

1 Product composition

GLASAL INTERIOR sheets consist of the following:

- Portland cement
- mineral fillers
- organic reinforcing fibres
- functional additives
- coating with mineral pigments with a UV hardened PU clear coat
- vapour tight and watertight clear coat on the back side

2 Production method

GLASAL INTERIOR sheets are manufactured on a Hatschek machine, are double pressed and autoclaved. The front side is finished with an organic double layer acrylic coating with mineral pigments and a PU clear coat (UV hardened). The surface is smooth, has a high resistance against abrasion and has "anti-graffiti" properties. The back side is finished with a vapour and watertight clear coat.

GLASAL INTERIOR sheets are delivered with a protection foil.

3 Dimensions, weight and tolerances

Standard thicknesses available from stock : 5 mm

Dimensions

| Rectified | |
|-----------|------------------|
| | 1,220 x 2,500 mm |
| | 1,220 x 3,050 mm |

Tolerances; in accordance with EN 12467 (level I)

| | Rectified |
|------------------|--|
| Thickness | +/- 10% |
| Length and width | +/- 1.5 mm and +/- 1.0 mm if L x W < 1 x 1 m |
| Squareness | 1.0 mm/m |

Weight (ex-works)

| Thickness (mm) | Weight (kg/m ²) | 1,220 x 2,500 mm (kg/sheet) | 1,220 x 3,050 mm (kg/sheet) |
|----------------|-----------------------------|-----------------------------|-----------------------------|
| 5 | 8.8 | 26.9 | 32.8 |

4 Colour

GLASAL INTERIOR sheets have a smooth silky gloss surface. The standard sheets have a gloss of 3 ± 1 .

See the most recent EURO PANELS OVERSEAS colour chart for an overview of the standard colours. However it is technically impossible that this chart represents the colours realistically. Therefore the final choice of the colour has to be made with samples. Other colours are available upon request for minimum orders.

Colour differences are measured according the CIELAB colour model. Tolerated colour differences on a façade are $\Delta L^* = \pm 1.0$, $\Delta a^* = \pm 0.4$, $\Delta b^* = \pm 0.4$ en $\Delta E^* = \pm 1.2$. Color variegation may be accentuated by the effects of light and the viewing angle.

5 Technical properties

Average values according to the European standard EN 12467 'Fibre-cement flat sheets', which describes classification and most testing methods.

| <i>A. Testing according to ISO quality management system</i> | | | | |
|---|------------------------------------|------------|-----------------------------------|-------------------|
| Density | Dry | EN 12467 | 1,600 | kg/m ³ |
| Bending strength | Ambient, ⊥ | EN 12467 | 35.0 | N/mm ² |
| | Ambient, // | EN 12467 | 26.0 | N/mm ² |
| Modulus of elasticity | Ambient, ⊥ | EN 12467 | 17,000 | N/mm ² |
| | Ambient, // | EN 12467 | 15,000 | N/mm ² |
| Hygic movement | 0-100%, mean | | 1.5 | mm/m |
| Porosity | 0-100% | | 23 | % |
| <i>B. Classification</i> | | | | |
| Durability classification | | EN 12467 | Category A | |
| Strength classification | | EN 12467 | Class 4 | |
| Fire reaction | | EN 13501-1 | A2-s1-d0 | |
| <i>C. Type test or best estimate</i> | | | | |
| Impermeability test | | EN 12467 | Ok | |
| Warm water test | | EN 12467 | Ok | |
| Soak dry test | | EN 12467 | Ok | |
| Freeze thaw test | | EN 12467 | Ok | |
| Thermal conductivity | λ | | 0,312 | W/mK |
| <i>D. Coating tests</i> | | | | |
| Gloss | | ISO 2813 | 3 ± 1 | |
| Falling sand test | | ISO 679 | No defects | |
| Mohs scratch hardness | | NBN EN 101 | 2 - 3 | |
| Resistance to neutral salt spray | | ISO 9227 | No defects | |
| Resistance to humid atmospheres containing sulphur dioxide (Kesternich) | | DIN 50 018 | No defects | |
| Weather-O-Meter accelerated weathering | | ASTM G155 | Slight homogenous aging of colour | |
| Resistance to chemicals (24h) | 10% HCl | ASTM 1308 | No defects | |
| | 10% H ₂ SO ₄ | ASTM 1308 | No defects | |
| | 10% HNO ₃ | ASTM 1308 | No defects | |
| | Soap J-Clean | ASTM 1308 | No defects | |
| | Strew Salt | ASTM 1308 | No defects | |
| Water absorption by Karsten tube (48h) | Front side | | 0.2 | ml |
| | Backside | | 0.2 | ml |

6 Advantages

Providing the application guidelines are followed, EURO PANELS OVERSEAS fibre cement sheets have the following superior mix of properties compared to other materials:

- fire safe (no fire ignition, no spread of fire)
- resistant to extreme temperatures
- water resistant (if in compliance with application guideline)
- resistant to many living organisms (fungi, bacteria, insects, vermin, etc.)
- resistant to many chemicals
- environmentally friendly, no harmful gas emissions

In addition, GLASAL INTERIOR has the following specific properties:

- strong and rigid sheet
- durable coating
- high abrasion resistance
- anti-graffiti properties

7 Applications

Façade cladding, exterior ceiling and cladding of soffits and fascias.

8 Available factory finishing

GLASAL INTERIOR can be supplied by EURO PANELS OVERSEAS cut to size. Holes 5 to 11 mm in diameter for visible fixing can be factory pre-drilled.

9 General processing instructions

!!: Sawing and drilling must take place in a dry environment. For decorative applications, sawdust and drillings must be immediately removed from the sheet with a dry micro-fibre towel. Not removed sawdust and drillings can cause permanent stains.

During the mechanical machining of panels, adequate machinery with dust extraction and/or ventilation should be foreseen. If dust extraction is not efficient, dust masks of type FFP2 or better according EN149:2001 should be used.



Cutting/Sawing:

When working on the panel it must be sufficiently supported so that it does not sag. The sawing bench must be very stable and may not vibrate. The panel may not be under tension when sawing. The panel must be free of vibration and tension during sawing for a good saw cut. Cutting in the wrong way can cause delamination problems of the edge.

Sawing of panels

- With a circular saw with guidance
 - Saw the panel with the backside up
 - Leave the protection foil on the panel
 - Use preferably circular saws with low rotation speeds (e.g. Festool AXT 50 LA-Plus at 210 t/min) with a saw blade with hard metal teeth (e.g. festool 170x2.0x30 TF 56)
 - Sawed edges must be smoothed 1 time with sandpaper (grain P80) before removing the protection foil.
 - Loosen the protection foil very carefully by hand or use for example self adhesive tape.

Sawing of panels (also for already mounted panels)

- With a jigsaw
 - Saw the panel with the front side up
 - Leave the protection foil on the panel
 - Put a protection sheet on the front side (e.g. fibre cement board Hydropanel)
 - Use preferably a saw blade with carbide tipped teeth for fibre cement (e.g. Bosch type T141 HM)
 - Sawed edges must be smoothed with sandpaper (grain P80) before removing the protection foil.
 - Loosen the protection foil very carefully by hand or use for example self adhesive tape.

- With a jigsaw circular saw with guidance
 - Saw the panel with the front side up
 - Leave the protection foil on the panel
 - Put a protection sheet on the front side (e.g. fibre cement board Hydropanel)
 - Use preferably circular saws with low rotation speeds (e.g. Festool AXT 50 LA-Plus at 210 t/min) with a saw blade with hard metal teeth (e.g. Festool 170x2.0x30 TF 56)
 - Or use a high rotation circular saw with a saw blade with carbide diamond-tipped teeth at 2200 rpm (e.g. the Leitz universal saw blade for fibre cement)
 - Sawed edges must be smoothed with sandpaper (grain P80) before removing the protection foil.
 - Loosen the protection foil very carefully by hand or use for example self adhesive tape.

Drilling:

The sheet is best supported around the hole to be drilled (e.g. by a wooden table).

- For holes: carbide-tipped twist drill (or completely in carbide) with a 60° nose angle (available from EURO PANELS OVERSEAS)
 - Available diameters: 5.0 – 6.0 – 7.0 – 8.3 – 9.5 – 11.0 mm
- For round apertures: hole saw with carbide tipped teeth (e.g. type Pionier from Metabo)
 - Edges must be smoothed with sandpaper (grain P80)

Fastening accessories:

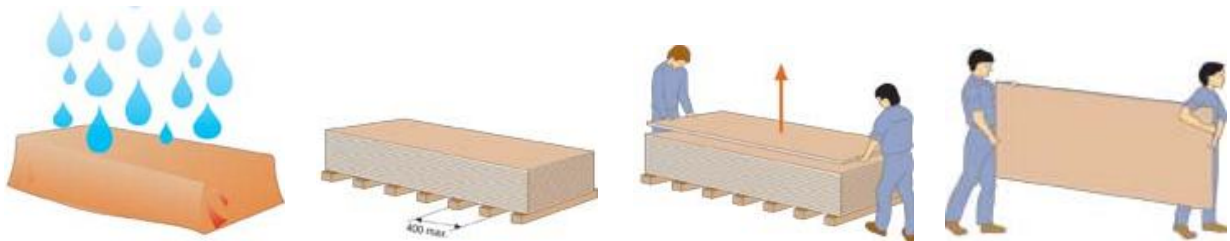
Depending on the application the following fastening accessories can be used (see application instructions for more information).

- Rivets: Can be used in completely pre-drilled holes only.
- Adhesive: Can be fixed with adhesive in accordance with the application guidelines and guarantee conditions of the adhesive supplier.

Sealant:

Only use neutral sealants. Non-neutral silicones or thiokols can result in spots.

10 Handling



The sheets are packaged on pallets. They are to be transported under a tarpaulin. The sheets must be horizontally stacked on a flat surface. The sheets must always be sufficient supported so that they do not sag. The sheets must be stacked in a dry ventilated space. If the sheets are stored outside, they must always be protected against rain by a tarpaulin or plastic cover. If the sheets do become wet in the packing, all packaging must be removed and the sheets must be placed in a way that they can dry out thoroughly. It is recommended to allow the sheets to acclimatise in the space where they are to be used. A sheet must always be lifted from a stack by two persons and then be carried vertically. Ensure that foil is always placed between stacked sheets to avoid paint damage.

11 Health and safety aspects

During the mechanical machining of panels, dust can be released which can irritate the airways and eyes. Apart from this, the inhalation of fine (respirable size) quartz containing dust, particularly when in high concentrations or over prolonged periods of time can lead to lung disease and an increased risk of lung cancer. Depending on the working conditions, adequate machinery with dust extraction and/or ventilation should be foreseen. For more ample information, please check the Safety Data Sheet based on 1907/2006/EC, article 31.

12 Warranty

The warranty on the product is only valid if the EURO PANELS OVERSEAS application guidelines are respected. If in any doubt regarding the suitability of EURO PANELS OVERSEAS sheets in any given application, it is advisable to request specific recommendations from EURO PANELS OVERSEAS. Under no circumstances can EURO PANELS OVERSEAS be held liable for applications of their sheets implemented without approval from EURO PANELS OVERSEAS.

13 Maintenance and cleaning

Periodic cleaning must always take place in accordance with the conditions of the supplier of the cleaning system and under his supervision and guarantee conditions. For more details on cleaning procedures please consult EURO PANELS OVERSEAS NV's "Cleaning advice". Graffiti can be removed with special products. For more information contact EURO PANELS OVERSEAS Technical Service Centre.

14 Certification

The manufacturer can - within the framework of the European Regulation N° 305/2011 (CPR) - present the Declaration of Performance (DOP) of the product such confirming that the product has a CE marking. The CE marking guarantees that the product is in accordance with the basic requirements determined by the harmonized European standard and applicable to the product. The Declaration of Performance is presented in accordance with the CPR and can be found at www.infodop.com. The manufacturer is also ISO certified.



15 More information

Information on the different applications can be found in the EURO PANELS OVERSEAS application guidelines. They can be found on the website or can be obtained on demand by phone. Information about external suppliers can also be downloaded from the website.

This product information sheet replaces any previous editions. EURO PANELS OVERSEAS reserves the right to amend this information sheet without prior notice. Readers should always satisfy themselves that they are referring to the most recent version of this document. No part of this text can be changed without permission of EURO PANELS OVERSEAS.



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