

1 Product composition

NATURA sheets consist of the following:

- Portland cement
- mineral fillers
- organic reinforcing fibres
- colour pigments
- additives
- (semi-)transparent water-based acrylate dispersion on the image side
- damp proof water-based coating on the back

2 Production method

NATURA sheets are manufactured on a Hatschek machine and are double compressed and air-dried. NATURA sheets are then finished with (semi-) transparent water-based acrylate dispersion on the image side and a damp proof water-based coating on the back.

3 Dimensions and tolerances

Thickness	Possible fixing method
8 mm	Adhesive, screws, rivets
12 mm	Invisible fixing with Tergo-system

Non-rectified	Rectified
1,280 x 2,530 mm	1,250 x 2,500 mm
1,280 x 3,130 mm	1,250 x 3,100 mm

For façade or ceiling applications only rectified boards may be used, non-rectified boards should not be used uncut.

Tolerances

	Non-rectified	After sawing
Thickness	+/- 0.5 mm	+/- 0.5 mm
Length and width	+/- 5.0 mm	+/- 1.5 mm and +/- 1.0 mm if L x W < 1 x 1 m
Squareness	2.0 mm/m	1.0 mm/m

Weight (ex-works)

Thickness	Weight
8 mm	15.4 kg/m ²
12 mm	23.2 kg/m ²

Thicknesses, sizes and types of the sheets which differ from those available as standard from stock are available subject to minimum order quantities. Please contact EURO PANELS OVERSEAS NV for more information.

4 Colour

Natural hues are particular to NATURA.

For an overview of the standard colours we refer to the most recent EURO PANELS OVERSEAS NV colour chart. 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. All sheets have to be ordered at the same time since a slight colour difference is possible due to different productions.

Colour differences are measured according the CIELAB colour model. Tolerated colour differences are $\Delta L^* = \pm 2.50$, $\Delta a^* = \pm 1.00$, $\Delta b^* = \pm 1.00$. Color variegation may be accentuated by the effects of light, moisture 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	≥1,650	kg/m ³
Bending strength	Ambient, ⊥	EN 12467	24.0	N/mm ²
	Ambient, //	EN 12467	17.0	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		1.0	mm/m
Porosity	0-100%		18	%
<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	
Ball throwing resistance		DIN-18 032	Ok	
Thermal expansion coefficient	a		< 0,01	mm/mK
Thermal conductivity	λ		0.407	W/mK

6 Advantages

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

- fire safe (no fire ignition, no spread of fire)
- sound insulating
- 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, NATURA has the following specific properties:

- strong and rigid sheet
- very natural appearance because of the semi-transparent coating
- high impact-resistance

7 Applications

- Façade: outside wall cladding, balcony panels, parapets, soffit

WARNING: NATURA is a product with semi-transparent coating. Hence discoloration can appear along the borders and around the drilling holes due to absorption of water. This phenomenon will disappear in time when the pores of the sheet become more closed.

8 Available factory finishing

NATURA can be supplied by EURO PANELS OVERSEAS NV cut to size, including LUKO treatment of the sawed edges. Holes 5 to 11 mm in diameter for visible fixing can be factory pre-drilled.

9 Application data

!!: 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 sheet it must be sufficiently supported so that it does not sag. The sawing bench must be very stable and may not vibrate. The sheet may not be under tension when sawing. The sheet 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.

- Hand circular saw with rail or stationary sawing machines: fast rotation with Universal EURO PANELS OVERSEAS NV cutting blade available at Leitz-Service (available diameters: 160, 190, 225 and 300 mm)
- Jigsaw with carbide-tipped tooth cutting blade type T141 HM from Bosch (available from EURO PANELS OVERSEAS NV)
 - Sawed edges must be smoothed with sandpaper (grain P80)

When sawing, the sawed edges must be impregnated with LUKO (a transparent impregnating agent) to minimize local colour differences due to moisture absorption. The sides must be clean and dry. Use only between +5°C and +25°C. Shake well before use and shake regularly while using. Usage amounts to 50 g/100 m. Always keep in a frost-free place. The storage life is 6 months from the filling date. See also the LUKO application guidelines.

Drilling:

The sheet should be supported around the hole to be drilled (e.g. by a wooden surface).

- for holes: carbide-tipped twist drill (or completely in carbide) with a 60° nose angle (available from EURO PANELS OVERSEAS NV); 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)
 - Sawed edges must be smoothed with sandpaper (grain P80)

Fastening accessories:

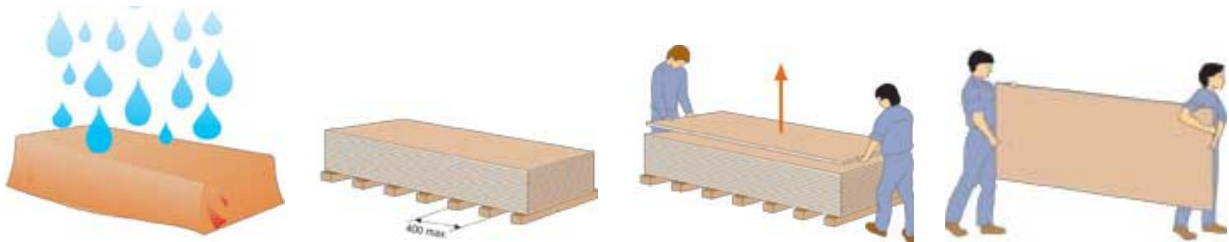
Depending on the application the following fastening accessories can be used (see application instructions for more information).

- Adhesive: is to be used in accordance with the application guidelines and guarantee conditions of the adhesive supplier.
- Screws: can be used in completely pre-drilled holes only.
- Rivets: can be used in completely pre-drilled holes only.
- Blind fixing with Tergo-system : only for 12 mm panels

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 sufficiently 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 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. A foil always has to remain between the stacked sheets in order to prevent 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 according to 91/155/EEC.

12 Warranty

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

13 Maintenance and cleaning

For minor soiling, washing with a mild household detergent or soft soap solution followed by rinsing with clear water.

14 Certification

The manufacturer is able to deliver the CE declaration in terms of the European Construction Products Directive. The products are delivered with the KOMO-certificate which guarantees the conformity to the CE-label and to the standard NBN EN 12467 "Fibre-cement flat sheets". The manufacturer is also ISO certified.



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15 More information

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

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