



1 Product composition

FLEX+ sheets consist of the following:

- Portland cement
- selected mineral fillers
- organic reinforcing fibres
- additives
- water-repellent colourless impregnation on image side

2 Production method

FLEX+ sheets are manufactured on a Hatschek machine and are compressed, autoclaved and polished on one side. FLEX+ then is polished and finished with water-repellent colorless impregnation.

3 Dimensions and tolerances

Thickness: 4

Dimensions

Thickness	Not rectified
4 mm	3,000 x 1,200 mm
4 mm	2,500 x 1,200 mm

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

Toleranties; in overeenstemming met EN 12467 (niveau I)

	Not rectified	After cutting
Thickness	± 10%	± 10%
Length and width	± 5,0 mm	+/- 1,5 mm en +/- 1,0 mm indien LxB < 1x1 m
Squareness	2,5 mm/m	1,0 mm/m

Weight (ex-works)

Thickness	Weight	1.220 x 2.500 mm	1.220 x 3050
4 mm	7.04 kg/m ²	21.47 kg/st	26.20 kg/st

4 Colour

FLEX+ has a smooth surface in the natural beige basic colour. FLEX+ is also characterized by natural hues in the sheet and by the effects of light and moisture. The sheet becomes a little lighter with aging. Stains in the surface, for instance brown or white spots peculiar to the autoclave process, are occasionally possible and are inherent to the production.



5 Technical properties

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

A. Testing according to ISO quality management system				
Density	Dry	EN 12467	1,600	kg/m³
Bending strength	Ambient, ⊥	EN 12467	34.0	N/mm²
	Ambient, //	EN 12467	24.0	N/mm²
Modulus of elasticity	Ambient, ⊥	EN 12467	17,000	N/mm²
	Ambient, //	EN 12467	15,000	N/mm²
Hygic movement	0-100%, mean		1.70	mm/m
	30-90%, mean		0.70	mm/m
Porosity	0-100%		22	%
B. Classification				
Durability classification		EN 12467	Category A	
Strength classification		EN 12467	Class 4	
Fire reaction		EN 13501-1	A2-s1-d0	
		NBN-S21-203	A1	
		NEN-6065/6066	Class 1	
C. Type test or best estimate				
Frost resistance (-20/+20°C)		EN 12467	Ok	
Thermal expansion coefficient	α		15x10 ⁻⁶	m/mK
Thermal conductivity	λ		0,360	W/mK
Water vapour diffusion resistance number	μ		250	-

6 Advantages

Providing the application guidelines are followed, ETEX 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, FLEX+ has the following specific properties:

- strong and rigid sheet

7 Applications

FLEX+ is a building board for general non aesthetic applications:

- It can be used as general building board
- As board for sandwich elements (5 mm). The producer of the composite product is responsible for the guarantee and application in his finished product. ETEX only guarantees the board characteristics.
- Sandwich elements in agricultural applications, sips, side boards,...
- Component for industrial products

8 Available factory finishing

FLEX+ can be supplied by ETEX cut to size. Holes 5 to 11 mm in diameter can be factory pre-drilled (for visible fixing).



9 Application data

!!: Sawing and drilling must take place in a dry environment. 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.



For decorative applications one is advised to wear woollen gloves to avoid sweat and grease marks.

Cutting/Sawing:

When processing 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.

- Circular saw with guidance
 - Use preferably the universal saw blade with carbide diamond-tipped teeth for fibre cement,
 - Available diameters: 160 and 190mm (available from Leitz-Service)
- Jigsaw
 - Use preferably a saw blade with carbide tipped teeth for fibre cement (e.g. Bosch type T141 HM, available from ETEX)
- Sawed edges must be smoothened with sandpaper (grain P80)

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 ETEX)
 - 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 smoothened with sandpaper (grain P80)

Fastening accessories:

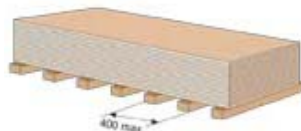
Depending on the application the following fastening accessories can be used (see application instructions for more information).

- Screws: Can be used in completely pre-drilled holes only.
- Rivets: Can be used in completely pre-drilled holes only.
- Adhesive: Can be fixed with adhesive. The adhesive is to be used 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





FLEX+

PRODUCT INFORMATION SHEET

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 ETEX application guidelines are respected. If in any doubt regarding the suitability of ETEX sheets in any given application, it is advisable to request specific recommendations from ETEX. Under no circumstances can ETEX be held liable for applications of their sheets implemented without approval from ETEX.

13 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.



14 More information

Information on the different applications can be found in the ETEX 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. ETEX 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 ETEX.