



WE  
MAKE  
FUTURE

## CBG Composite GmbH

innovative and modern  
environmentally friendly  
composite construction materials  
“made in Germany”

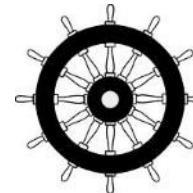
# Certifications and patents

Patented solutions in a certified quality environment



- Foundation of CBG Composites GmbH in 2014
- Broad product portfolio of composite materials for use in structural and civil engineering, dry construction, shipbuilding, mechanical engineering, etc.
- Worldwide export experience

- Quality management system DIN EN ISO 9001:2015
- Marine equipment 2014/90/EC Type examination: Module B, production quality assurance: Module D
- Registered trademarks: SeaPan®, FirePan®, FireCore® etc.



# Product portfolio

optimal composition of products of natural origin  
with meaningful depth of production



Basalt Rocks



Basalt Roving



Basalt fiber



Basalt fabric



Basalt grid



Mineral wool  
LifeRock®



Sandwich panels  
SeaPan®, FirePan®



1K non-combustible  
adhesives  
Cerammatrix



1K non-combustible  
adhesives  
Cerammatrix Carbo



Basalt rebar



Glass fleese adhesive  
CBG fako® 9119Xtra



Glass flees  
transparent adhesive  
CBG fako® 9119TG



Sealing tape  
CBG fako® 3714



Special polishing paste  
CBG fakopol®



Acryl glass cleaner  
CBG Plexiklar®



# Sustainability

from raw material up to recycling and circularity

**1.** Raw materials used by CBG products are almost 100% of natural origin: basalt roving, basalt ceramic laminates, basalt wool, water-based adhesives.

**5.** Almost 100% possible Recyclability of multiple products. Reusability and circularity of selected key products.



**2.** No technological processes which would be harmful to human health or the environment

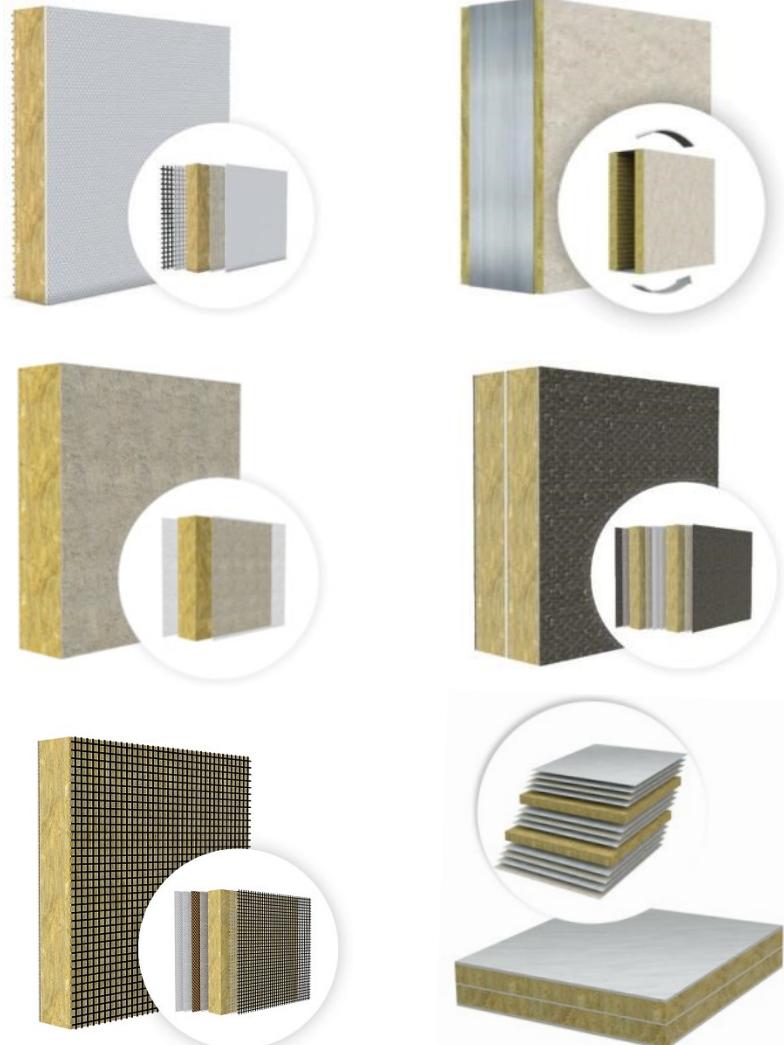
**3.** No finished products that would be classified as harmful to health or the environment. The company continuously maintains and updates relevant safety data sheets

**4.** No emergence of substances that are harmful to health or the environment during the use of the products. Positive CO<sub>2</sub> balance due to their thermal insulation properties

# Sandwich-Panels

Innovative and universal

- **100% natural, easily recyclable**
- **Non-toxic**
- **Non-combustible and non-flammable**
- **Highly thermally resilient over 1.300 °C**
- **No smoke developing in case of fire**
- **Sound insulation of up to 52 dB (depending on structure)**
- **Resistant to acids and alkalis**
- **Resistant to UV radiation**
- **Resistant to vibration**
- **Ultra-light and thin**
- **Weight and thickness reduction compared to products with the same requirements**
- **Mechanically resilient thanks to sandwich construction**
- **Easy and time-saving installation due to bridge-free tongue-and-groove technology**
- **Processable with standard tool**



# Product properties

ultra-light, dimensionally stable, universal

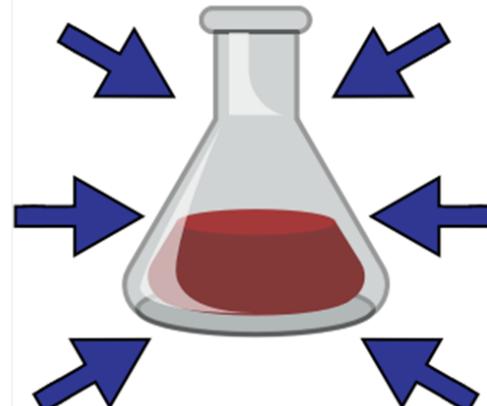
Products of CBG-Composites GmbH are based on the use of endothermic technologies, protected by patented processes and constructive solutions

EXOTHERMIC



RELEASE  
OF THERMAL ENERGY

ENDOTHERMIC



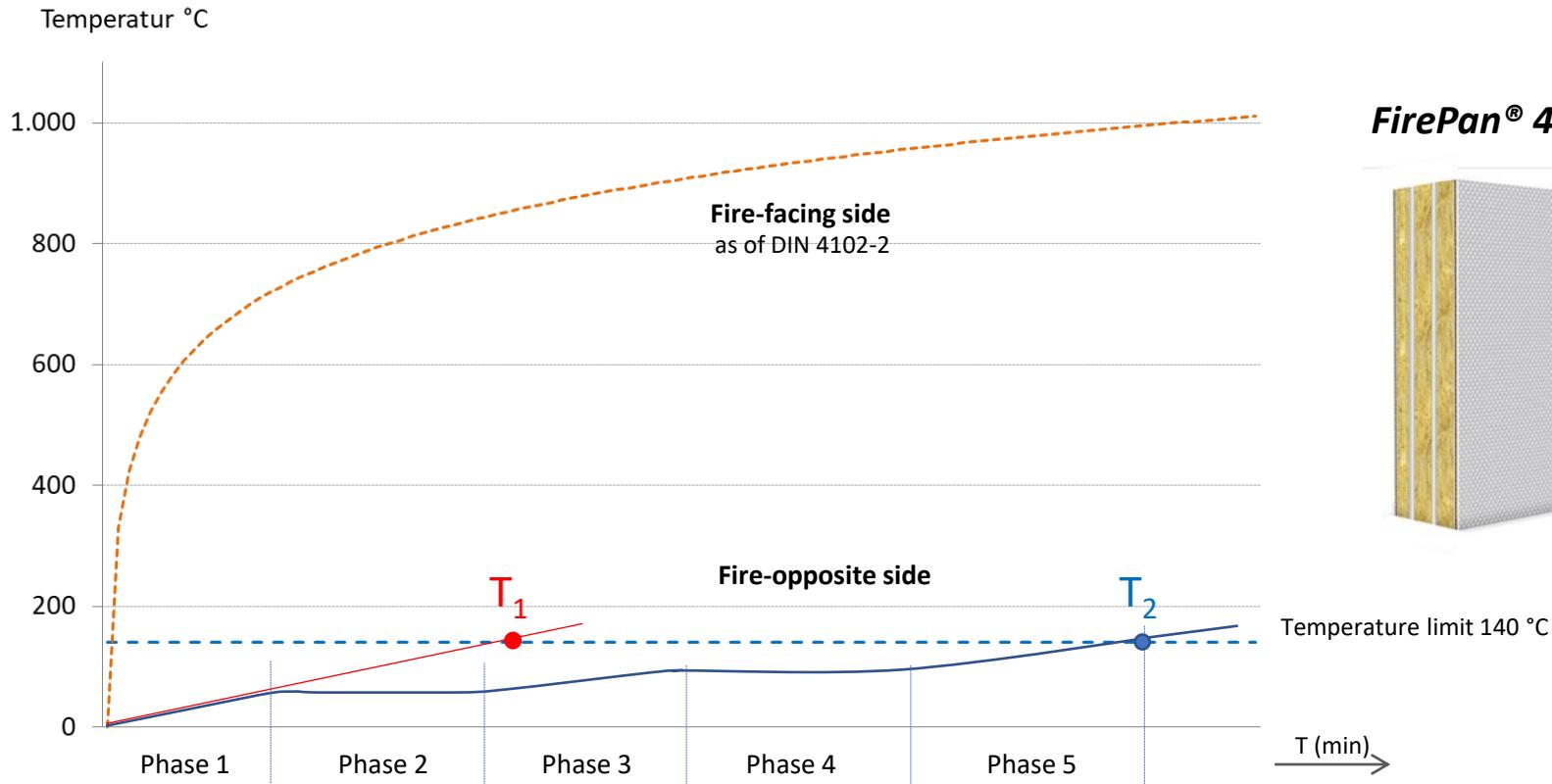
ABSORPTION  
OF THERMAL ENERGY



# Product properties

ultra-light, dimensionally stable, universal

## Endothermic: function and result



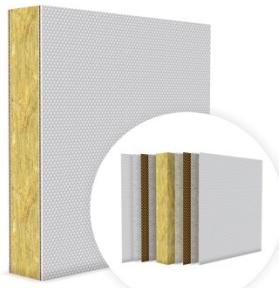
**FirePan® 40/90.3**



# Product properties overview

Unique composite solutions for ship building

## Wall partition panel



### SeaPan WP 25/15

- 25 mm
- A-30
- **7,8 kg/m<sup>2</sup> only!**

## Wall partition panel

### SeaPan WP 50/60

- 50 mm
- A-60
- **14,0 kg/m<sup>2</sup> only!**

## BRILLIANT PROPERTIES OF BRILLIANT PRODUCTS

- ✓ 100% natural
- ✓ non-combustible
- ✓ not glimmering
- ✓ not smoke developing
- ✓ heat insulating
- ✓ sound insulating
- ✓ ultra light
- ✓ mechanically resilient
- ✓ moisture-resistant
- ✓ vibration-absorbing
- ✓ corrosion-resistant
- ✓ chemically neutral
- ✓ easy workable
- ✓ recyclable

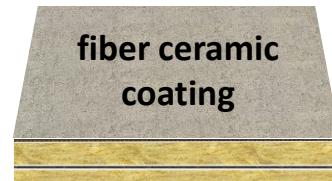
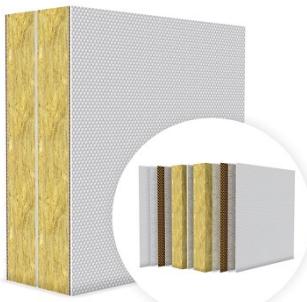


## Furniture and thin wall partition panels



### SeaPan WP 25/G

- 25 mm
- B-15
- **7,3 kg/m<sup>2</sup> only!**



### Floating floor panels SeaPan FF 30/60

- 30 mm
- A-60
- **12,5 kg/m<sup>2</sup> only!**
- 30 mm
- A-60
- **24,9 kg/m<sup>2</sup> only!**



# Product properties overview

## SeaPan Family (extract)

Characteristics	SeaPan	SeaPan	SeaPan	SeaPan	SeaPan	SeaPan	SeaPan	SeaPan	SeaPan
	WP 15G	WP 15/15	WP 25/15	WP 25 G	WP 30/60	WP 50/60	DP 40-15	FF 30/60	SilencePan 28 G
Type of application	Wall partition	Wall partition	Wall partition	Wall partition	Wall partition	Wall partition	Ceiling panel	Floating floor	Wall partition
Surface weight, [kg/m <sup>2</sup> ] at max. moisture content of 4%,	5,25 ± 0,5	5,7 ± 0,5	7,8 ± 0,5	7,3 ± 0,5	12,4 ± 1,2	14,0 ± 1,2	10,3 ± 0,5	12,5 ± 0,5	9,8 ± 0,5
Total thickness, [mm]	15 ± 0,5	15 ± 0,5	25 ± 0,5	25 ± 0,5	30 ± 0,5	50 ± 0,5	40 ± 0,5	30 ± 0,5	26 ± 0,5
Sound insulation according to DIN EN ISO 10140-2 (Rw), [db]	43 (Cabin to Cabin)			45 (Cabin to Cabin)					50,5 (Cabin to Cabin)
Compression strength according to EN 826, [kPa]	100 ± 10	100 ± 10	100 ± 10	100 ± 10	100 ± 10	100 ± 10	100 ± 10	100 ± 10	100 ± 10
Tensile according to EN 1607, [kPa]	30 ± 5	30 ± 5	30 ± 5	30 ± 5	30 ± 5	30 ± 5	30 ± 5	30 ± 5	30 ± 5
Temperature resistance, [°C]	>1.100°C	>1.100°C	>1.100°C	>1.100°C	>1.100°C	>1.100°C	>1.100°C	>1.100°C	>1.100°C
Fire classification acc. to IMO 2010 FTP Code	B-15	B-15	A-30	B-15	A-60	A-60	B-15 <sup>1)</sup> A-30 <sup>2)</sup>	A-60	B-15
Inorganic Fraction [%]	ca. 99	ca. 99	ca. 99	ca. 99	ca. 99	ca. 99	ca. 99	ca. 99	ca. 99
Width, trimmed, max., [mm]	1.200 ± 1	1.200 ± 1	1.200 ± 1	1.200 ± 1	1.200 ± 1	1.200 ± 1	1.200 ± 1	1.200 ± 1	1.200 ± 1
Length, trimmed, max., [mm]	2.980 ± 2	2.980 ± 2	2.980 ± 2	2.980 ± 2	2.980 ± 2	2.980 ± 2	2.980 ± 2	2.980 ± 2	2.980 ± 2

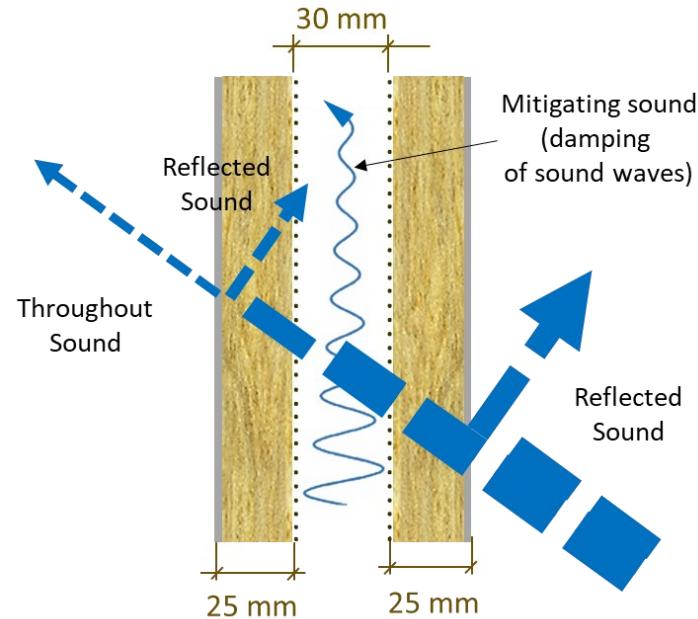
\* - Listed data can be modified

**Saving of weight up to 1,5 – 2 times in comparison with conventional materials!**

# Product properties

Sound insulation: "Cabin-to-Cabin"

## How does it work?

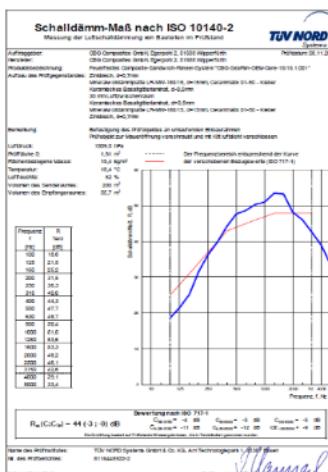
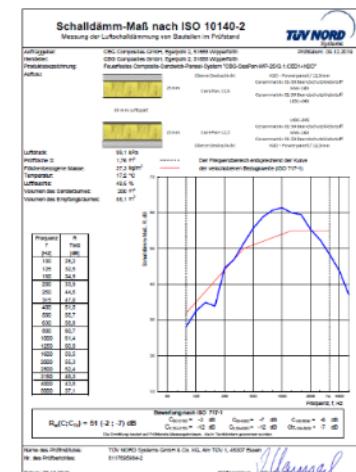
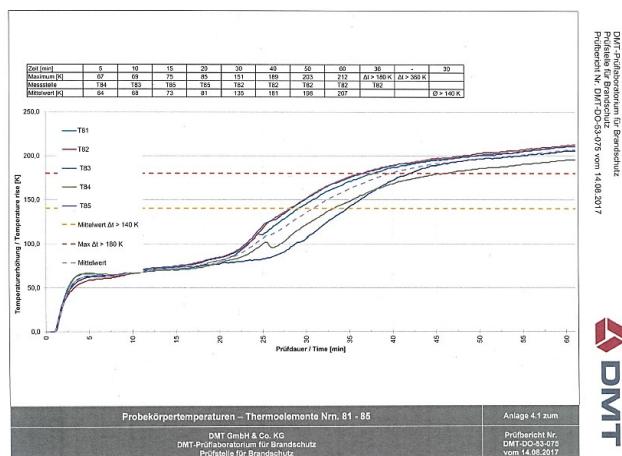
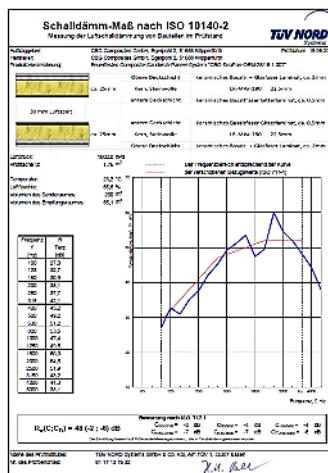
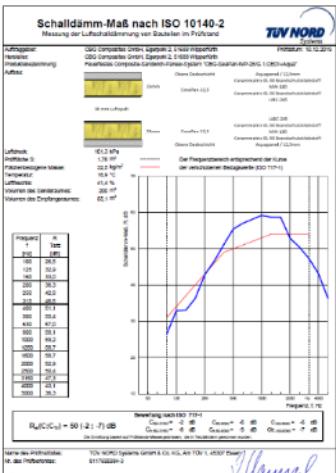


„cabin-to-cabin“ solution  
in shipbuilding

$R_w =$   
**> 51!**  
dB

# Tests and Certificates

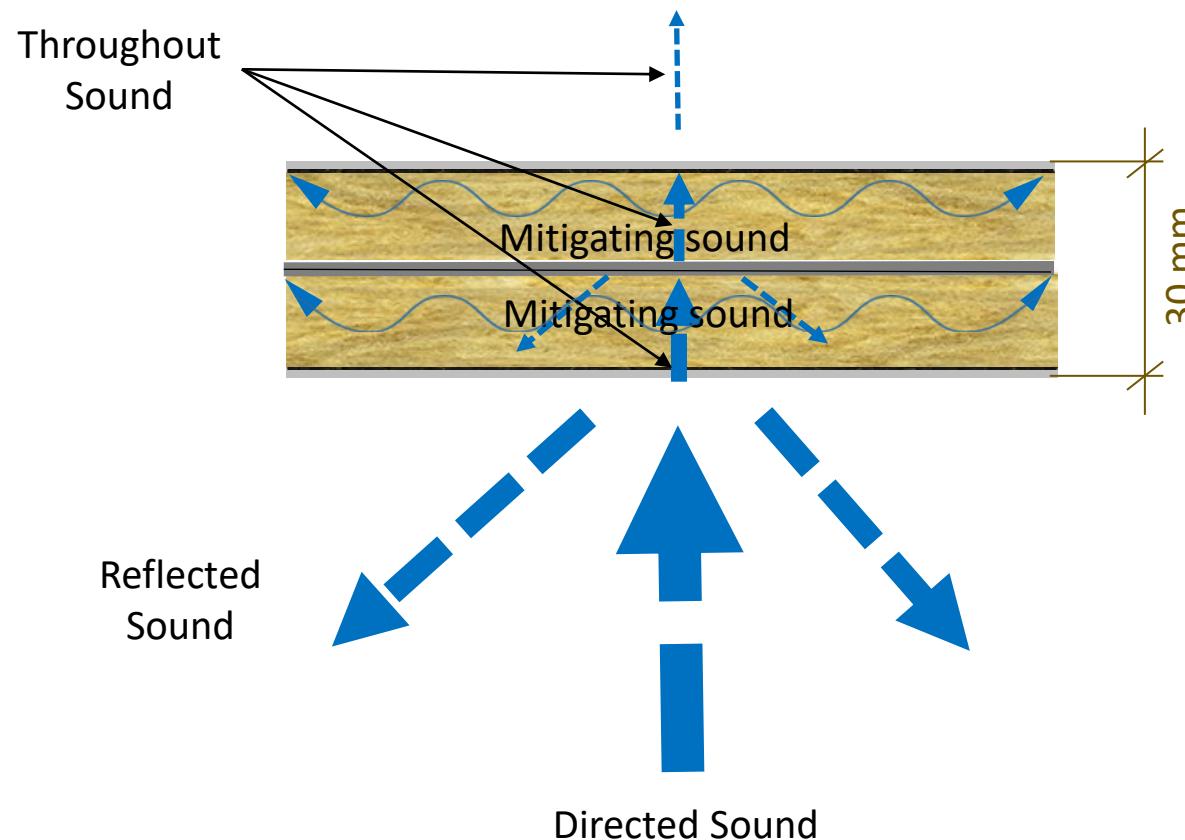
## Non-combustibility, sound and heat insulation



# SeaPan FF 30/60

Crevasse-free floating floor sound insulating system

Dense layers reflect and fibrous layers absorb sound wave energy. The penetrating probability of the CBG panels by low to medium level sound waves is significantly reduced.

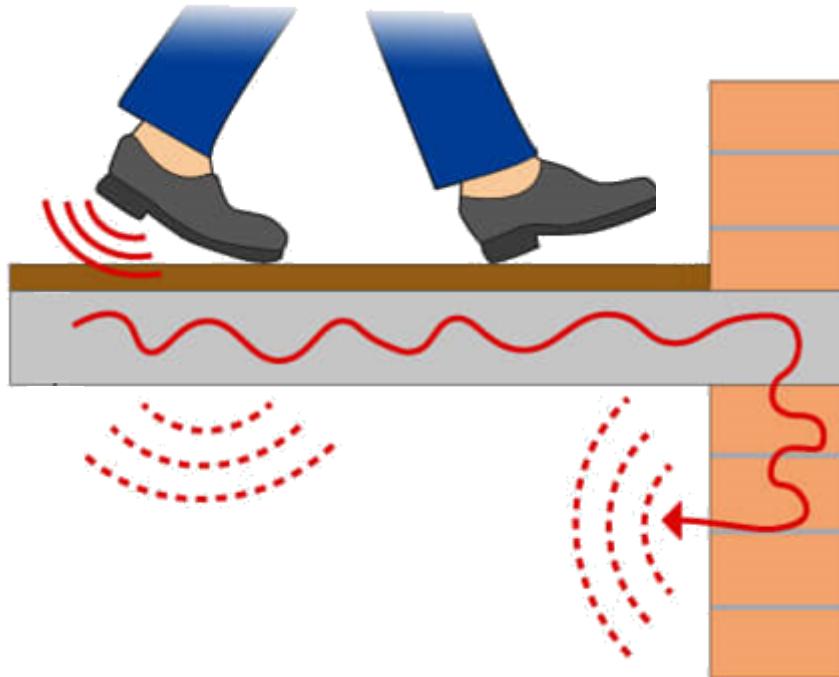


$R_w =$   
**> 34**  
 dB

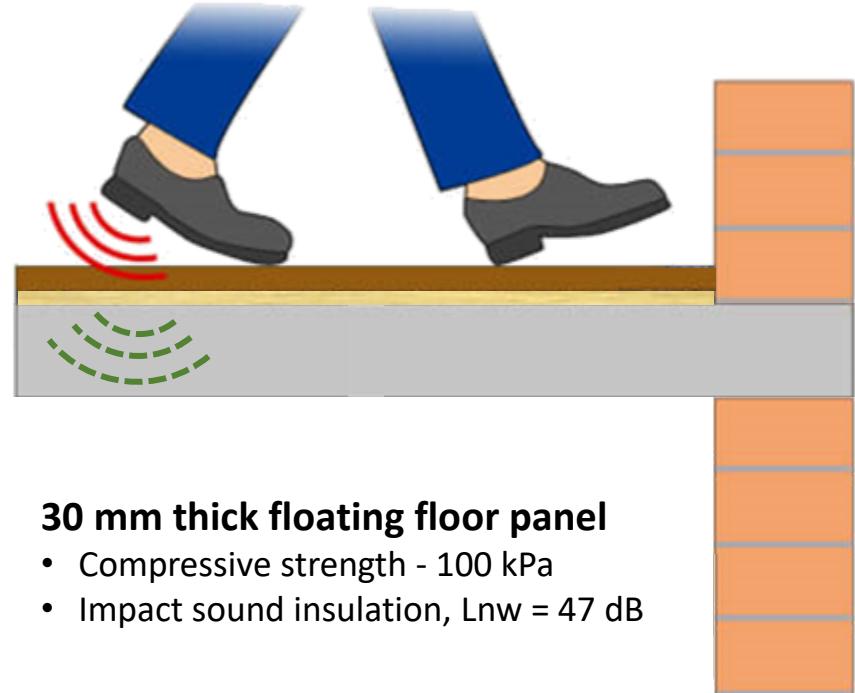
# SeaPan FF 30/60

Impact sound insulation approach

**Uninsulated**



**Insulated**



## 30 mm thick floating floor panel

- Compressive strength - 100 kPa
- Impact sound insulation,  $L_{nw} = 47 \text{ dB}$

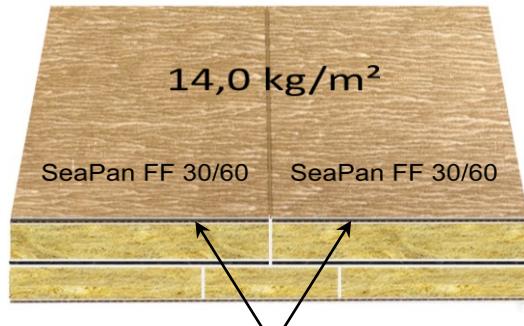
# SeaPan FF 30/60

## Design variants

### Variant 1:

#### CBG TopSkin covering

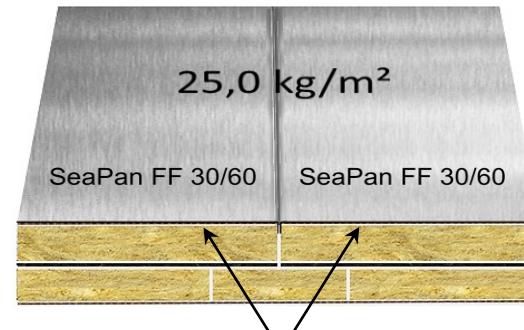
Individual panels are placed on a steel structure or, if necessary, on a suitable leveling screed layer, glued to each other and to the mounting strips using CBG Cerammatrix 1-50 adhesive and, if necessary, additionally laminated with Rebar-Ceramic-Glaze Laminate CBG TopSkin .



### Variant 2:

#### Steel plate covering

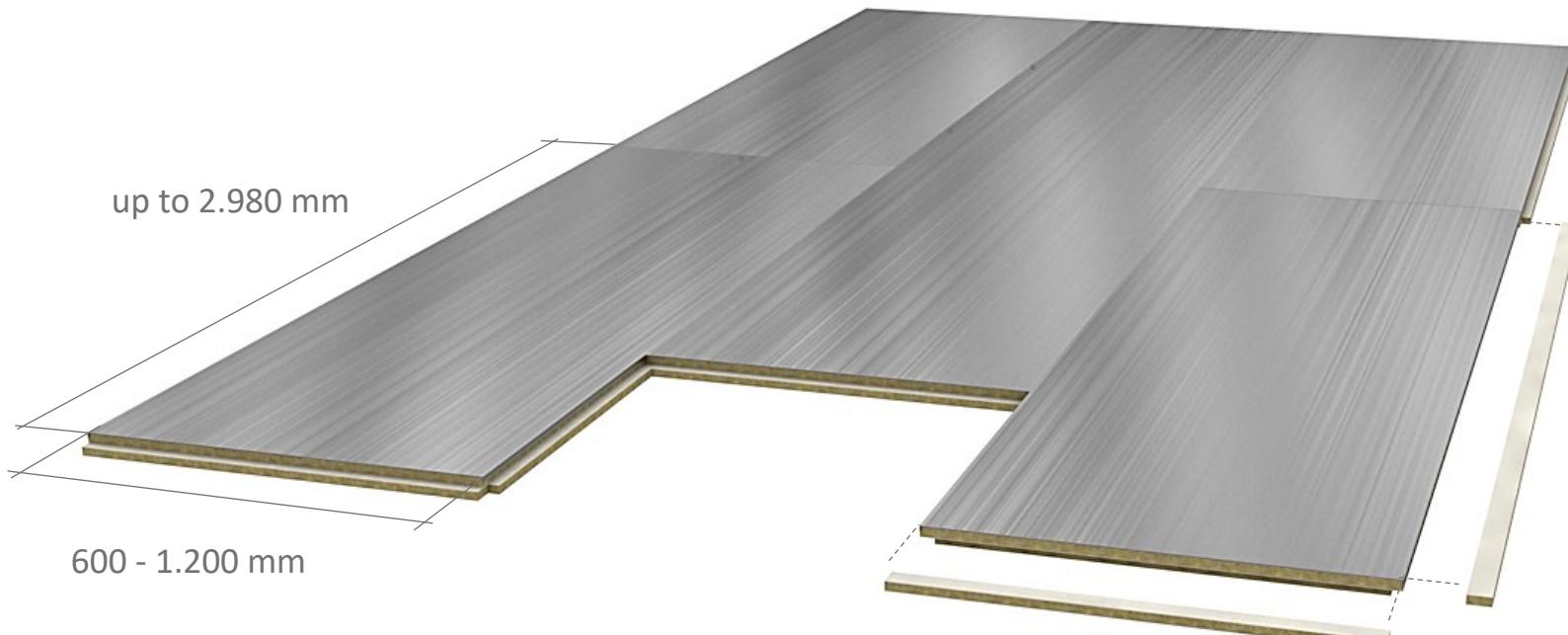
Individual panels are placed on a steel structure or, if necessary, on a suitable leveling screed layer, glued to each other and to the mounting strips using CBG Cerammatrix 1-50 adhesive and, if necessary, additionally laminated with sheet steel (1-2 mm).



# SeaPan FF 30/60

Light and save

Floating floor panels coated with 1,5 mm sheet steel are placed on a leveling screed layer in combination with underlay strips and glued to each other using the adhesive CBG Cerammatrix 1-50 (non-combustible one-component adhesive with endothermic effect). If necessary, the individual plates are fixed to one another with welding points at suitable intervals.

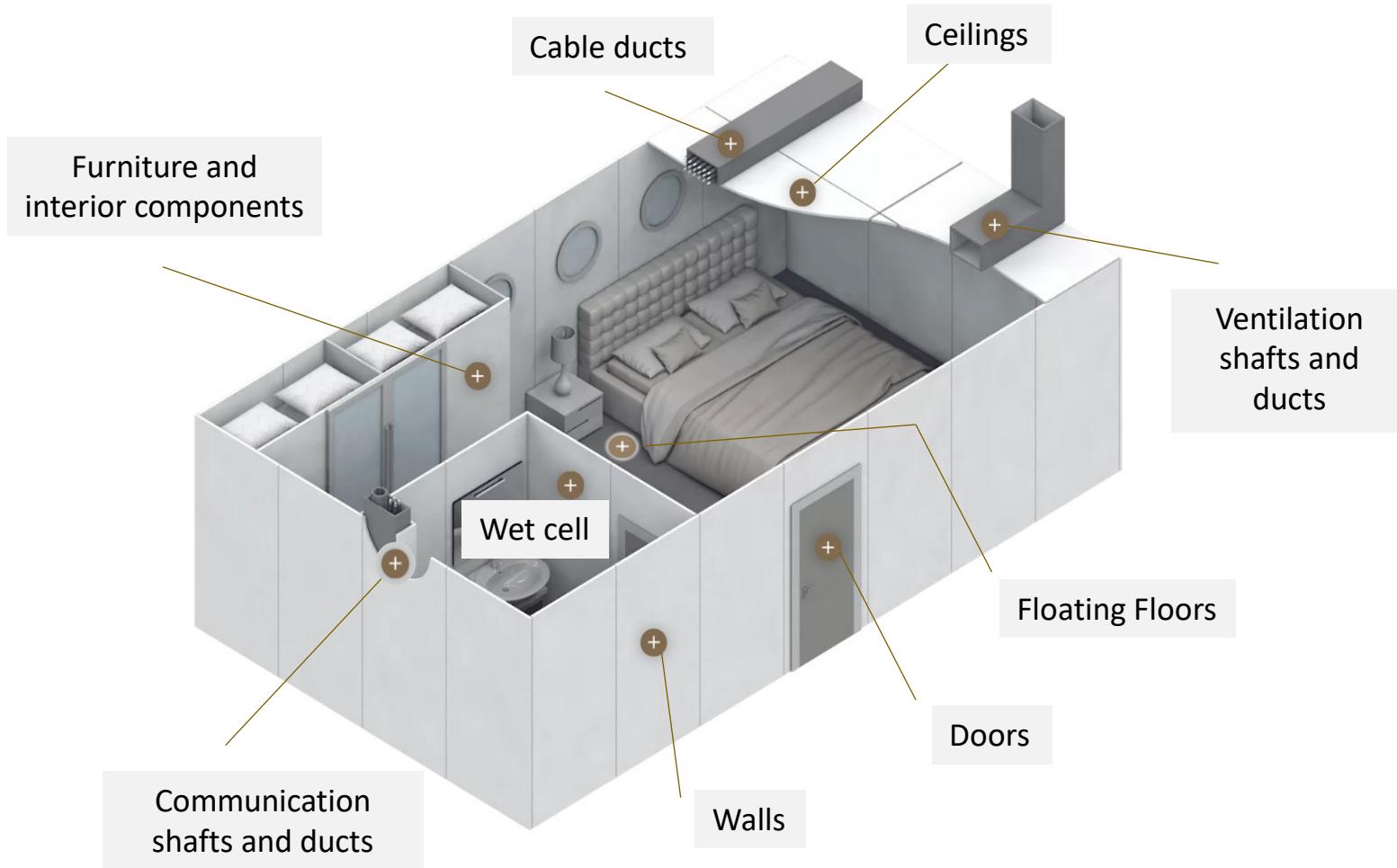


steel sheet thickness (mm)	deflection (mm)
1,0	1,6
1,5	1,5
2,0	1,3

Deflection of 900 mm wide panels with a central point load of 100 kg (980 N):  
("Shoe contact surface" with a diameter of 60 mm)

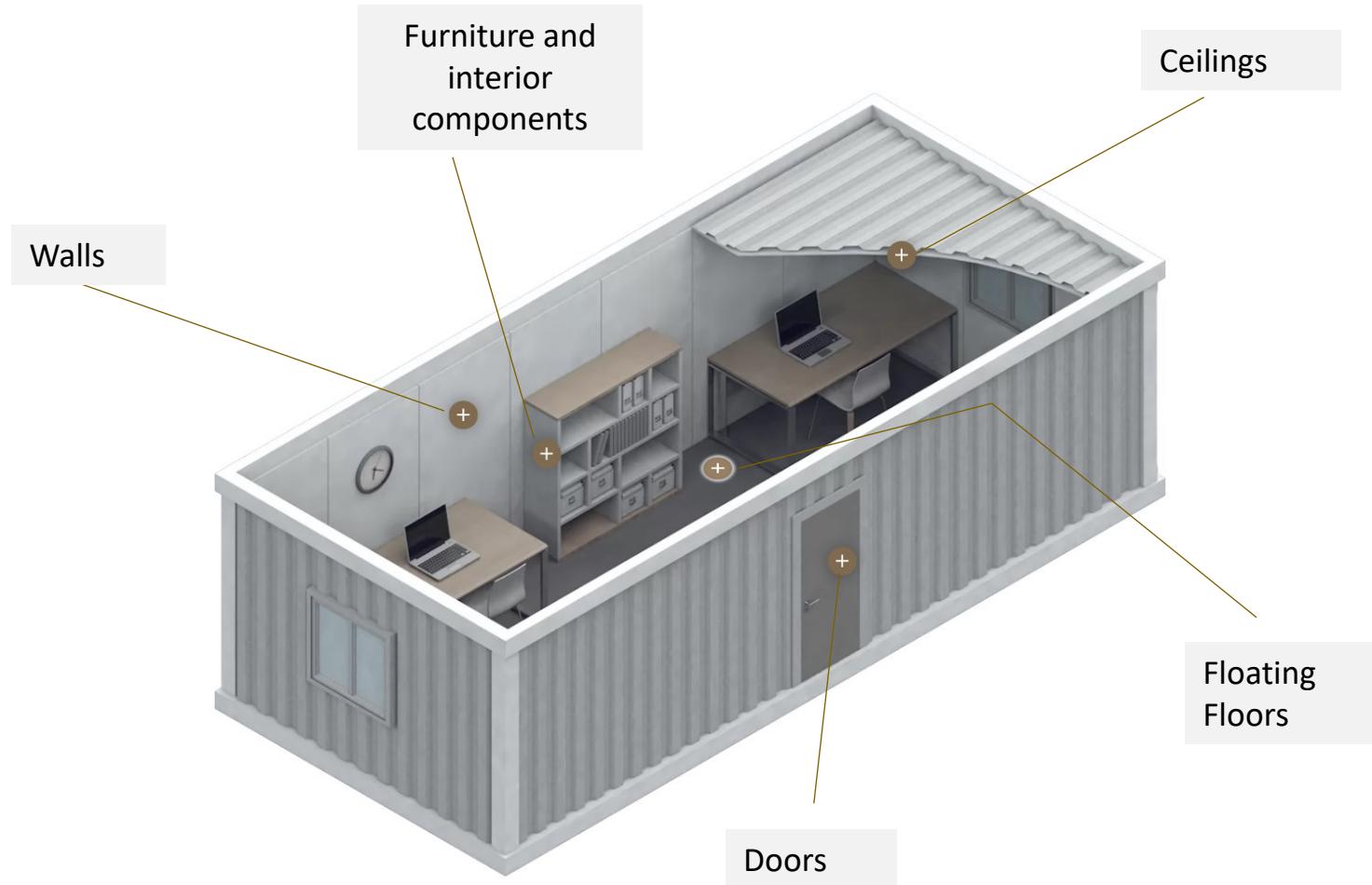
# Possible Applications

## Ship building



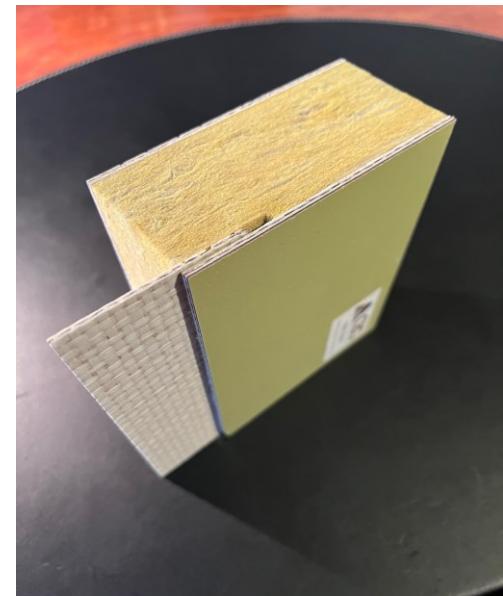
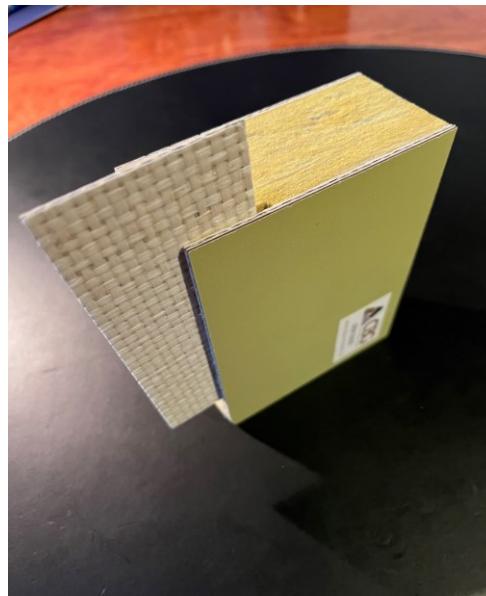
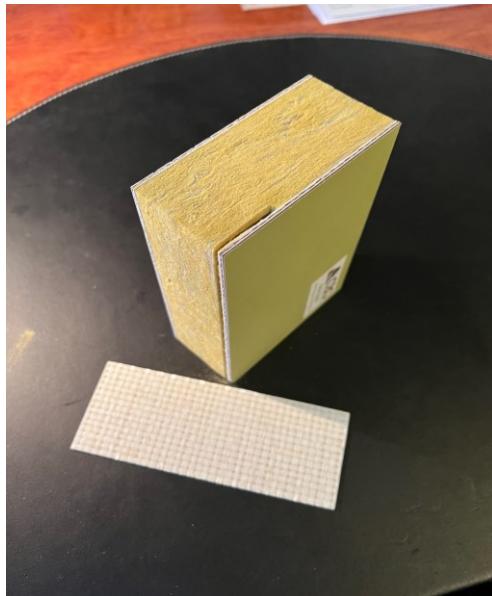
# Possible Applications

## Container Construction



# Product features

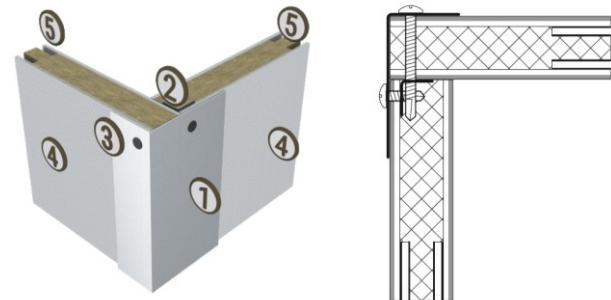
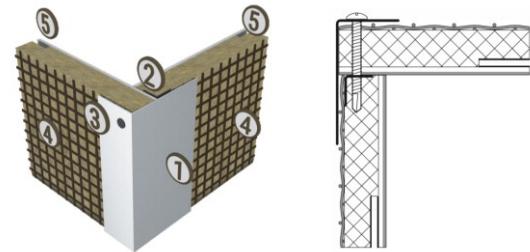
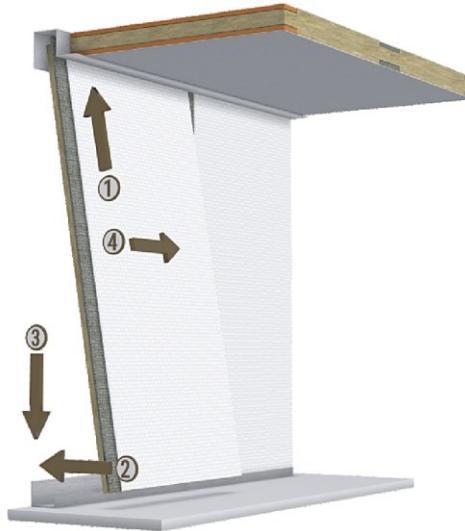
## How to connect



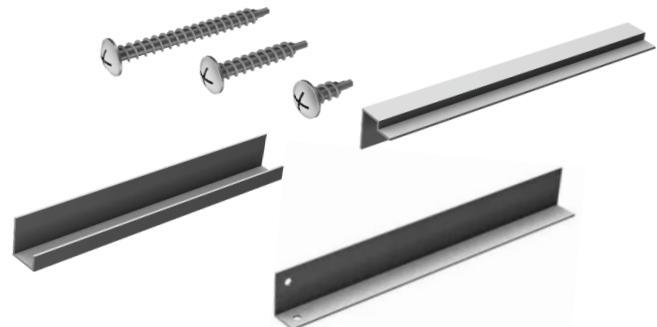
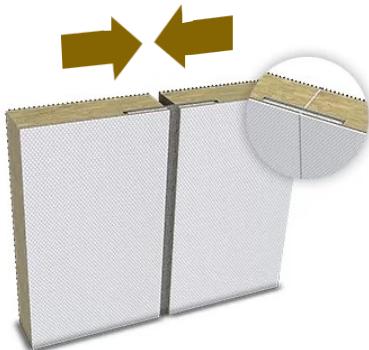
CBG-Technology: composite, non-combustible **connecting tongue** made from  
ceramic basalt fibre and glass laminate  
2 mm x 30 mm x max 2.980 mm

# Product features

## How to connect

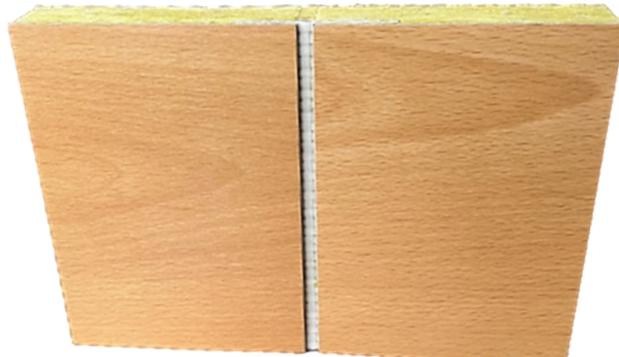
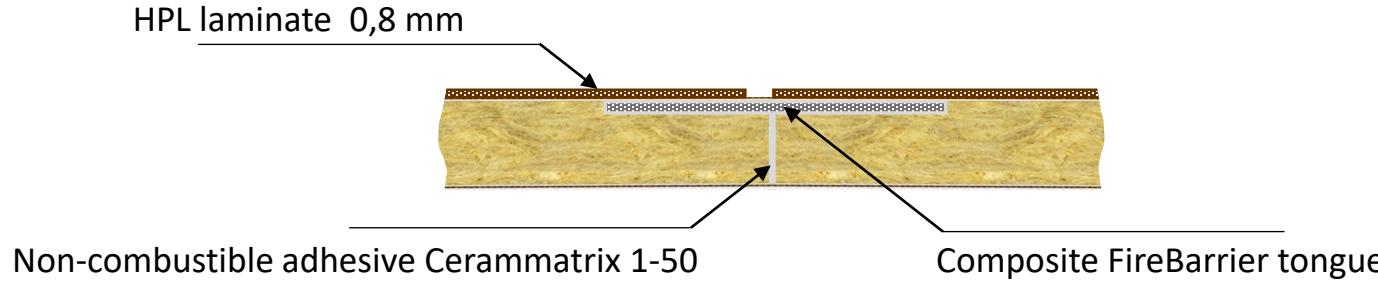


tongue-and-groove connection



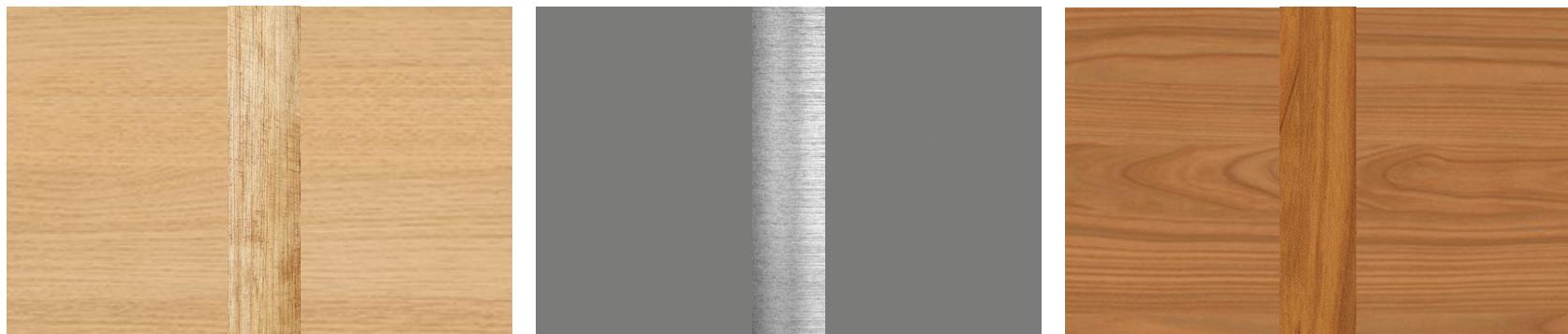
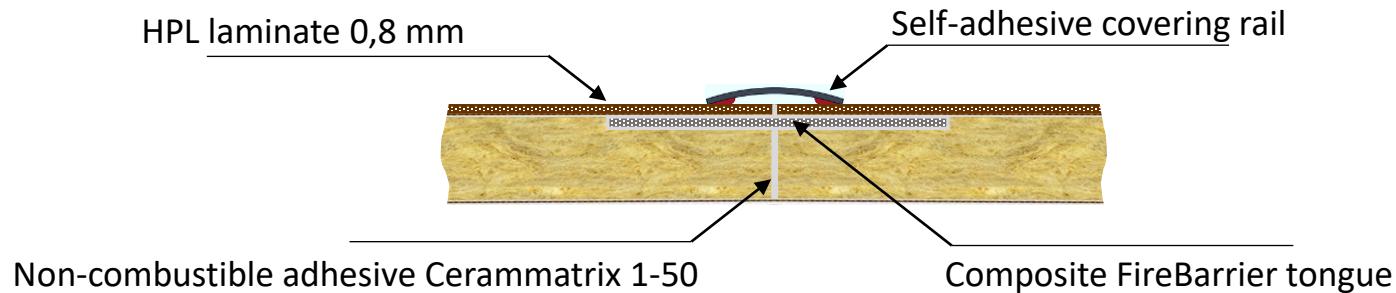
# Product properties

## Design ideas



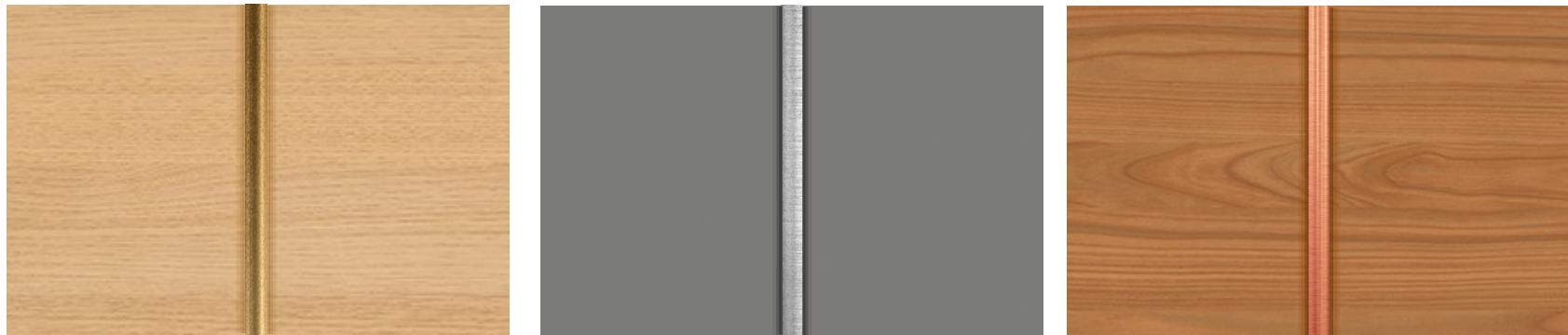
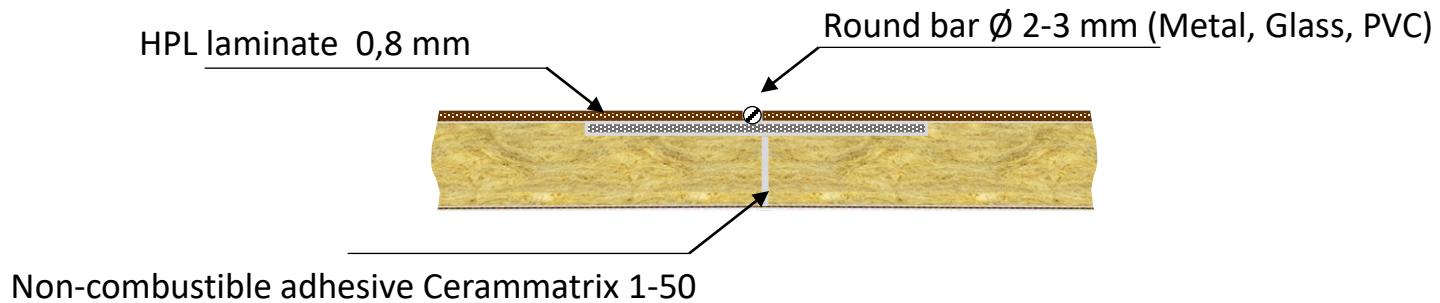
# Product properties

## Design ideas



# Product properties

## Design ideas



# Product line fako®

Top products for the care of acrylic and plexiglass

**Acrylic glass - excellent properties and universal applicability**



Acrylic glass is a noble material with a variety of special and good properties. With practical, such. B. resistance to breakage, resistance to aging and light transmission, with aesthetics such as brilliance and beauty of the surface. Acrylic glass is therefore a valuable material that requires constant and good care. Zwei Eigenschaften sind im Vergleich zu Silikatglas bei der Wartung und Reinigung von Acrylglass besonders zu berücksichtigen:

1. the lower surface hardness and therefore greater scratch sensitivity of acrylic glass,
2. the sensitivity of acrylic glass to solvents, especially organic ones.

Cleaning may therefore only be carried out with the maintenance materials tested and recommended by the manufacturer. The care set contains everything that is necessary for the correct cleaning and maintenance of acrylic glass.



# Product line fako®

Top products for the care of acrylic and plexiglass



**CBG fakopol® 9303** - Care and sealing agent for products made of acrylic glass (Plexiglas) with antistatic and cleaning properties for polishing wiping scratches and areas that have become dull.



**CBG fako® Plexiklar 9322** - Special cleaning and polishing agent optimally adjusted to the properties of acrylic glasses and plastics. It removes light scuffs and dirt. Gives Plexiglas optimal protection and dust-repellent properties. Matt acrylic glasses become clear again, removes light scratches and marks, cleans and cares with dust-repellent properties



**CBG fako® 9133 Spezialpflegetuch** - antistatic polishing cloth made of soft, lint-free glove material for excellent cleaning and residue-free polishing of the most sensitive surfaces. Dimensionally stable, durable. Thanks to hard-wearing cotton quality, washable up to 40 °C, biodegradable. 100% cotton.



# Produktlinie fako®

## gluing and sealing



**CBG fako® 9119 Xtra** - Thixotropic, solvent-free, white-drying glass fleece 1K adhesive, with high elasticity and initial adhesion and short drying time. Bonding of glass fabric on mineral wool in the pipe and surface area, bonding on sheet metal, as well as for the production of a glass fabric cover on rubber products (e.g. Armaflex). The adhesive can be used on all stable surfaces such as plaster, plasterboard and concrete or on metal.



**CBG fako® 9119 TG** - Transparent Glass Fleece Adhesive 9119 TG is a thixotropic, solvent-free, single-component plastic dispersion adhesive that is characterized by high elasticity and initial adhesion as well as a short drying time. It is suitable for bonding glass fabric to mineral wool in pipe and surface areas, bonding to sheet metal, and for producing a glass fabric cover on rubber products (e.g. Armaflex). The adhesive can be used on all stable surfaces, such as plaster, plasterboard and concrete or on metals.



**CBG fako® 3714** - Single-sided adhesive, flexible butyl sealing tape, consisting of highly elastic, synthetic caoutchouc with a soft rubber-like quality, adheres without heating. The butyl sealing tape is pushed apart by the contact pressure, but due to its elasticity and plastic behavior it penetrates into the smallest of gaps and unevenness and thus seals optimally. It can be drawn out by hand into wafer-thin films. Even high contact pressure is not able to destroy this film. Available in widths from 10 to 100mm and in thicknesses from 1 to 3mm



# Research and product development

Innovation and sustainability



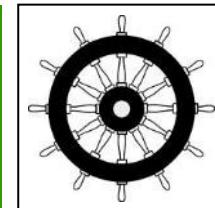
- Together with a wide range of international partners from industry and research, CBG Composites GmbH works on constant optimization and development of its products
- 9 utility models (patents), 10 brand names, 9 MED Module D certificates form the basis of our individuality and technological leadership

**... if you want to be leader, keep running!**





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Made in Germany



Patent inside

... Fire protection - safe and light...

Disclaimer: The presented pictures and listed applications are intended as a reference and examples and are therefore not relevant for liability. Original products and applications may deviate in individual cases. Errors and omissions are excepted.