



WE  
MAKE  
FUTURE

## CBG Composite GmbH

innovative and modern  
environmentally friendly  
composite construction materials

“made in Germany”

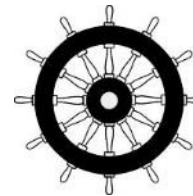
# Certifications and patents

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



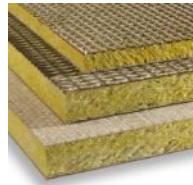
Basalt fabric



Basalt grid



Mineral wool  
**LifeRock®**



Sandwich panels  
**SeaPan®, FirePan®**



1K non-combustible  
adhesives  
**Ceramatrix**



1K non-combustible  
adhesives  
**Ceramatrix 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.



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

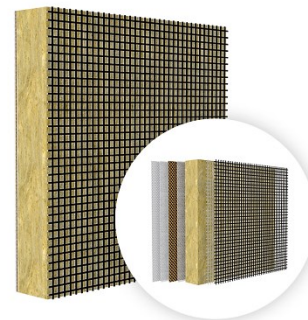
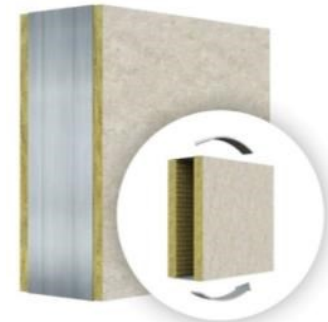
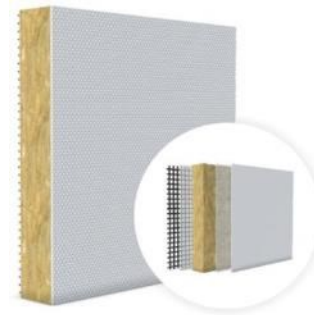
No finished products that would be classified as **3.** harmful to health or the environment. The company continuously maintains and updates relevant safety data sheets

**4.** No emergence of substances that are harmful to health or the environment during the use of the products. Positive CO2 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**

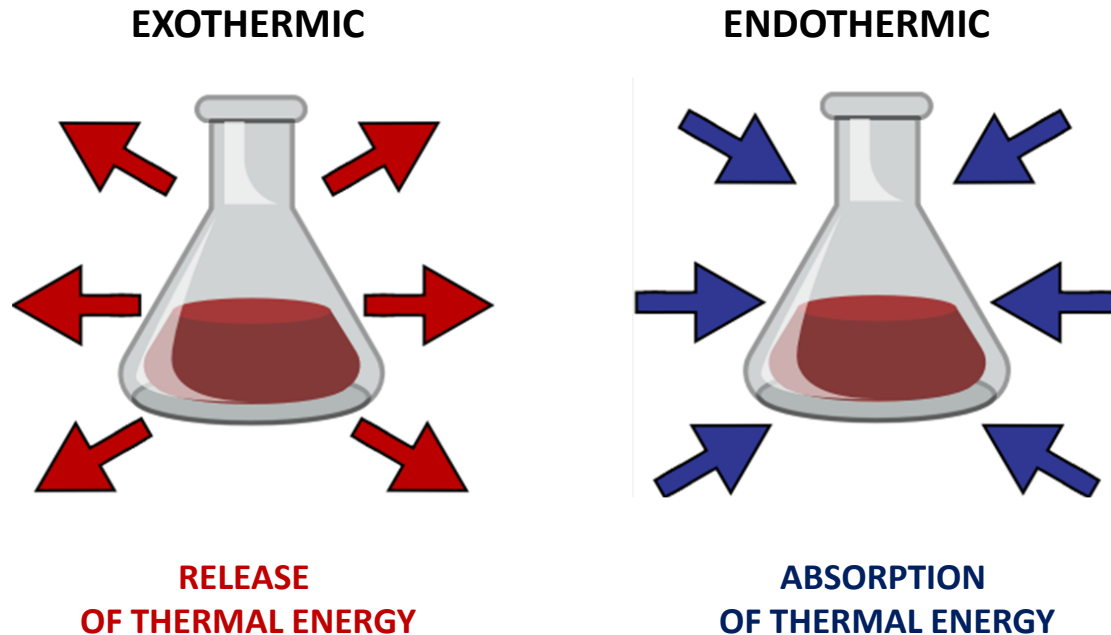




# Product properties

ultra-light, dimensionally stable, universal

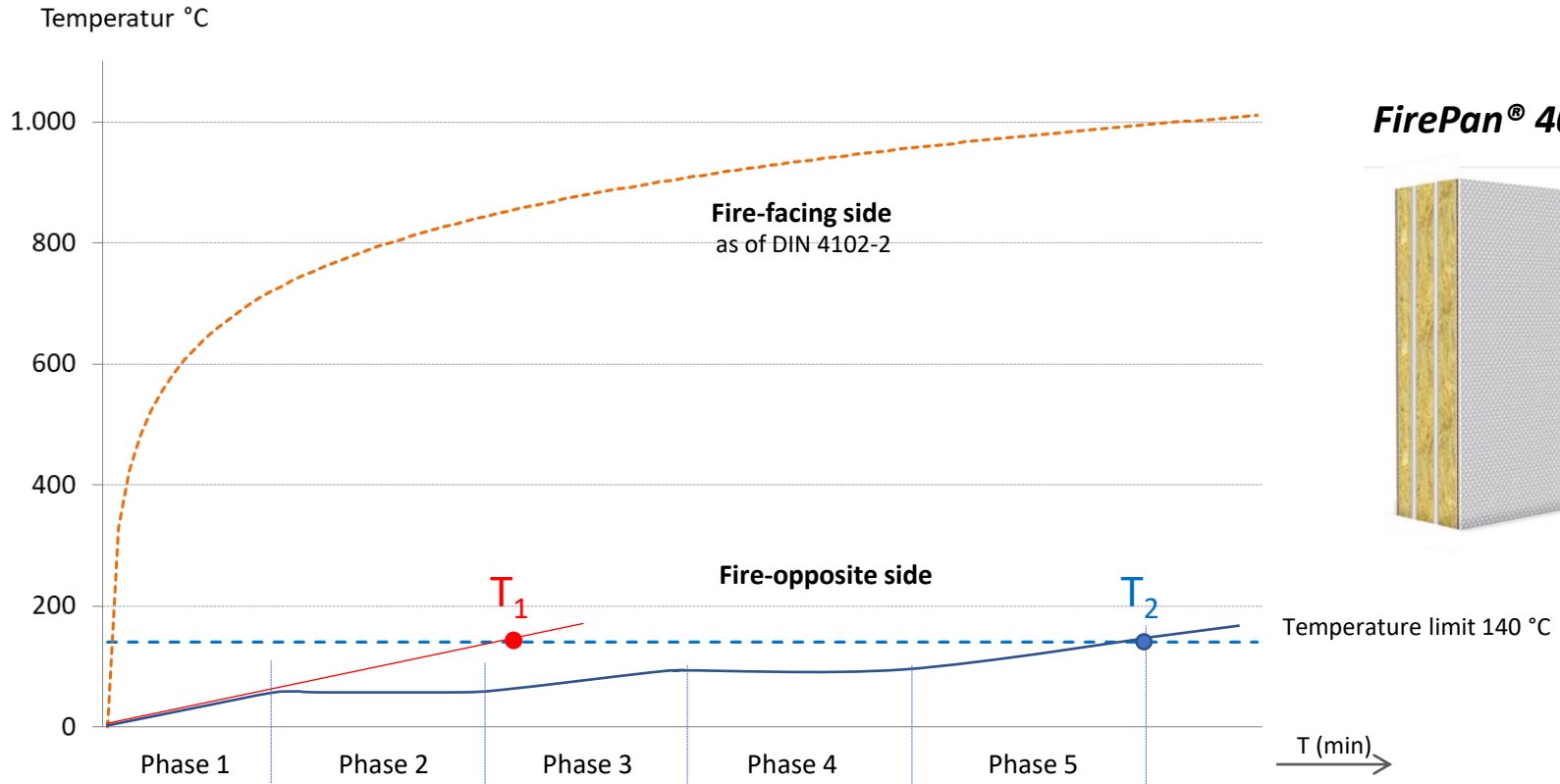
Products of CBG-Composites GmbH are based on the use of endothermic technologies, protected by patented processes and constructive solutions



# Product properties

ultra-light, dimensionally stable, universal

## Endothermic: function and result



**FirePan® 40/90.3**



$$T_2 > T_1$$



**ultra-light, thin and fireresistant products!!!**



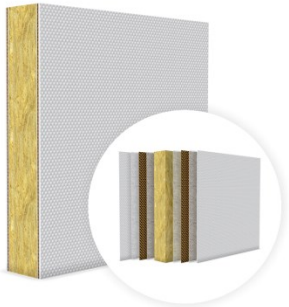
# Product properties overview

Unique composite solutions for ship building

## BRILLIANT PROPERTIES OF BRILLIANT PRODUCTS



### Wall partition panel



#### SeaPan WP 25/15

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

- ✓ 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

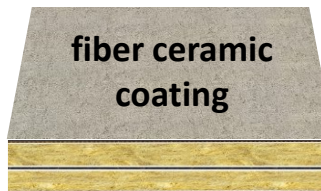
- 25 mm
- B-15
- **7,3 kg/m<sup>2</sup> only!**

### Wall partition panel



#### SeaPan WP 50/60

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



fiber ceramic  
coating



steel coating

#### 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 WP 15G	SeaPan WP 15/15	MED SeaPan WP 25/15	SeaPan WP 25 G	SeaPan WP 30/60	MED SeaPan WP 50/60	SeaPan DP 40-15	MED SeaPan FF 30/60	SeaPan 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 (R <sub>w</sub> ), [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

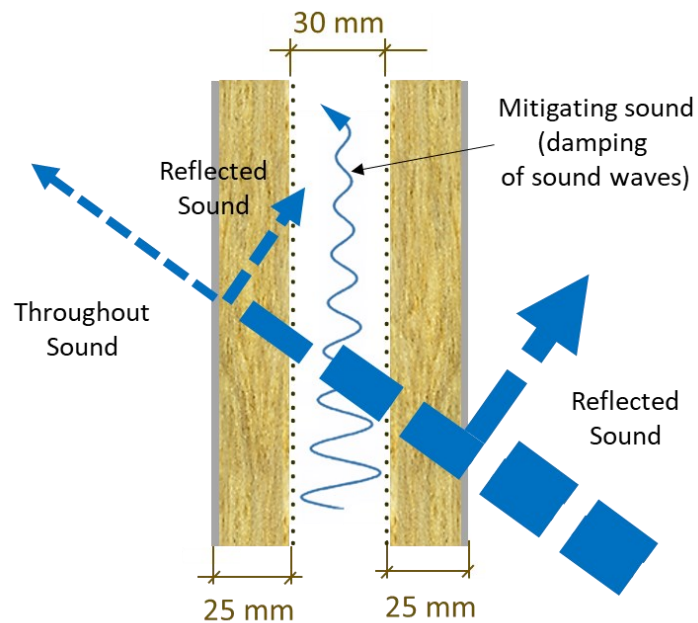
\* - Listed data can be modified

**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?

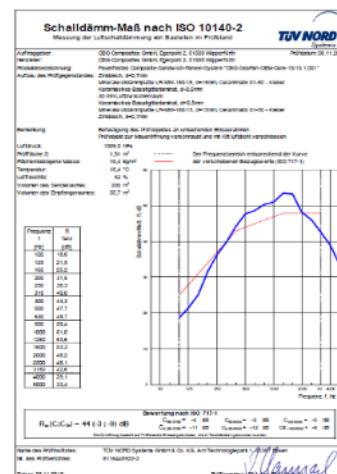
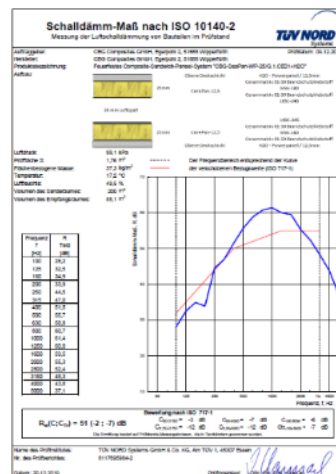
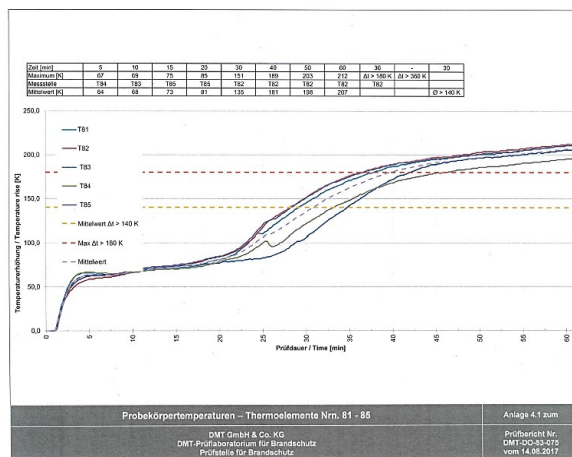
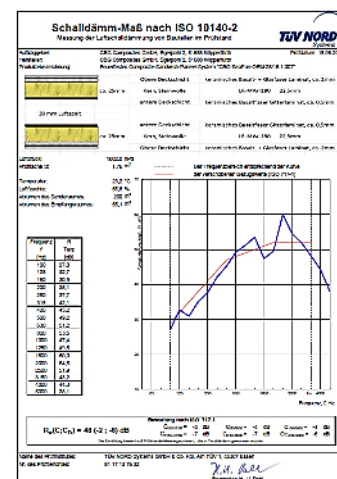
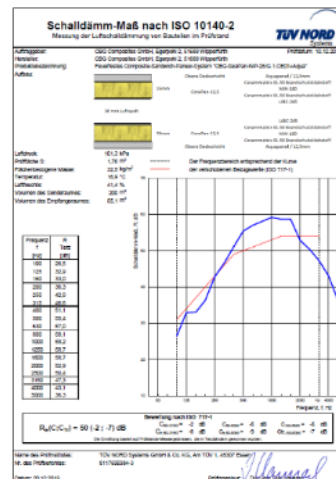


„cabin-to-cabin“ solution  
in shipbuilding

Rw=  
**> 51!**  
dB

# Tests and Certificates

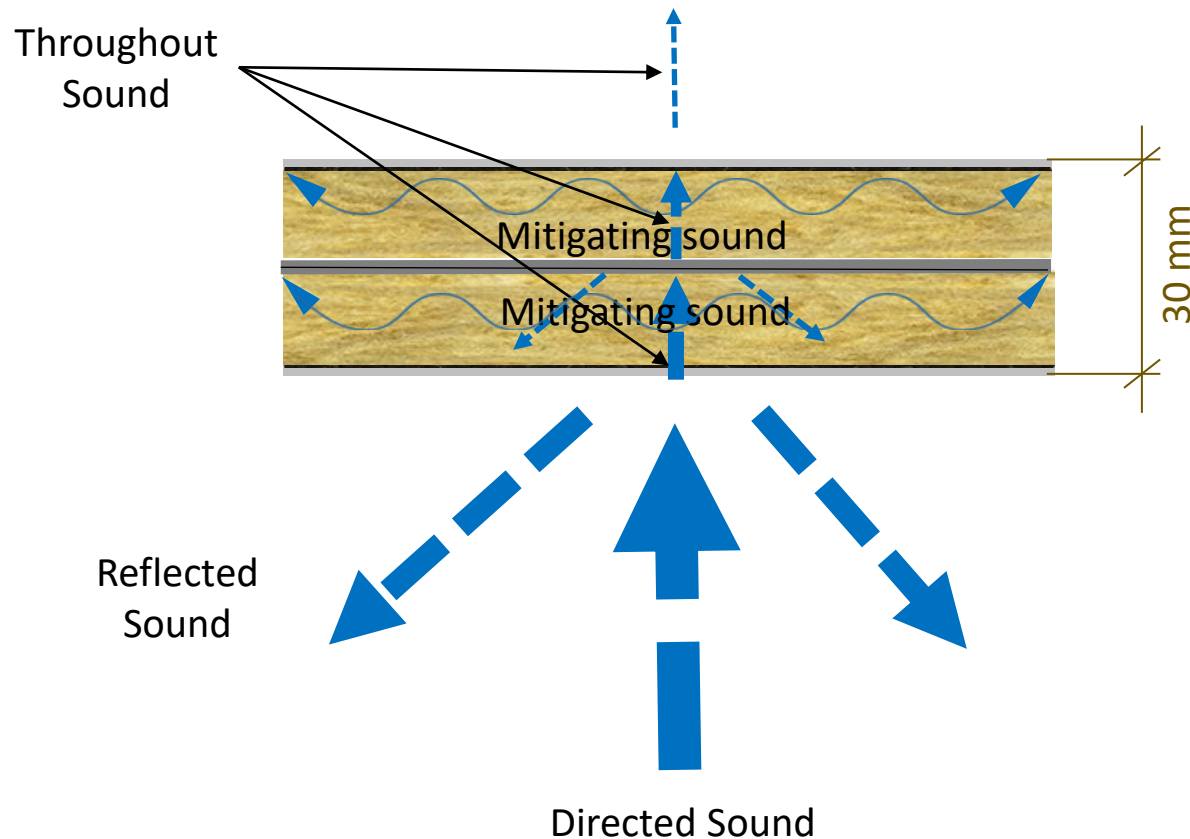
## Non-combustibility, sound and heat insulation



# 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.

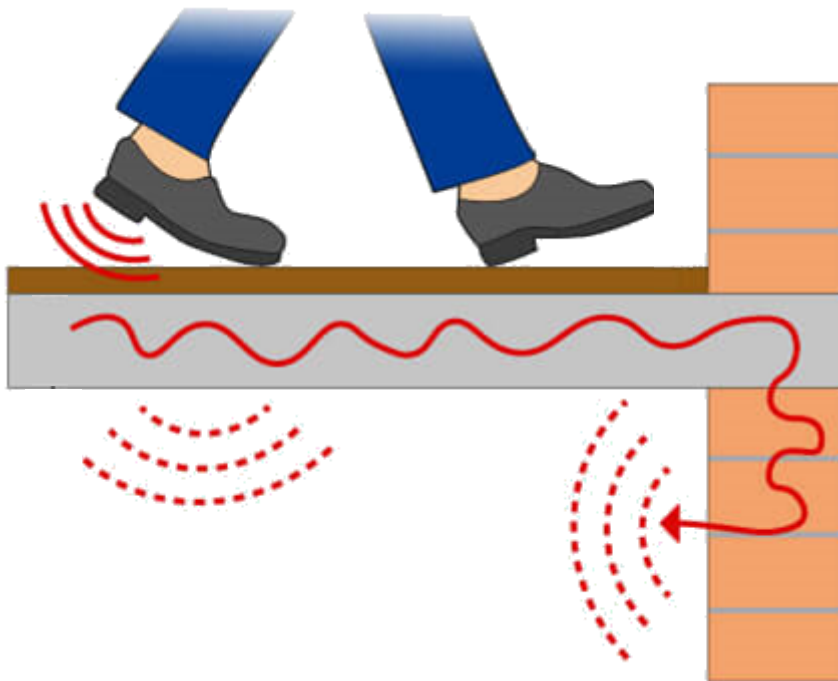


$R_w =$   
**> 34**  
dB

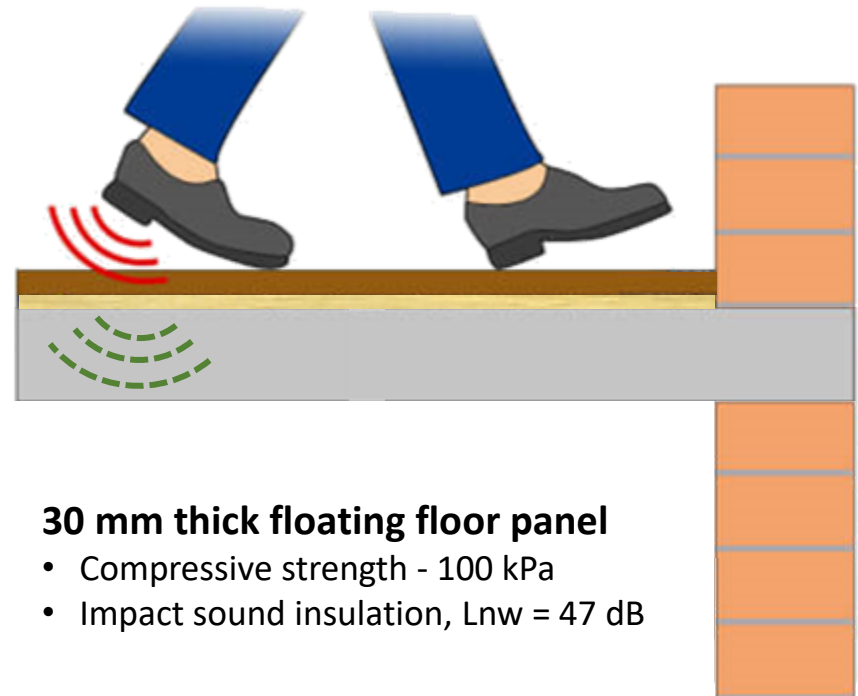
# SeaPan FF 30/60

Impact sound insulation approach

Uninsulated



Insulated



## 30 mm thick floating floor panel

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



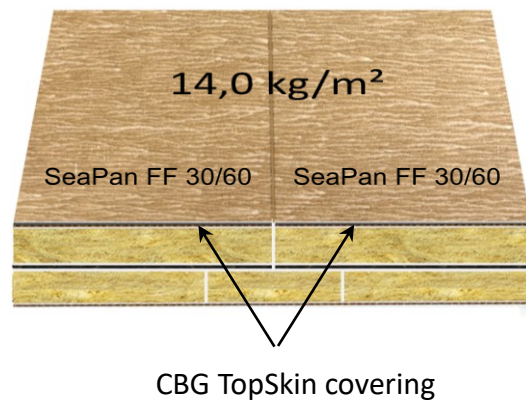
# SeaPan FF 30/60

## Design variants

### Variant 1:

#### CBG TopSkin covering

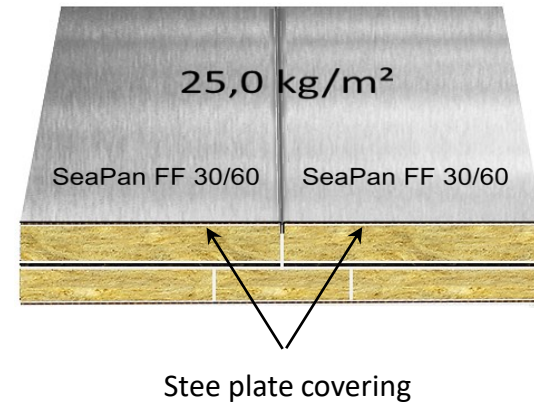
Individual panels are placed on a steel structure or, if necessary, on a suitable leveling screed layer, glued to each other and to the mounting strips using CBG Ceramatrix 1-50 adhesive and, if necessary, additionally laminated with Rebar-Ceramic-Glaze Laminate CBG TopSkin .



### Variant 2:

#### Steel plate covering

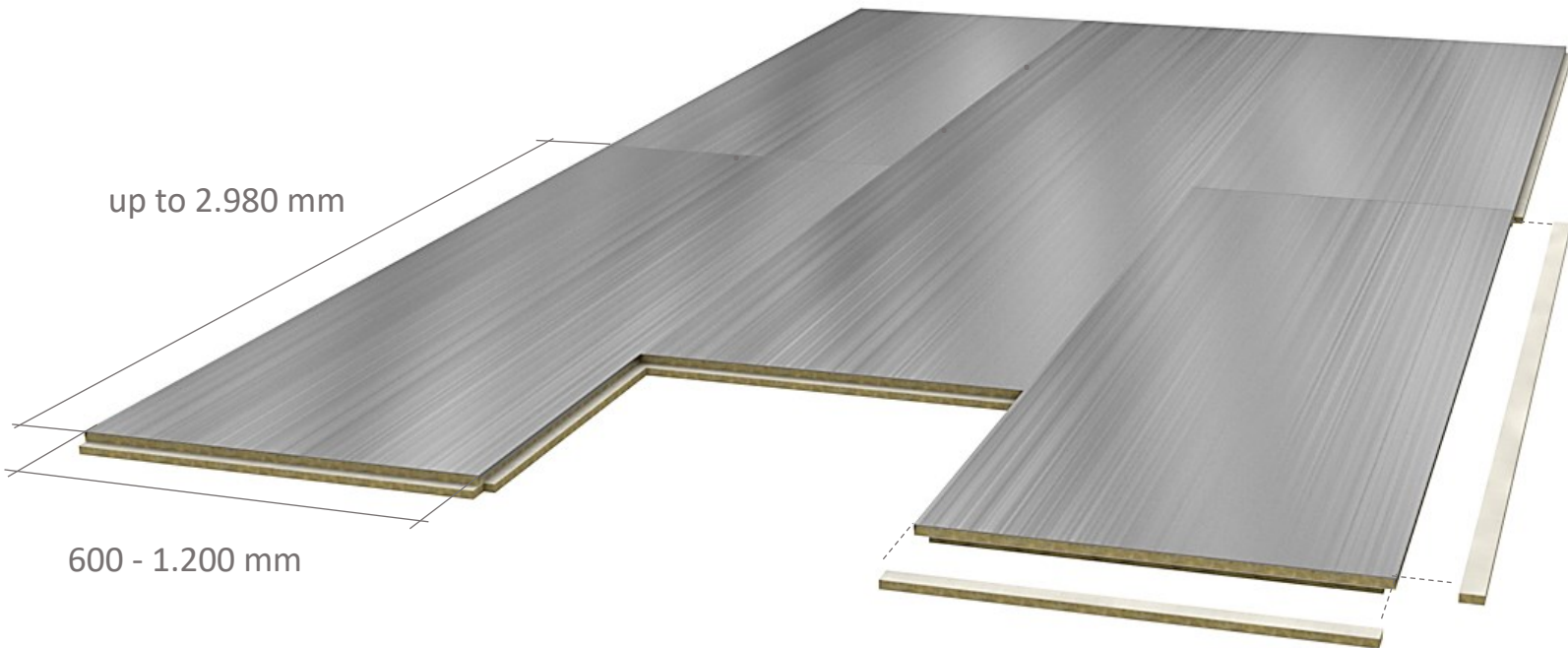
Individual panels are placed on a steel structure or, if necessary, on a suitable leveling screed layer, glued to each other and to the mounting strips using CBG Ceramatrix 1-50 adhesive and, if necessary, additionally laminated with sheet steel (1-2 mm).



# 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 Ceramatrix 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.



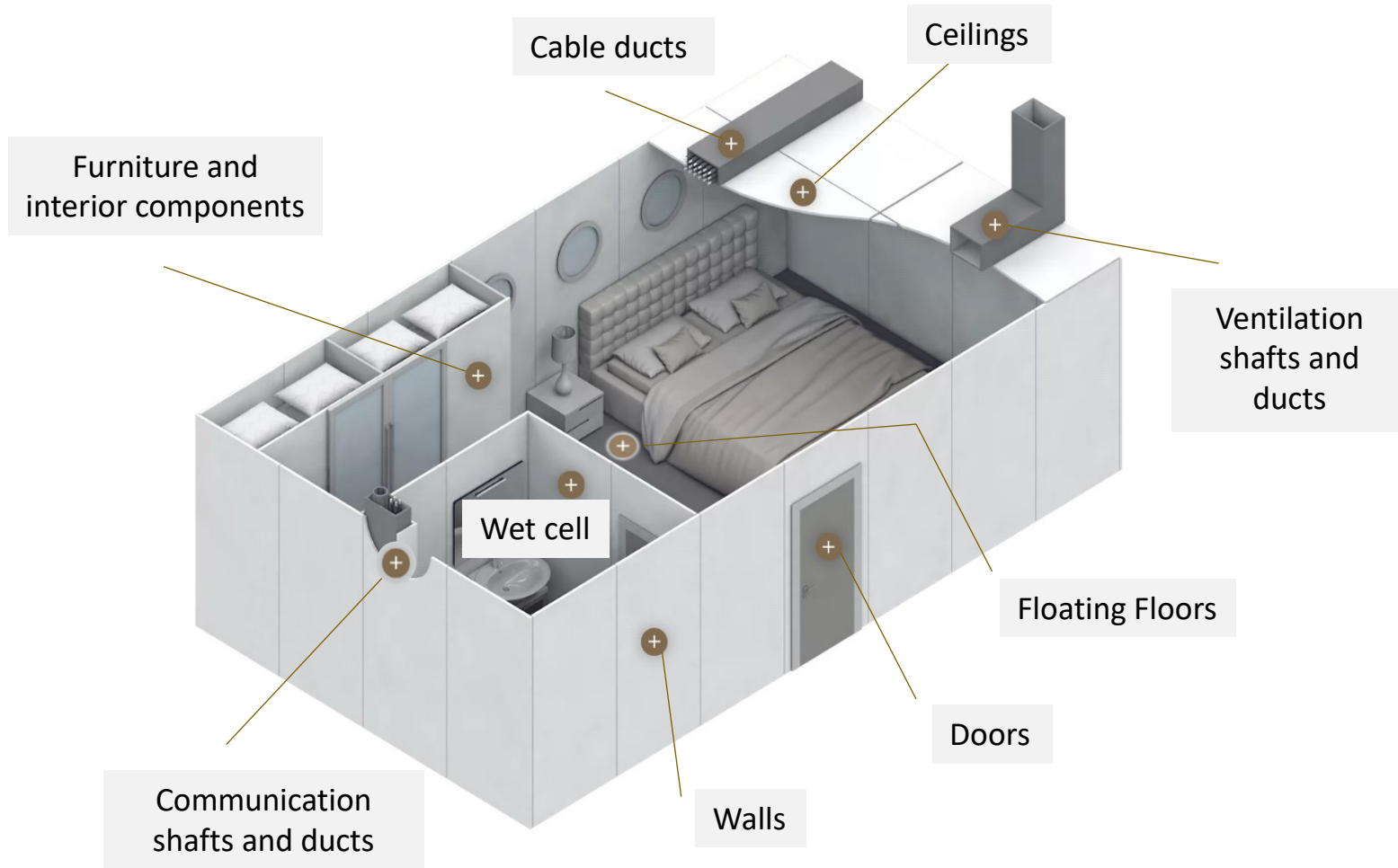
steel sheet thickness (mm)	deflection (mm)
1,0	1,6
1,5	1,5
2,0	1,3



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)

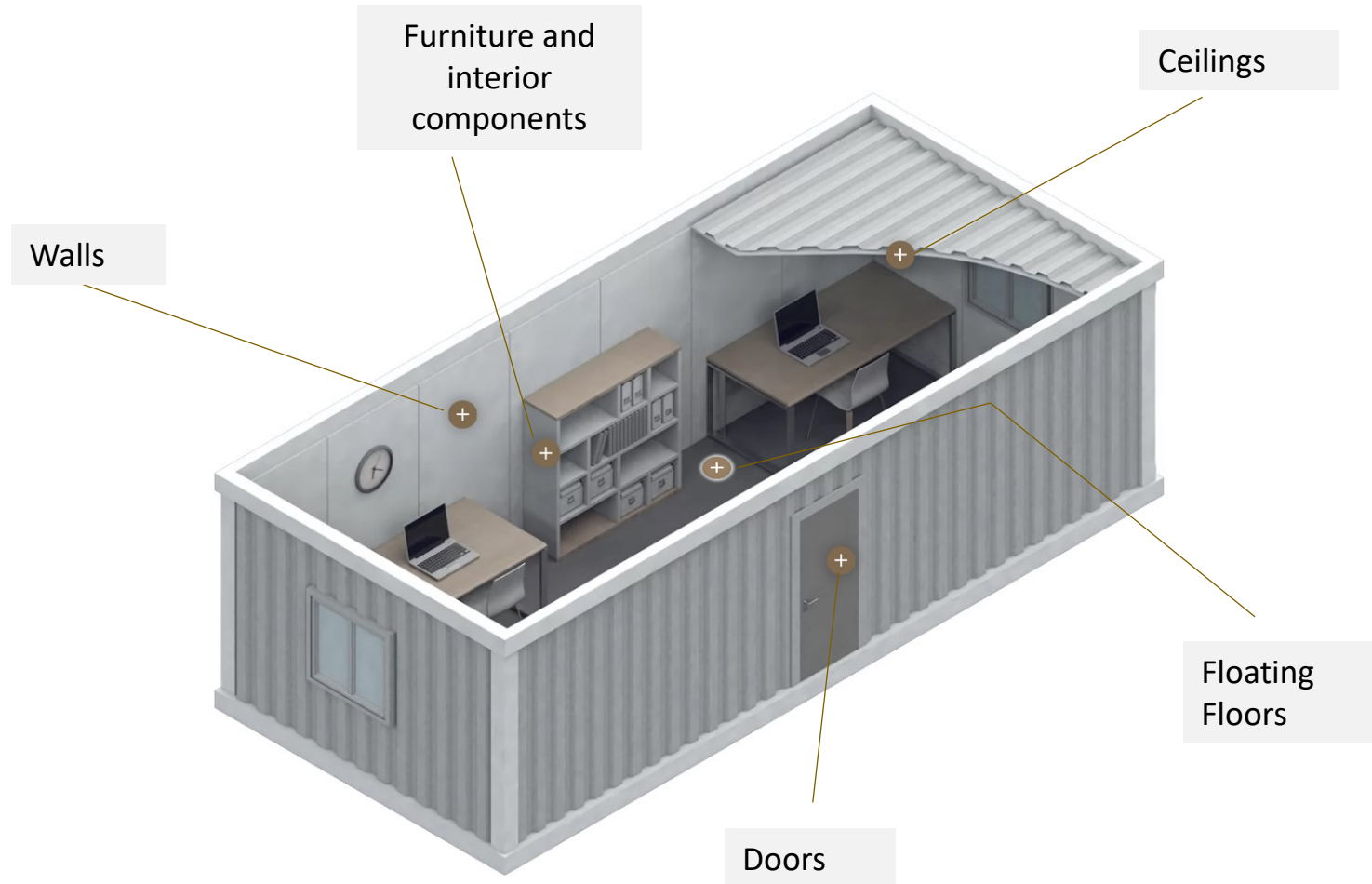
# Possible Applications

Ship building



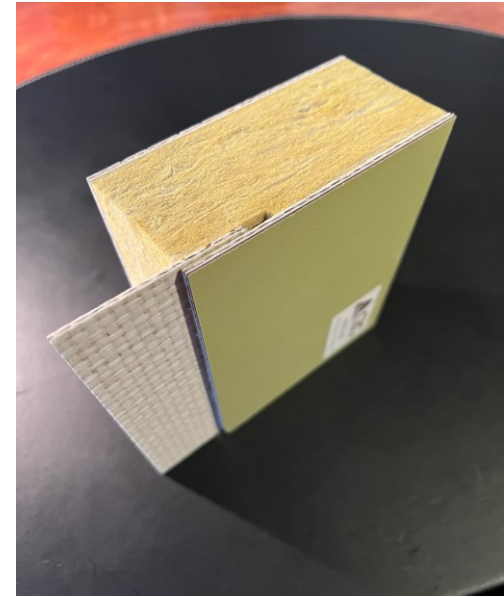
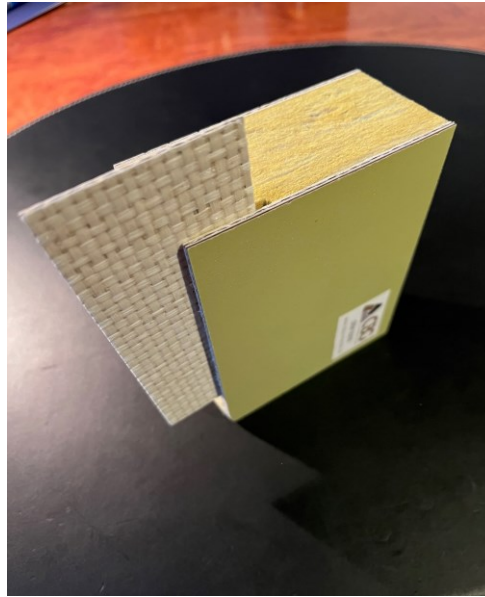
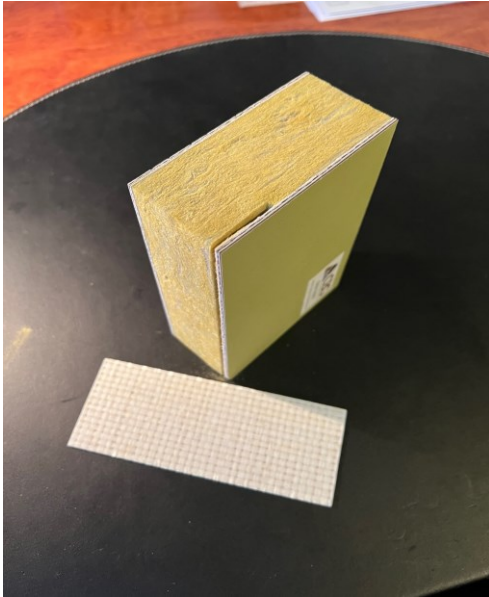
# Possible Applications

## 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



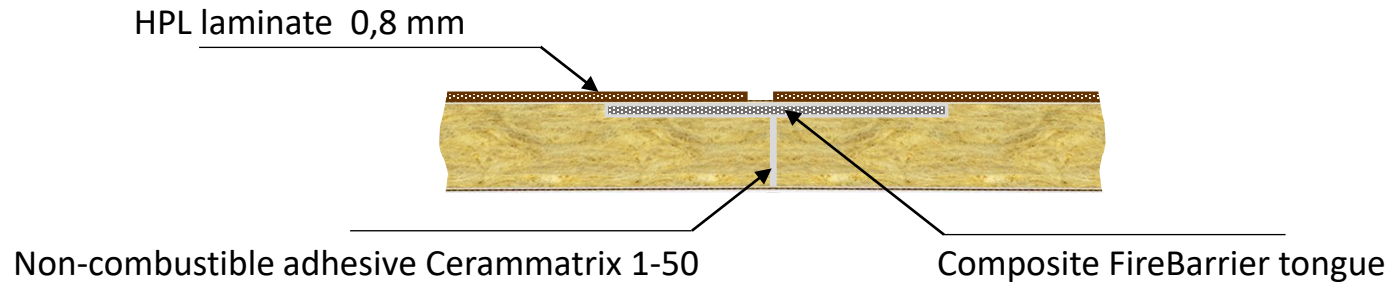
# Product features

How to connect



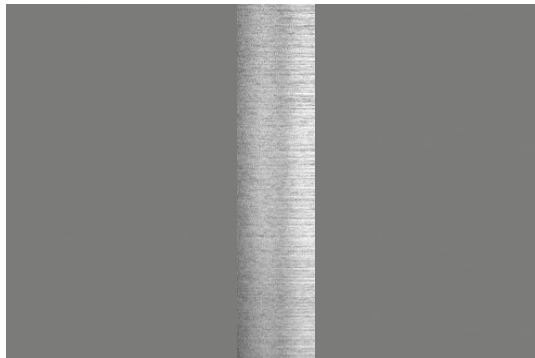
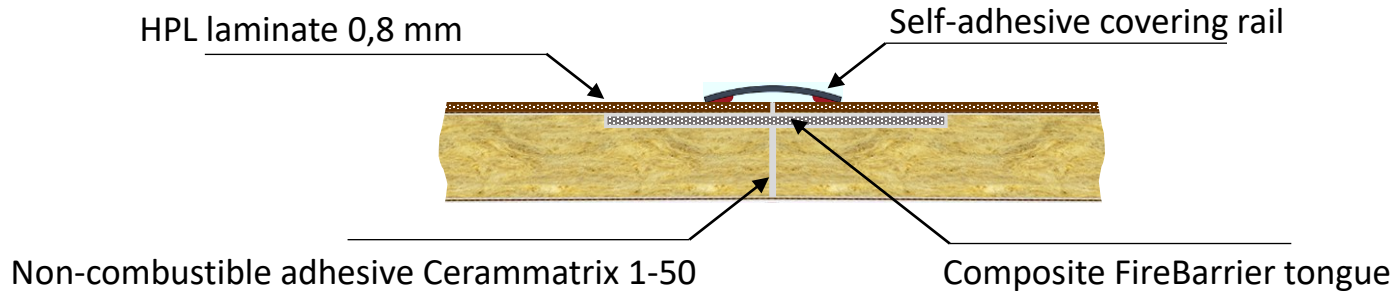
# Product properties

## Design ideas



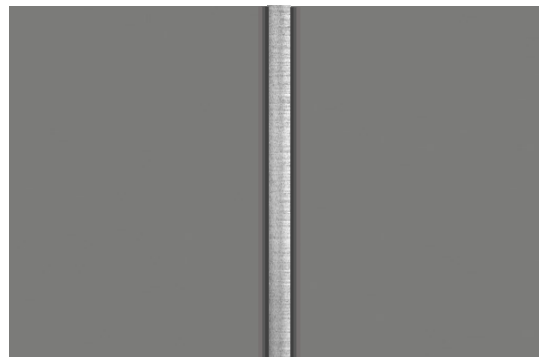
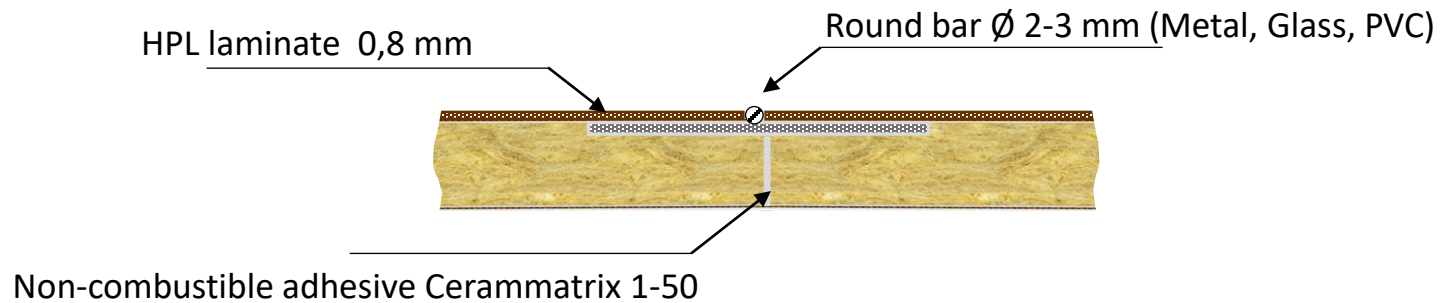
# Product properties

## 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 Acrylglas 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!**



(19)  Deutsches Patent- und Markenamt

(10) DE 20 2020 103 298 U1 2020.07.30

(12) **Gebrauchsmusterschrift**

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**E04B 1/80** (2006.01)  
**B32B 19/00** (2006.01)

(73) Name und Wohnsitz des Inhabers:  
CBG Composites GmbH, 51688 Wipperfurth, DE

(74) Name und Wohnsitz des Vertreters:  
Patentship Patentanwalts-gesellschaft mbH, 80687 München, DE

Die folgenden Angaben sind den vom Anmelder eingereichten Unterlagen entnommen.

(54) Bezeichnung: Wärmeisolierender Kern für Mehrschichtplatte

Die folgenden Angaben sind den vom Anmelder eingereichten Unterlagen entnommen.

(54) Bezeichnung: Feuerbeständige Mehrschichtplatte

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20 2018 106 673 U1 2019.01.24

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**Gebrauchsmusterschrift**

(51) Int. CL: **B32B 15/14** (2006.01)



Developed in Germany



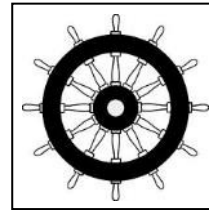
# NEW GENERATION

Fire-resistant, innovative heat- and sound-insulating basalt based products for use in building construction, shipbuilding and engineering



**Fire protection classes**  
B-15, A-30, A-60 (IMO 2010 FTPC3)  
F30, F60, F90 (DIN EN 13501, DIN 4102)

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

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