among others, aluminium, brushed steel and bronze, but you can also choose other laminates. Contact us for more information regarding laminates.

* HPL, High Pressure Laminate

VENEERS NATURE

NATURE VENEER As wood ages its colour tone matures typically for the species. Variations in colour tone and structure is a part of woods appeal. This too, is the case with veneer. Nature veneer is available in a wide variety of species and matures in colour tone with time and exposure to light. Most nature veneers can on request be purchased with FSC® certification. Large areas permit a certain amount of variation where as smaller areas demand a more exacting match.

NATURE GUSTAFS STANDARD VENEER COLLECTION


Oak


Birch


Rotary cut Birch


Maple


Ash


Beech


Pear


Mahogany


Oregon Pine


Elm


Cherry


Teak


Walnut

VENEERS GEMINI

GEMINI – The major advantage with Gemini® reconstituted veneers is their colour and pattern consistency irrespective of quantity. The veneers are less photosensitive and do not mature in the same way as natural veneers. The colour tone is therefore more stable over time. The collection consists of a number of chosen patterns which are inspired by their natural counterparts. The Gemini® collection even offers a selection of exotic wooden species patterns which have no negative environmental effect and come on request with FSC® certification. Gemini® panels can be produced in lengths up to 2400mm.

GEMINI GUSTAFS STANDARD VENEER COLLECTION


Gemini – Pale Maple*


Gemini – Sandy Maple


Gemini – Wavy Maple


Gemini – Birds Eye Maple


Gemini – Birch


Gemini – Ash


Gemini – Oak


Gemini – Beech


Gemini – Pear*


Gemini – Cherry*


Gemini – Teak


Gemini – Mahogany


Gemini - Walnut


Gemini - Wenge

* No stock item

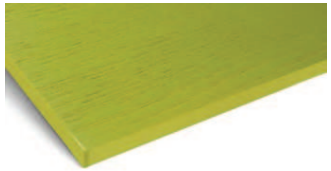
PAINT, PRINT & SOLID

There are many different surface treatments to choose from to achieve your desired result. Utilizing our unique production technology we can produce painted surfaces in a multitude of colours in accordance with for example NCS or RAL codes.

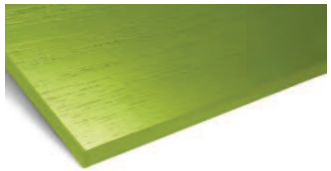
EXAMPLES OF SURFACE FINISHES You can find all our surface possibilities on www.gustafs.com

PIGMENTED VENEER

Stained ash veneer



Pigmented lacquer on ash veneer

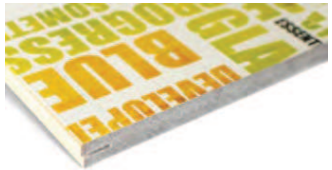


Painted ash veneer

Nature ash veneer with white pigmented lacquer

PRINT

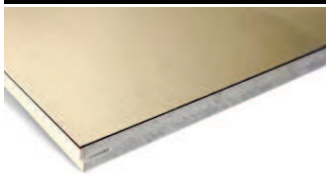
Print on maple veneer



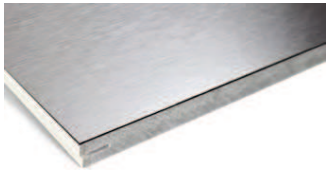
Print on Paper substrate

Print on HPL- substrate

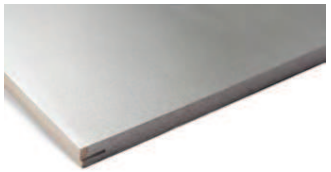
SOLID COLORS



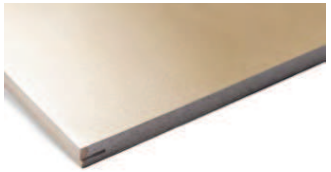
Laminate bronze



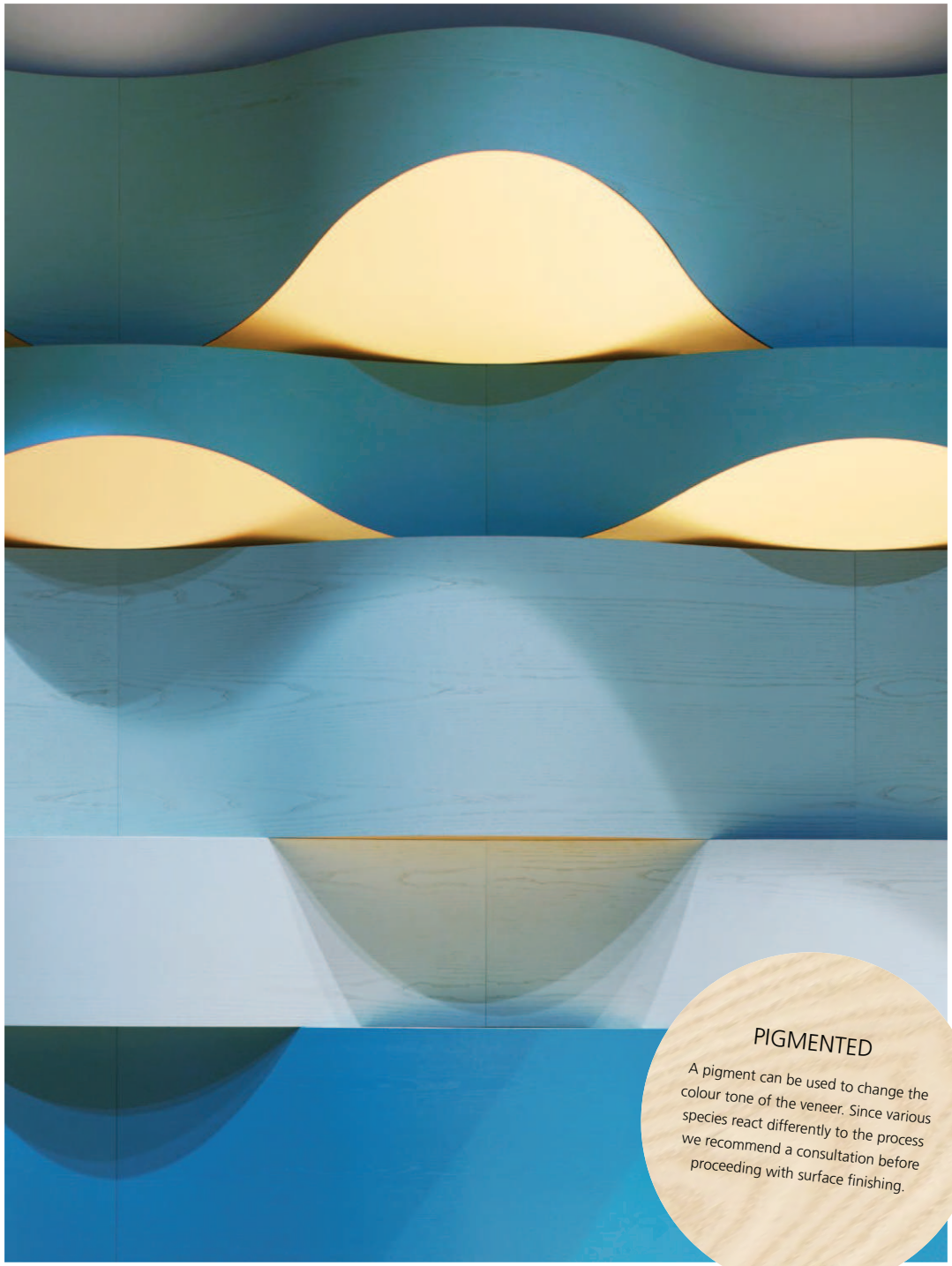
Laminate Aluminium



Paint Gustafs Silver Metallic



Paint Gustafs Champagne Metallic



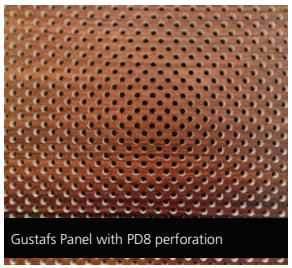
PIGMENTED

A pigment can be used to change the colour tone of the veneer. Since various species react differently to the process we recommend a consultation before proceeding with surface finishing.

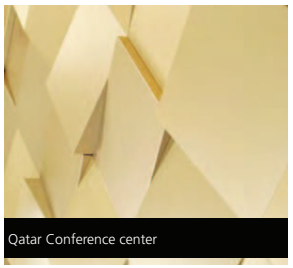
ACOUSTICS

How we experience sound in a room is as important as how we perceive the designers choice of materials and furnishing. Our customers and the challenges they confront are what we as a company thrive on when developing our solutions and innovations. We offer both standard and bespoke acoustic solutions to our customers.

University of Technology, Gdansk, Poland
Architect: Andrzej Prusiewicz



Gustafs Panel with PD8 perforation



Qatar Conference center

REFLECTION

Gustafs Panel System, with plain panels, is often used to reflect sound. The hard and high density surfaces of a room are a decisive factor in the room's total acoustic profile. For amplification of sound, stable and non-vibrating reflective surface are essential in a room to help carry the sound waves to the audience. To achieve a balanced acoustic profile in a room however other acoustic devises must be introduced.

Designers are recommended to consult with an acoustican in order to achieve the required results with our panels.

ABSORPTION

Sound absorption, is attained by using perforated or slotted panels in combination with mineral wool and air gap. Gustafs Panel System is used as absorber with the purpose to reduce the total energy of the sound source. Sound absorption is achieved by creating an amount of open area on a panel surface. The absorbing surface takes away unwanted sound and consequently contributes to a lesser intensity of sound.

The challenge is to find a balance between the absorbing area and the reflective areas of a room to achieve a comfortable and purposeful acoustic depending on its use.

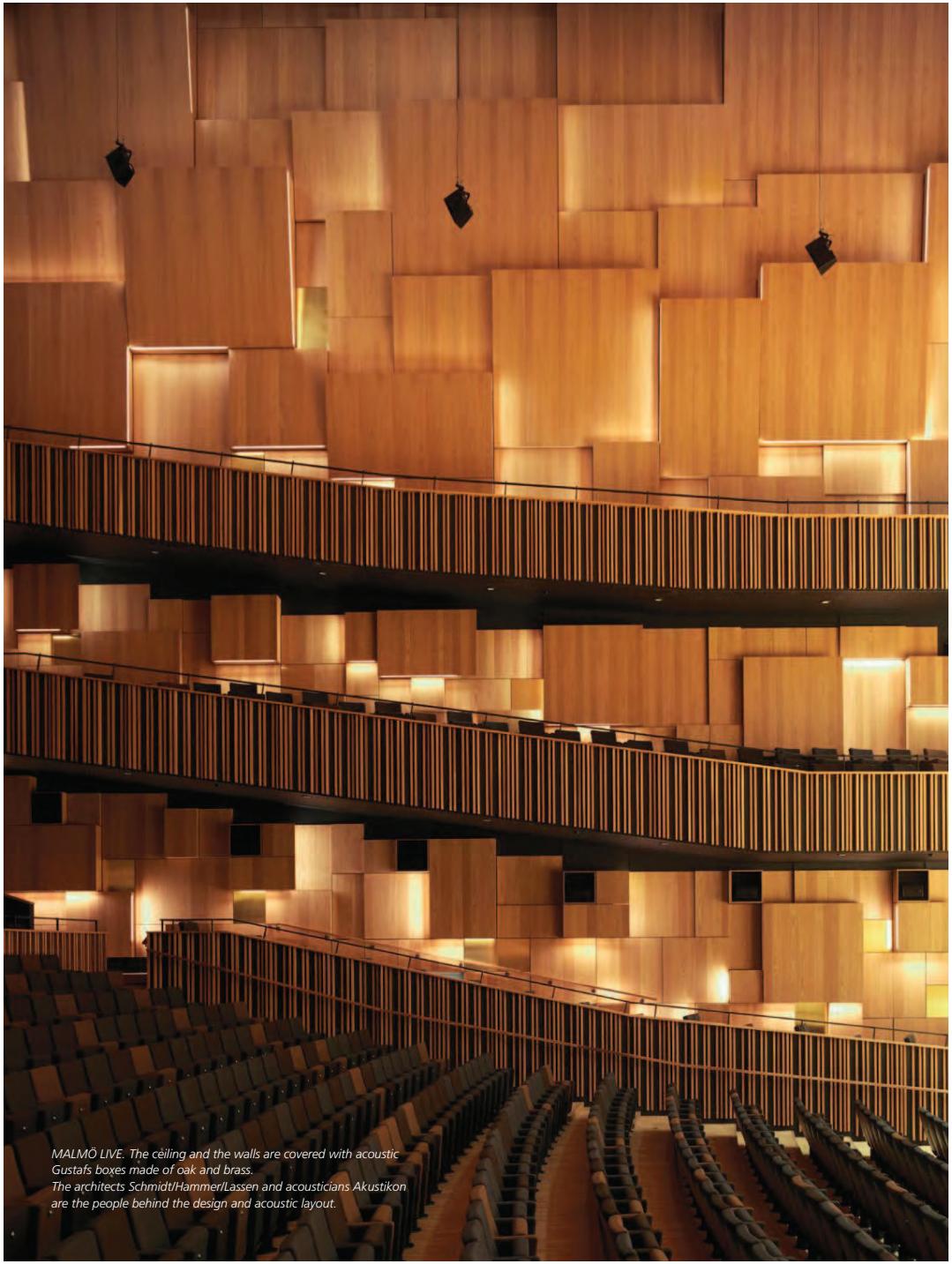
MICRO PERFORATION

Gustafs Nano solution combines an acoustic chamber mechanism with the sound absorption created by a microperforation. The result is a panel with fantastic absorption coefficients.

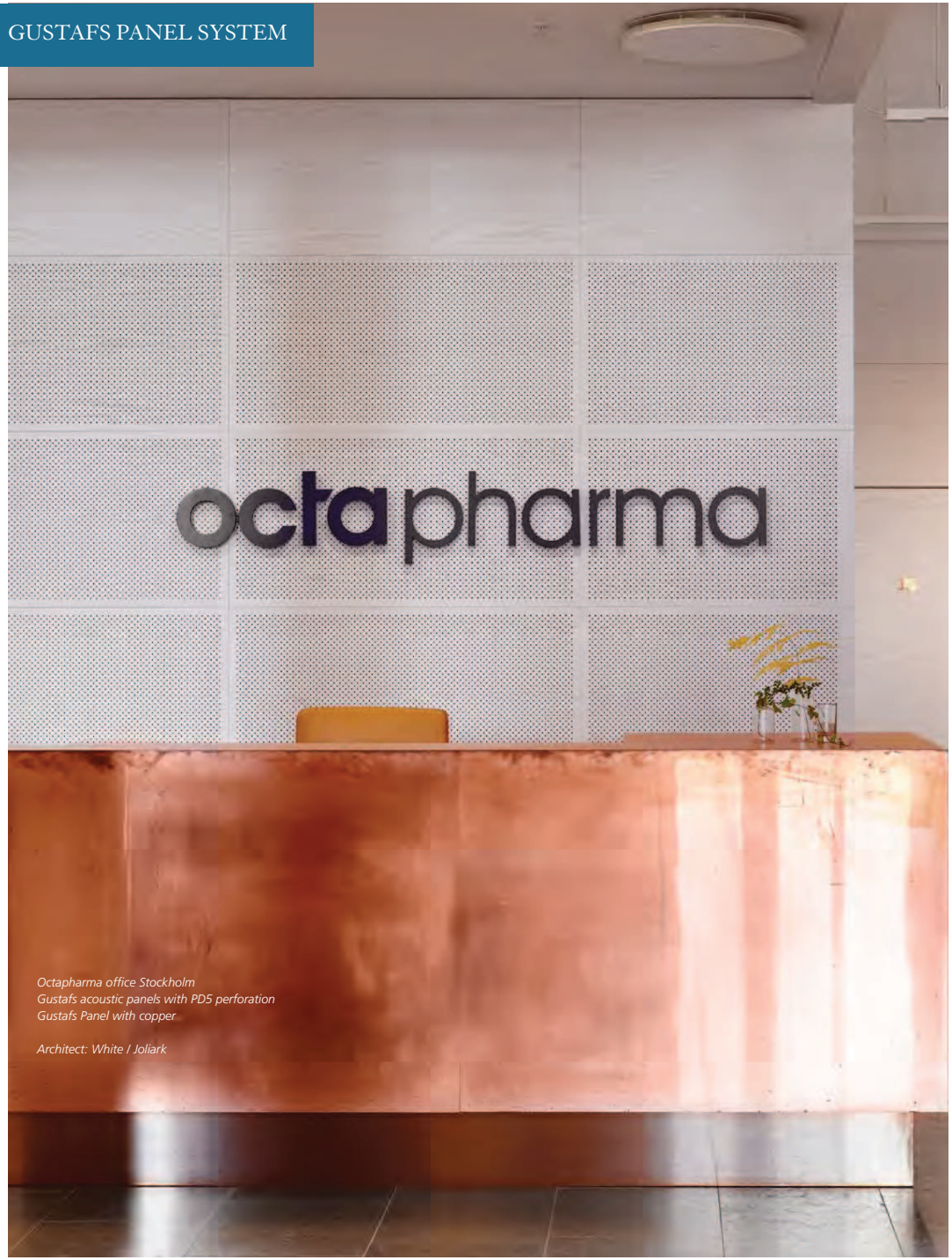
DIFFUSION

A diffuser is an element which purposely reflects and spreads a sound source. Placed properly, the diffuser will improve the overall sound quality in the room while avoiding added sound effects such as echo or reverberation.

An optimal diffuser must be designed based on mathematical principles and avoid regular patterns in the surface structure. Diffusers are used to create "depth" in the sound and improve the sound experience of the room, the room feels bigger than it really is.



MALMÖ LIVE. The ceiling and the walls are covered with acoustic Gustafs boxes made of oak and brass.
The architects Schmidt/Hammer/Lassen and acousticians Akustikon are the people behind the design and acoustic layout.

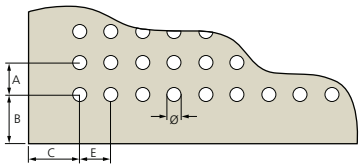


Octapharma office Stockholm
Gustafs acoustic panels with PD5 perforation
Gustafs Panel with copper

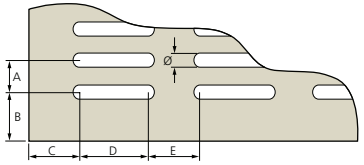
Architect: White / Joliark

ACOUSTIC PANELS

Our various acoustic standard patterns are tested and documented to achieve known sound absorption coefficients for both walls and ceilings.
Certain sounds need to be directionally steered and others reduced or eliminated. We therefore recommend designers to consult with a professional acoustican in order to achieve the required results.

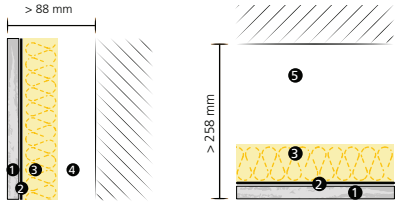


** Normally B and C = 25–35 mm.
When group perforation B and C = 25–95 mm.
A and E = constant.



* Normally B = 25–35 mm, D and E are variably.
When ceiling, edge DG and DA; B & C = 35–45 mm.
When group slotted B and C are variably, as A, D and E = constant.

1 Panel
2 Acoustic felt
3 Mineral wool
4 Air gap 30 mm
5 Air gap 200 mm



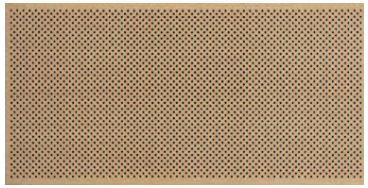
GUSTAFS STANDARD ACOUSTIC PATTERNS

Acoustic Values Gustafs Panel & Linear System

ACOUSTICS	Typ	Ø or Spacing	Slott (D)	cc (A/E)	Open area	WALL: 45 mm insulation + 30 mm air void (Hz/αp)								CEILING: 45 mm insulation + 200 mm air void (Hz/αp)							
						αw	NRC	125	250	500	1000	2000	4000	αw	NRC	125	250	500	1000	2000	4000
Sound absorption	Plain	-	-	-	-	-	-	0,10	0,05	0,05	0,05	0,05	0,05	-	-	0,20	0,10	0,05	0,05	0,05	0,05
	Nano	0,5 mm	-	1,75/2	5,9%	**0,80-B**	**0,90**	0,35	0,90	1,00	0,90	0,75	0,65	**0,85-B**	**0,90**	0,45	0,95	0,90	0,90	0,80	0,70
	PH5	5 mm	-	20/20	5 %	**0,30-D**	**0,50**	0,50	0,70	0,65	0,45	0,25	0,20	**0,35-D**	**0,50**	0,50	0,65	0,55	0,45	0,30	0,20
	PH8	8 mm	-	20/20	12 %	**0,55-D**	**0,80**	0,35	0,85	1,00	0,75	0,55	0,40	**0,55-D**	**0,80**	0,65	0,95	0,85	0,80	0,55	0,40
	PH8-F	8 mm	-	20/20	12%	**0,60-C**	**0,85**	0,35	0,85	0,95	1,00	0,50	0,35	**0,60-C**	**0,85**	0,55	0,90	0,95	1,00	0,60	0,35
	PH10	10 mm	-	20/20	18 %	**0,70-C**	**0,85**	0,35	0,85	1,00	0,90	0,70	0,55	**0,75-C**	**0,90**	0,65	1,00	0,90	0,85	0,75	0,60
	PG5	5 mm	-	20/20	3 %	**0,25-E**	**0,40**	0,40	0,50	0,45	0,35	0,20	0,15	**0,30-D**	**0,40**	0,45	0,45	0,40	0,40	0,25	0,15
	PG8	8 mm	-	20/20	8 %	**0,45-D**	**0,65**	0,40	0,85	0,80	0,60	0,40	0,30	**0,50-D**	**0,65**	0,55	0,75	0,70	0,65	0,40	0,35
	PS2	3 mm	-	20/20	2 %	**0,20-E**	**0,50**	0,30	0,85	0,70	0,30	0,15	0,05	**0,25-E**	**0,45**	0,55	0,70	0,55	0,35	0,20	0,10
	PD8	8 mm	-	10/10	24 %	**0,80-B**	**0,90**	0,30	0,80	1,00	0,95	0,75	0,65	**0,85-B**	**0,90**	0,65	1,00	0,95	0,90	0,80	0,70
	SM5	5 mm	20 mm	20/20	15 %	**0,65-C**	**0,80**	0,30	0,75	1,00	0,80	0,60	0,50	**0,65-C**	**0,75**	0,50	0,75	0,80	0,75	0,65	0,50
	SM8	8 mm	20 mm	20/20	26 %	**0,85-B**	**0,85**	0,30	0,75	1,00	0,90	0,80	0,70	**0,85-B**	**0,85**	0,50	0,80	0,90	0,85	0,85	0,75
	SH5	5 mm	40 mm	20/30	15 %	**0,60-C**	**0,80**	0,35	0,80	1,00	0,80	0,60	0,45	**0,60-C**	**0,80**	0,65	0,95	0,85	0,80	0,60	0,45
	SH8	8 mm	40 mm	20/30	26 %	**0,75-C**	**0,85**	0,35	0,80	1,00	0,95	0,70	0,60	**0,75-C**	**0,90**	0,65	1,00	0,95	0,90	0,75	0,60
	SG5	5 mm	55 mm	20/30	12 %	**0,50-D**	**0,75**	0,35	0,90	0,95	0,70	0,50	0,35	**0,55-D**	**0,70**	0,55	0,85	0,80	0,70	0,50	0,40
	SG8	8 mm	55 mm	20/30	20 %	**0,65-C**	**0,85**	0,35	0,90	1,05	0,85	0,55	0,50	**0,65-C**	**0,85**	0,55	1,00	0,90	0,85	0,60	0,55
	SX5	5 mm	140 mm	20/60	18 %	**0,70-C**	**0,80**	0,35	0,75	0,95	0,80	0,65	0,55	**0,70-C**	**0,75**	0,50	0,80	0,80	0,75	0,65	0,55
	SX8	8 mm	140 mm	20/60	29 %	**0,80-B**	**0,85**	0,30	0,75	1,00	0,90	0,75	0,70	**0,85-B**	**0,85**	0,50	0,80	0,90	0,85	0,80	0,70
	RS5	5 mm	40 mm	20/30	16 %	**0,65-C**	**0,80**	0,35	0,70	0,95	0,80	0,65	0,50	**0,65-C**	**0,75**	0,50	0,75	0,80	0,75	0,65	0,50
	RS8	8 mm	40 mm	40/30	13 %	**0,60-C**	**0,70**	0,35	0,70	0,85	0,70	0,55	0,45	**0,60-C**	**0,65**	0,45	0,70	0,70	0,65	0,55	0,45
	QS	20 mm	190 mm	40/140	28%	**0,5-D**	**0,65**	0,35	0,70	0,85	0,50	0,45	0,40	**0,75-C**	**0,75**	0,40	0,75	0,75	0,80	0,75	0,65
	RP8-C10	8 mm	∞	10/40	2,8%	**0,65-C**	**0,70**	0,40	0,75	0,80	0,65	0,60	0,60	**0,75-C**	**0,75**	0,40	0,75	0,80	0,80	0,70	0,65
	RP8-C20	8 mm	∞	20/40	1,7%	**0,60-C**	**0,70**	0,35	0,80	0,80	0,70	0,55	0,45	**0,65-C**	**0,70**	0,40	0,75	0,70	0,70	0,60	0,50
	RP8-Bar	8 mm	∞	Barcode	1,6%	**0,50-D**	**0,60**	0,40	0,70	0,70	0,60	0,45	0,35	**0,55-D**	**0,60**	0,40	0,70	0,65	0,60	0,50	0,40
	Linear	12 mm	∞	50	24%	**0,70-C**	**0,80**	0,30	0,90	1,00	0,75	0,60	0,65	**0,70-C**	**0,80**	0,50	0,95	0,85	0,75	0,60	0,65
	Linear	62 mm	∞	100	62%	-	-	-	-	-	-	-	-	**0,95-A**	**1,00**	0,35	0,95	1,00	1,00	0,95	0,75

ACOUSTIC PATTERNS, PERFORATIONS

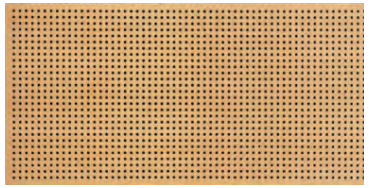
PD8 DOMINO PERFORATION 8 MM, OPEN AREA 24%



A = 10 mm
*B = 30 mm
**C = 30 mm
E = 10 mm
Diameter = 8 mm

Absorption class B
Open area 24%

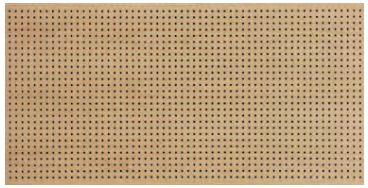
PH10 PERFORATION 10 MM, OPEN AREA 18%



A= 20 mm
*B = 30 mm
**C = 30 mm
E = 20 mm
Diameter = 10 mm

Absorption class C
Open area 18%

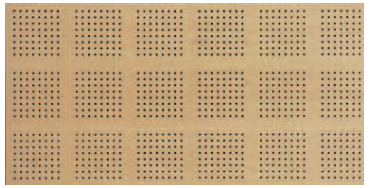
PH8 PERFORATION 8 MM, OPEN AREA 12%



A = 20 mm
*B = 30 mm
**C = 30 mm
E = 20 mm
Diameter = 8 mm

Absorption class D
Open area 12%

PG8 GROUP PERFORATION 8 MM, OPEN AREA 8%

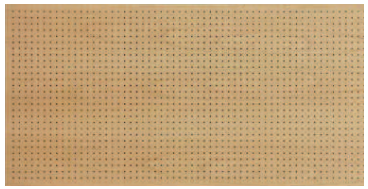


A = 20 mm
*B = 30 mm
**C = 30 mm
E = 20 mm
Diameter = 8 mm

Absorption class D
Open area 8%

Group measurement 200 mm x 200 mm.

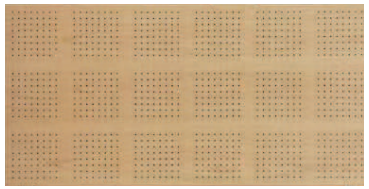
PH5 PERFORATION 5 MM, OPEN AREA 5%



A = 20 mm
*B = 30 mm
**C = 30 mm
E = 20 mm
Diameter = 5 mm

Absorption class D
Open area 5%

PG5 GROUP PERFORATION 8 MM, OPEN AREA 3%



A = 20 mm
*B = 30 mm
**C = 30 mm
E = 20 mm

Diameter = 5 mm

Absorption class E/D
Open area 3%

Group measurement 200 mm x 200 mm.

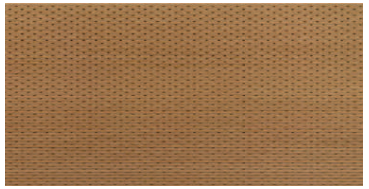
PS2 DOUBLE SIDED PERFORATION 3/10 MM, OPEN AREA 2%

A = 20 mm
*B = 30 mm
**C = 30 mm
E = 20 mm

Diameter visable perforation = 3 mm
Diameter2 = 10 mm

Absorption class E
Open area 2%

RP8-C10, OPEN AREA 2,8%

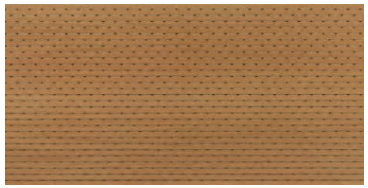


A = 20 mm
*B = 30 mm
**C = 30 mm
E = 40 mm

Diameter = 8 mm

Absorption class C
Open area 2,8%

RP8-C20, OPEN AREA 1,7%



A = 10 mm
*B = 30 mm
**C = 30 mm
E = 20 mm
Diameter = 8 mm

Absorption class C
Open area 1,7%

RP8-BARCODE, OPEN AREA 1,6%

A = 20 mm
*B = 30 mm
Diameter = 8 mm

Absorptionsklass D
Open area 1,6%

NANO 0,5 MM, OPEN AREA 5,9%

A = 1,75 mm
B = –
C = –
E = 2,0 mm

Absorption class B
Diameter=0,5 mm

GUSTAFS NANO

INVISIBLE NANO PERFORATION WITH UNIQUE ACOUSTICS

From a normal viewing distance, the Nano perforation is invisible, but the acoustic qualities are excellent with absorption class B (αw 0,85).
The secret is the combination of two acoustic mechanisms, the Nano holes in the surface and thousands of larger sound chambers in the core.
Gustafs Nano is less depending on insulation and air gaps behind the panel, so in general thinner walls can be achieved, saving valuable space.

CONTINUOUS PATTERN

The Nano perforation pattern reaches all the way out to the edges (no frame). Due to this the installation will appear very homogeneous.

MAINTENANCE

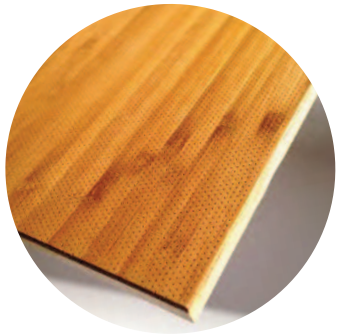
The 0,5 mm small Nano holes stop dust collection. This results in a maintenance free installation and acoustic qualities that remain the same over time.

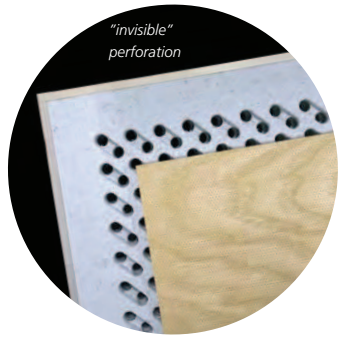
HIGHLIGHTS

Gustafs Panels with NANO veneer are well suited for sectional light transmission when back-lit. In this way logotypes and other illustrations can be highlighted with a beautiful real wood lustre, while being undetectable when the light is switched off.

THE CORE

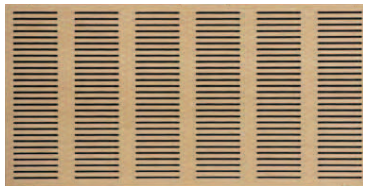
Of course Gustafs NANO's standard core is made of fibre gypsum, allowing a 100% closed joint installation. This core also contributes to the highest possible fire classification B-s1,d0 including the veneer.





ACOUSTIC PATTERNS, SLOTS

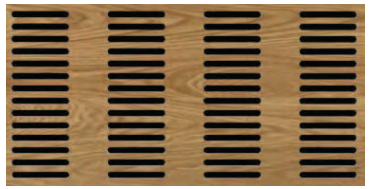
SX8 MAXI SLOTTED, 29% OPEN AREA



A = 20 mm
*B = 30 mm
**C = 30 mm
D = 140 mm
E = 60 mm
Diameter = 8 mm

Absorption class B
Open area 29%

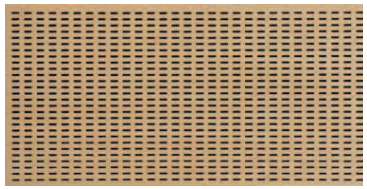
QS SLOTTED 20 MM, 28% OPEN AREA



A = 20 mm
*B = 30 mm
**C = 30 mm
D = 190 mm
E = 140 mm
Diameter = 20 mm

Absorption class C
Open area 28%

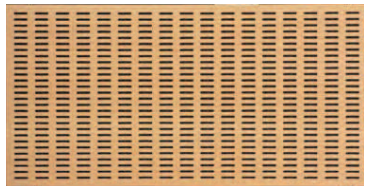
SM8 MINI SLOTTED 8 MM, OPEN AREA 26%



A = 20 mm
*B = 30 mm
**C = 30 mm
D = 20 mm
E = 20 mm
Diameter = 8 mm

Absorption class B
Open area 26%

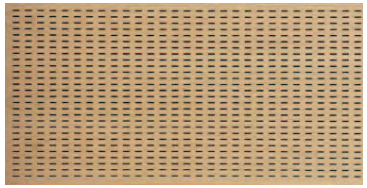
SH8 SLOTTED 8 MM, 26 % OPEN AREA



A = 20 mm
*B = 30 mm
**C = 30 mm
D = 40 mm
E = 30 mm
Diameter = 8 mm

Absorption class C
Open area 26%

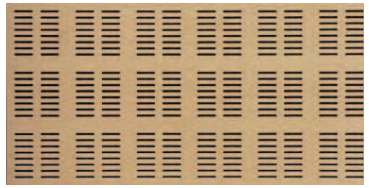
SM5 MINI SLOTTED 5 MM, OPEN AREA 15%



A = 20 mm
*B = 30 mm
**C = 30 mm
D = 40 mm
E = 30 mm
Diameter = 5 mm

Absorption class C
Open area 15%

SG8 GROUP SLOTTED 8 MM, OPEN AREA 20%

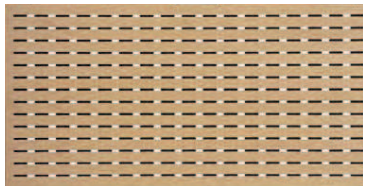


A = 20 mm
*B = 30 mm
**C = 30 mm
D = 55 mm
E = 30 mm
Diameter = 8 mm

Absorption class C
Open area 20%

Group measurement 200 mm x 200 mm.

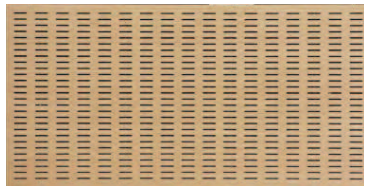
RS8-C40 RIB SLOTTED 8 MM, OPENAREA 13%



A = 40 mm
*B = 30 mm
**C = 30 mm
D = 40 mm
E = 30 mm
Diameter = 8 mm

Absorption class C
Open area 13%

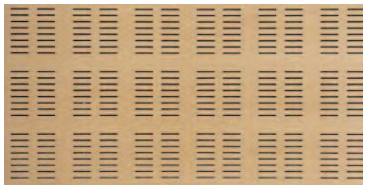
SH5 SLOTTED 5 MM, OPEN AREA 15%



A = 20 mm
*B = 30 mm
**C = 30 mm
D = 40 mm
E = 30 mm
Diameter = 5 mm

Absorption class C
Open area 15%

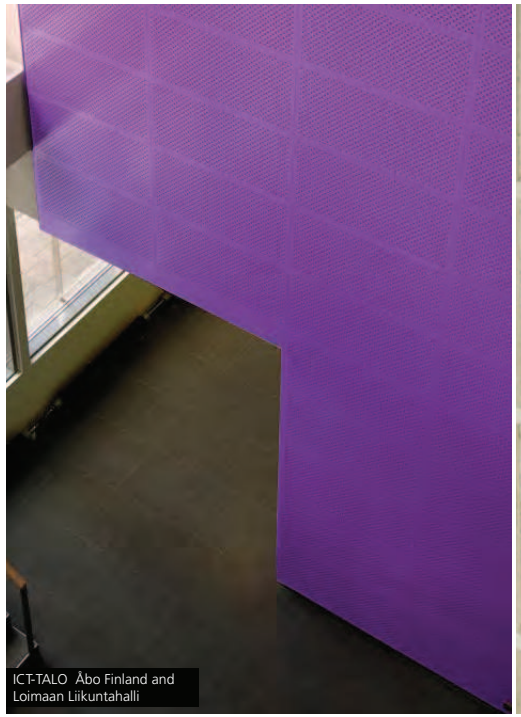
SG5 GROUP SLOTTED 5 MM, OPEN AREA 12%



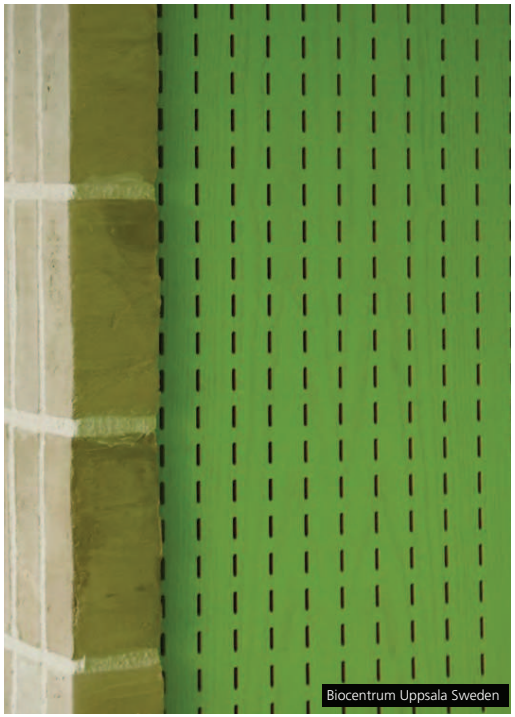
A = 20 mm
*B = 30 mm
**C = 30 mm
D = 55 mm
E = 30 mm
Diameter = 5 mm

Absorption class D
Open area 12%

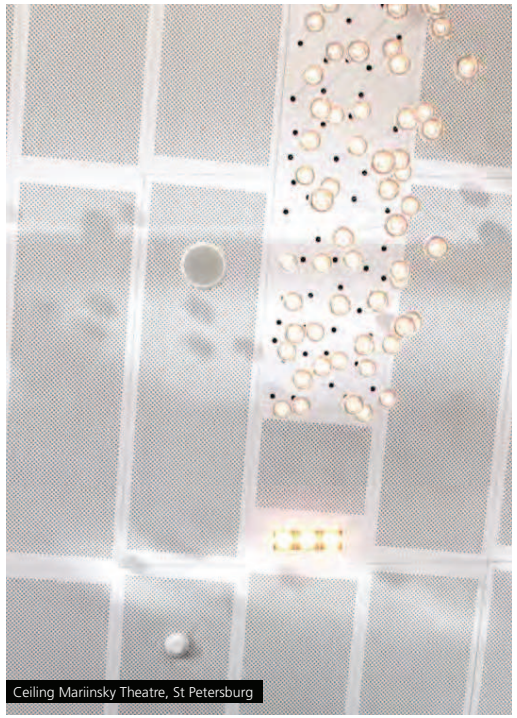
Group measurement 200 mm x 200 mm.



ICT-TALO Åbo Finland and
Loimaan Liikuntahalli



Biocentrum Uppsala Sweden

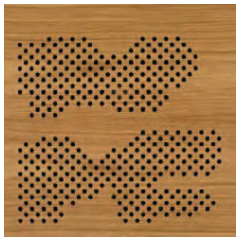


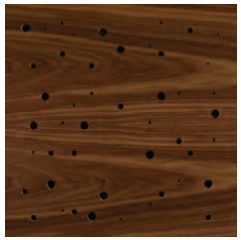
Ceiling Mariinsky Theatre, St Petersburg

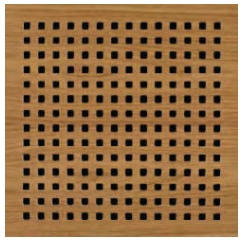
Diamond Hall, University of Ulster, Coleraine
Samuel Stevenson Architects, Belfast.

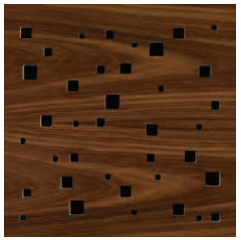
BESPOKE PERFORATION PATTERNS

We manufacture and supply many different kinds of bespoke interiors for our customers and strive to make your design vision reality. Together with our project leaders you can also create your own perforation pattern.


Cloud


Stars 2% Open area


Square 18% Open area

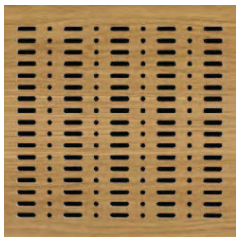

Square 2.0, 6% Open area


Wave, 13% Open area

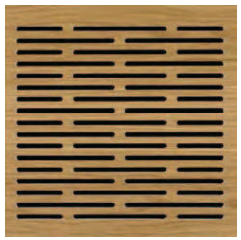

Wave 2.0, 11% Open area


Wave 3.0, 13% Open area


Wave 4.0, 12% Open area


Morse, 15% Open area

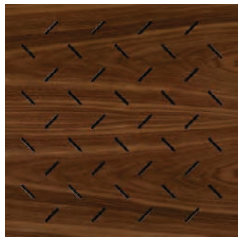

Morse 2.0, 14% Open area


Symmetry, 27% Open area

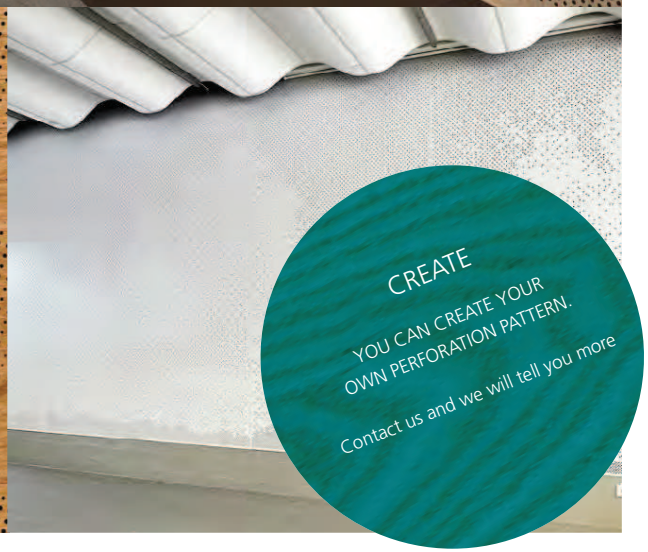

Tornados, 21% Open area


Cross, 8% Open area


Autumn, 8% Open area


Station, 4% Open area


Storm, 8% Open area



100% FIRE SAFE

Gustafs Panel System® including a veneered or painted surface, achieves resistance to fire classification A2-s1,d0. To meet the market demands for all kind of rooms it is necessary to be in the absolute front line regarding fire safety.

Both for walls and ceilings, Gustafs products meet the fire regulations and the highest demands for escape routes, high buildings, public localities such as schools, meeting rooms, concert halls, hotels, airport terminals and other similar public meeting places. The system has been tested and certified according to the latest European standards. For regions such as Asia and the United States, we have been certified at a national level as well.

100%

The fire retardant properties of the Gustafs Panel System® are not reliant on chemical treatment, instead it is the mechanical composition of all the details which create the end result. Compared to other solutions, using with chemicals impregnated core materials or protecting top coatings, Gustafs fibre gypsum solutions are protected truly homogeneously and will always remain 100% fire safe even including their acoustic perforations or when cut on site. Gustafs reaction to fire classifications are always including the surface material and it's finish.

PROTECT THE UNDERLYING CONSTRUCTIONS

It is of little help however if the non-combustible outer wall or ceiling cladding conveys heat to structures and facilities behind the surfaces. Claddings with a K110/K210 class protect the underlying constructions in the event of fire.
Consequently approval of cladding materials is always associated with an installation system or method. The Gustafs Panels System® employs Capax as an integral part of its installation and is approved to classification K110/K210.

REAL A2-s1,d0
INCLUDING THE VENEER
OF CHOICE

REACTION TO FIRE, EN13501-1

The Euroclass-system is divided into various classes in accordance to the following:

A1	Nonflammable materials No contribution to fire
A2	**Nonflammable materials** **No noticeable contribution to fire**
B	Flammable Little or no contribution to fire
C	Flammable Limited contribution to fire
D	Flammable Contributes to fire
E	Flammable Major contribution to fire
F	Flammable Not within classes A1-E
s1	The panels contribute little or insignificantly to the development of smoke.
d0	The panels do not create flaming particles or droplets when subjected to fire.

RESISTANCE TO FIRE, EN13501-2

$K_1$10/K_2 10 Gustafs Panel System® protect the underlying constructions in the event of fire.

TECHNICAL DATA GUSTAFS PANEL SYSTEM

GUSTAFS

Technical Data Sheet
Gustafs Panel System

Doc	TDS-GPS-V
Rev	2016-01-22
Page	1/1

CORE	SURFACE	DESIGN	THICKNESS, mm	WIDTH	LENGTH
Fiber Gypsum	Coated Wood Veneer	Plain Acoustical Perforation	13,2 mm	300 - 1200	300 - 3000

ESTETICS & MAINTENANCE	
Colour, pattern & finish	Wood is a natural product and each veneer is unique. Colour, pattern and structural differences are considered as normal and a part of the décor. Wood changes over time when exposed to UV-light. When painted, please supply RAL or NCS numbers.
Maintenance	Only for indoor use. Use and installation at 18-50 C° and 25-60% humidity. Cleanings is done by dry mop or vacuum. Use synthetic cleaning fluid without ammonia for greasy stains, fruit, wine and coffee. Blood is removed with cold water.

TOLERANCES	PERFORMANCE	COMMENTS	STANDARD
Thickness	±0,5 mm	/ panel	SS-EN 13986/324-1/324-2
Length and width	+0,2 mm / - 0,5 mm	/ panel	SS-EN 13986/324-1/324-2
Diagonal size	+0,5 mm / - 0,5 mm	/ panel	SS-EN 13986/324-1/324-2
Flatness	±2,0 mm	/meter	SS-EN 13986/324-1/324-2
PHYSICALS	**PERFORMANCE**	**COMMENTS**	**STANDARD**
CE declaration	Yes	suspended ceilings	EN 13964
Weight	15,7 kg/m²		SS-EN 13986/324-1/324-2
Flexural tensile strenght	Class 1 / A / no load		EN 13964
Service load bearing	450 N	for ceiling use	EN 13964
Failing load bearing	3520 N	for ceiling use	EN 13964
Thermal conductivity	NPD		
EVIRONMENT	**PERFORMANCE**	**COMMENTS**	**STANDARD**
Release of asbestos	NPD		
Formaldehyde	0,016 mg/m³	E1 ≤ 0,05 mg/m³	EN 717-1
TVOC	0,023 mg/m²h	total emission	SS-EN ISO 16000-9
Recycled content, pre-cons.	77%	industrial gypsum	
Recycled content, post-cons.	17%	cellulosa fibers	
FSC wood	Yes		FSC
Durability	> 50 years	expected life time	
Energy for production	99% water, 1% wind energy		
Possible LEED points	EA C1, MR C1.2, MR C2, MR C3, MR C4, MR C5, MR C6, MR C7, IEQ C3.1, IEQ C3.2, IEQ C4.1, IEQ C4.4. Schools: EQ C4, option 6, EQ C9	sustainable buildings	LEED for New Construction and Major Renovations, LEED for Schools
Possible BREEAM points		sustainable buildings	
FIRE	**PERFORMANCE**	**COMMENTS**	**STANDARD**
Reaction to fire	A2-s1,d0	For panel including surfaces	EN 13501-1
Resistance to fire	K1-10/K2-10	For panel including surfaces	EN 13501-2

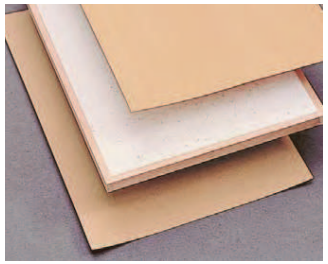
ACOUSTICS

Typ	Ø or Spacing	Slott (D)	cc (A/E)	WALL: 45 mm insulation + 30 mm air void (Hz/αp)								CEILING: 45 mm insulation + 200 mm air void (Hz/αp)							
				αw	NRC	125	250	500	1000	2000	4000	αw	NRC	125	250	500	1000	2000	4000
Plain	-	-	-	-	-	0,10	0,05	0,05	0,05	0,05	0,05	-	-	0,20	0,10	0,05	0,05	0,05	0,05
Nano	0,5 mm	-	1,75/2	**0,80-B**	**0,90**	0,35	0,90	1,00	0,90	0,75	0,65	**0,85-B**	**0,90**	0,45	0,95	0,90	0,90	0,80	0,70
PH5	5 mm	-	20/20	**0,30-D**	**0,50**	0,50	0,70	0,65	0,45	0,25	0,20	**0,35-D**	**0,50**	0,50	0,65	0,55	0,45	0,30	0,20
PH8	8 mm	-	20/20	**0,55-D**	**0,80**	0,35	0,85	1,00	0,75	0,55	0,40	**0,55-D**	**0,80**	0,65	0,95	0,85	0,80	0,55	0,40
PH8-F	8 mm	-	20/20	**0,60-C**	**0,85**	0,35	0,85	0,95	1,00	0,50	0,35	**0,60-C**	**0,85**	0,55	0,90	0,95	1,00	0,60	0,35
PH10	10 mm	-	20/20	**0,70-C**	**0,85**	0,35	0,85	1,00	0,90	0,70	0,55	**0,75-C**	**0,90**	0,65	1,00	0,90	0,85	0,75	0,60
PG5	5 mm	-	20/20	**0,25-E**	**0,40**	0,40	0,50	0,45	0,35	0,20	0,15	**0,30-D**	**0,40**	0,45	0,45	0,40	0,40	0,25	0,15
PG8	8 mm	-	20/20	**0,45-D**	**0,65**	0,40	0,85	0,80	0,60	0,40	0,30	**0,50-D**	**0,65**	0,55	0,75	0,70	0,65	0,40	0,35
PS2	3 mm	-	20/20	**0,20-E**	**0,50**	0,30	0,85	0,70	0,30	0,15	0,05	**0,25-E**	**0,45**	0,55	0,70	0,55	0,35	0,20	0,10
PD8	8 mm	-	10/10	**0,80-B**	**0,90**	0,30	0,80	1,00	0,95	0,75	0,65	**0,85-B**	**0,90**	0,65	1,00	0,95	0,90	0,80	0,70
SM5	5 mm	20 mm	20/20	**0,65-C**	**0,80**	0,30	0,75	1,00	0,80	0,60	0,50	**0,65-C**	**0,75**	0,50	0,75	0,80	0,75	0,65	0,50
SM8	8 mm	20 mm	20/20	**0,85-B**	**0,85**	0,30	0,75	1,00	0,90	0,80	0,70	**0,85-B**	**0,85**	0,50	0,80	0,90	0,85	0,85	0,75
SH5	5 mm	40 mm	20/30	**0,60-C**	**0,80**	0,35	0,80	1,00	0,80	0,60	0,45	**0,60-C**	**0,80**	0,65	0,95	0,85	0,80	0,60	0,45
SH8	8 mm	40 mm	20/30	**0,75-C**	**0,85**	0,35	0,80	1,00	0,95	0,70	0,60	**0,75-C**	**0,90**	0,65	1,00	0,95	0,90	0,75	0,60
SG5	5 mm	55 mm	20/30	**0,50-D**	**0,75**	0,35	0,90	0,95	0,70	0,50	0,35	**0,55-D**	**0,70**	0,55	0,85	0,80	0,70	0,50	0,40
SG8	8 mm	55 mm	20/30	**0,65-C**	**0,85**	0,35	0,90	1,05	0,85	0,55	0,50	**0,65-C**	**0,85**	0,55	1,00	0,90	0,85	0,60	0,55
SX5	5 mm	140 mm	20/60	**0,70-C**	**0,80**	0,35	0,75	0,95	0,80	0,65	0,55	**0,70-C**	**0,75**	0,50	0,80	0,80	0,75	0,65	0,55
SX8	8 mm	140 mm	20/60	**0,80-B**	**0,85**	0,30	0,75	1,00	0,90	0,75	0,70	**0,85-B**	**0,85**	0,50	0,80	0,90	0,85	0,80	0,70
RS5	5 mm	40 mm	20/30	**0,65-C**	**0,80**	0,35	0,70	0,95	0,80	0,65	0,50	**0,65-C**	**0,75**	0,50	0,75	0,80	0,75	0,65	0,50
RS8	8 mm	40 mm	40/30	**0,60-C**	**0,70**	0,35	0,70	0,85	0,70	0,55	0,45	**0,60-C**	**0,65**	0,45	0,70	0,70	0,65	0,55	0,45
QS	20 mm	190 mm	40/140	**0,50-D**	**0,65**	0,35	0,70	0,85	0,50	0,45	0,40	**0,75-C**	**0,75**	0,40	0,75	0,75	0,80	0,75	0,65
RP8-C10	8 mm	∞	10/40	**0,65-C**	**0,70**	0,40	0,75	0,80	0,65	0,60	0,60	**0,75-C**	**0,75**	0,40	0,75	0,80	0,80	0,70	0,65
RP8-C20	8 mm	∞	20/40	**0,60-C**	**0,70**	0,35	0,80	0,80	0,70	0,55	0,45	**0,65-C**	**0,70**	0,40	0,75	0,70	0,70	0,60	0,50
RP8-Bar	8 mm	∞	Barcode	**0,50-D**	**0,60**	0,40	0,70	0,70	0,60	0,45	0,35	**0,55-D**	**0,60**	0,40	0,70	0,65	0,60	0,50	0,40

GUSTAFS BF PANEL

A PANEL WITH MANY UNIQUE BENIFITS

Most of our products are based on a fibre gypsum board which has very good properties regarding both fire safety and acoustics. The panel is less sensitive to changes in temperature and humidity which in turn maintains the panels' linearity over time. All together, this unique combination contributes to a panel suited for applications not only in large areas but also in a wide variety of demanding situations.

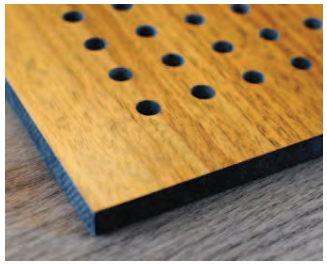


FIBRE GYPSUM BOARD

When constructing a cladding panel there are many requirements that steer the choice of component materials. Among our first demands were; a strictly plain surface, dimensional stability, fire retardation and acoustic characteristics. These demands effectively eliminate most traditional wood-based choices. However, a panel constructed of highly compressed fibre gypsum incorporates the properties needed to meet fire prevention demands and offers good acoustic characteristics while at the same time offers versatility and aesthetic charm.

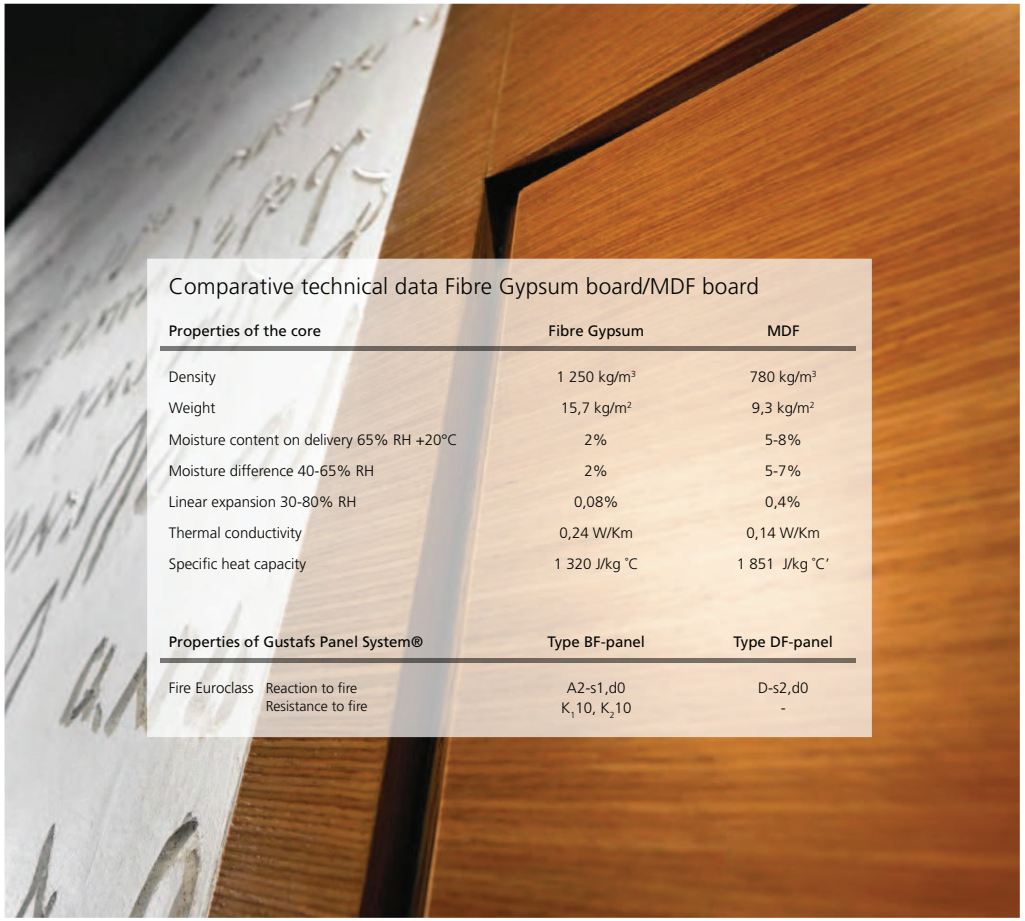
SOLID WOOD EDGING

Prior to veneering, a solid wood edging is integrated around the panel, disguising the core material. When the veneer is then applied it covers the wooden edge and effectively gives the panel the appearance of being entirely made of wood. This process contributes to the total strength of the panel making it more robust and ensures its dimensional characteristics.



DARK CORE

Using a dark core, the holes or slots in an acoustic panel will be less appearing in combination with dark veneers or paints. Unless the perforation pattern is a very important part of the design, "hiding" the holes is a great new aesthetic benefit that Gustafs can offer.
Gustafs recommends the use of a Dark Core for perforated acoustic panels with dark veneers like Walnut, Wenge, Mahogany, Teak or painted in dark colours.
For the lighter range of both veneers and paints we still recommend using the standard white core.



Comparative technical data Fibre Gypsum board/MDF board

Properties of the core	Fibre Gypsum	MDF
Density	1 250 kg/m³	780 kg/m³
Weight	15,7 kg/m²	9,3 kg/m²
Moisture content on delivery 65% RH +20°C	2%	5-8%
Moisture difference 40-65% RH	2%	5-7%
Linear expansion 30-80% RH	0,08%	0,4%
Thermal conductivity	0,24 W/Km	0,14 W/Km
Specific heat capacity	1 320 J/kg °C	1 851 J/kg °C'

Properties of Gustafs Panel System®		Type BF-panel	Type DF-panel
Fire Euroclass	Reaction to fire	A2-s1,d0	D-s2,d0
	Resistance to fire	$K_1$10, $K_2$10	-

STABILITY

Wood based panels will show bulging or shrinkage when humidity and temperature change. A fiber gypsum board is considerably less susceptible to these effects. Over time this will result in a planer and more linear surface.

SUSTAINABILITY

Using a fiber gypsum core naturally results in extremely low emissions and a very high rate of recycled content. Being located in Sweden gives us the opportunity to produce with renewable power sources only.

FIRE

The high density nonflammable core and the surface veneer's strongly bound adhesion to the fiber gypsum board makes our panels "non-flammable". Reaction to fire A2-s1,d0, resistance to fire $K_1$10/$K_2$10.

ENERGY SAVING

Due to the panel's high density and its low level of thermal conductivity, the material helps to maintain room temperatures at a constant and reduces the need for cooling or heating.

ACOUSTICS

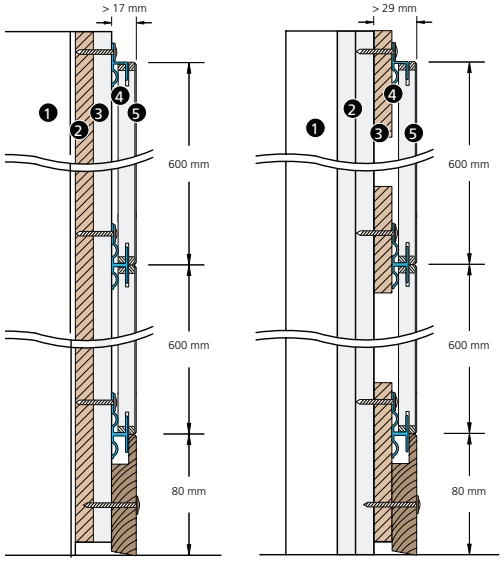
Acoustically, the use of innately heavy wall cladding is often favourable compared to lighter materials. Gustafs panels weighing 15 kg/m2 is roughly twice as heavy as most wood-based panel materials.

INSTALLATION
SIMPLE, FAST & PRECISE

Capax is the name of our unique installation system of aluminum profiles for walls and ceilings.
The profiles are strong and their torsional rigidity ensures the outmost lineal accuracy.
The range of Capax profiles accommodates both aesthetic and functional demands.
There are a variety of joints and connections to choose from. Special profile types disguise
cut edges and allow for panel cutting on site. Thus, panels can be ordered in standard sizes and then
adjusted on site to meet the actual dimensions, allowing for a more cost-effective installation.

WALL INSTALLATION

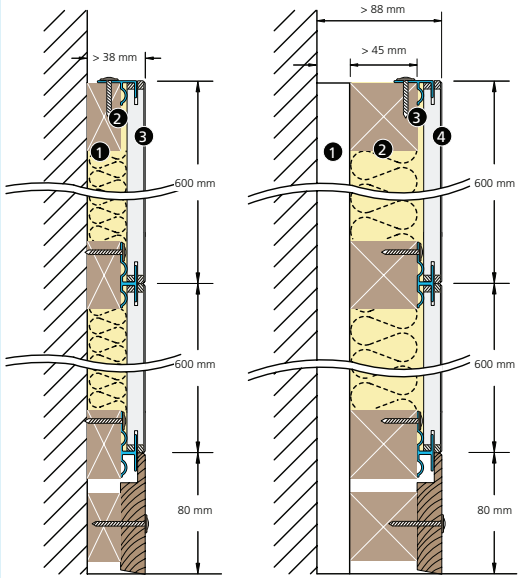
EXAMPLE WALL ASSEMBLY



1 Metal batten
2 12 mm Plywood n.b. board
3 12 mm Gypsum board
4 Capax profile
5 Gustafs panel

1 Metal batten
2 2x12 mm Gypsum board
3 12 mm Plywood strips
4 Capax profile
5 Gustafs panel

EXAMPLE ACOUSTIC SECTION



1 Battens and insulation
2 Capax profile
3 Gustafs panel

1 Battens and air space
2 Battens and insulation
3 Capax profile
4 Gustafs panel

PANEL EDGES

A SOLID WOOD EDGING

There are a variety of choices in terms of joints and edges on the panel, depending on how you want the final result to look and whether the panel should be demountable or fixed.
On the following pages you will find our various mounting options.
Our panels are equipped with a solid wood edging around the panel, disguising the core material. When the veneer or laminate is applied it is bonded with the wooden edge. This process also contributes to the total strength of the panel, giving it a box construction making it more robust and ensures its dimensional characteristics.

EXAMPLES OF JOINT POSSIBILITES

CLOSED JOINTS

6

Capax profile 3201

16

Capax profile 3217

11

Capax profile 3208

OPEN JOINTS - 10, 13 and 15 mm

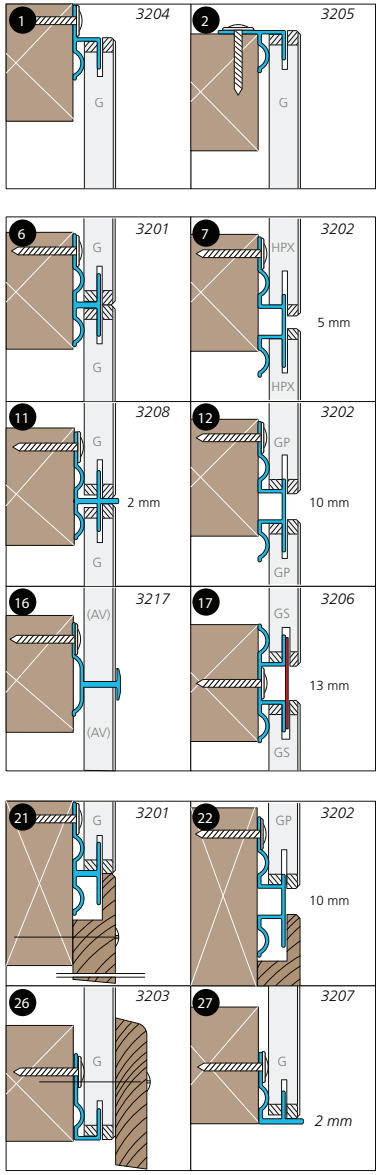
13

Capax profile 3202, 3212, 3211

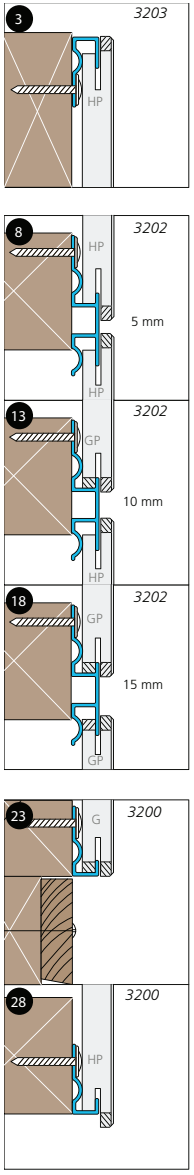
17

Capax profile 3206 with LED-line, diffuser lens and power supply

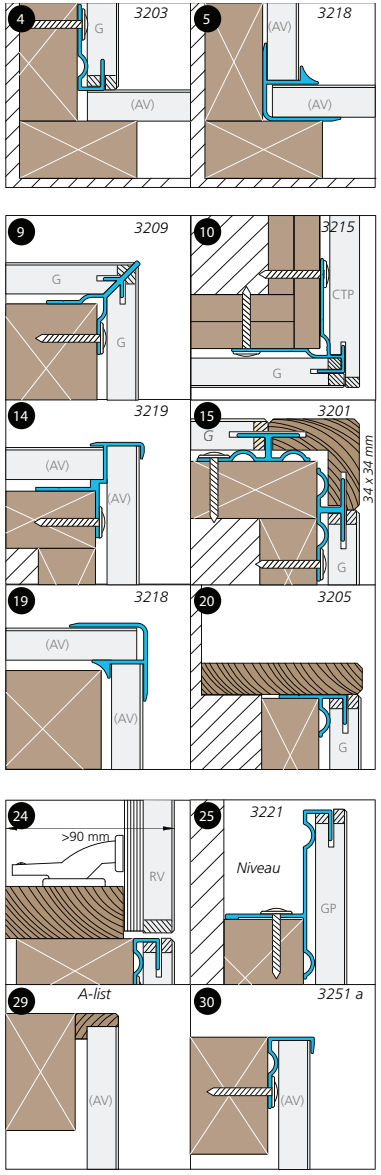
FIXED PANELS



DEMOUNTABLE PANELS



CORNERS AND EDGES



Edges = G, GP GF, GS, HP, HPX, RV, AV.

(X) Solution number for order

EXAMPLES OF JOINT POSSIBILITES

CORNERS

9

Capax profile 3209

14

Capax profile 3219

19

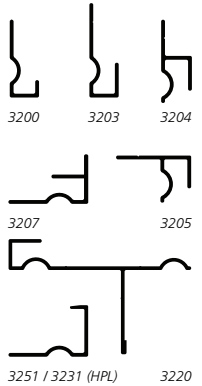
Capax profile 3218

15

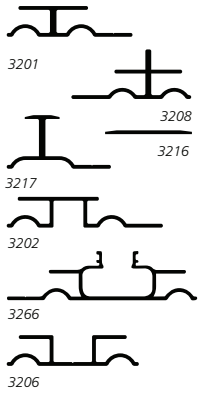
Capax profile 3201

CAPAX WALL

CAPAX WALL START & END



CAPAX WALL JOINTS



CAPAX WALL CORNERS