

1 Product composition

DURIPANEL S3(B1) sheets consist of the following:

- Portland cement
- wood fibres
- additives

2 Production method

DURIPANEL S3(B1) sheets are manufactured by means of a straw technique in three different layers. Afterwards the sheets can be sanded.

3 Dimensions and tolerances

Dimensions

DURIPANEL S3(B1) base sheet		
Dimensions (rectified)	1,250 x 2,600 mm	1,250 x 3,100 mm
Thickness	8, 10, 12, 14, 16, 18, 20, 22, 24, 28, 32, 36, 40 mm	
DURIPANEL S3(B1) flooring panel (sanded, cut, tongue-and-groove)		
Dimensions (rectified)	1,250 x 625 mm	
Thickness	18. 25 mm	

Tolerances

DURIPANEL S3(B1) base sheet		
Thickness	Sanded: +/- 0.3mm	
	Not sanded: 8-12mm ± 0.7, 14-22mm ± 0.7, 24-40mm ± 1.5	
	Not rectified	After cutting
Length and width	+/- 5 mm	+/- 1.5 mm and +/- 1.0 mm if LxW < 1x1 m
Squareness	2.0 mm/m	1.0 mm/m
DURIPANEL S3(B1) flooring panel (sanded, cut, tongue-and-groove)		
Thickness	Sanded: +/- 0.3mm	
	Not sanded: 8-12mm ± 0.7, 14-22mm ± 0.7, 24-40mm ± 1.5	
	Not rectified	After cutting
Length and width	+/- 5 mm	+/- 0.5 mm

Weight (ex-works)

Thickness (mm)	Weight per m ² (kg)	Thickness (mm)	Weight per m ² (kg)
8	10.0	22	27.5
10	12.5	24	30.0
12	15.0	25	31.3
14	17.5	28	35.0
16	20.0	32	40.0
18	22.5	36	45.0
20	25.0	40	50.0

4 Colour

The colour is self-coloured yellow/grey, with shading resulting from the natural properties of the constituents.

5 Technical properties

Average values according to the European standard EN 634 'Cement-bonded particleboards', which describes classification and most testing methods.

<i>A. Testing according to ISO quality management system</i>				
Density		EN 634	1,250	kg/m ³
Bending strength ¹		EN 634	9.0	N/mm ²
Modulus of elasticity		EN 634	4,500	N/mm ²
Hygic movement	30-95%; mean		2.5	mm/m
Porosity			32	%
<i>B. Classification</i>				
Fire reaction		DIN-4102	B1	
		EN 13501-1	B-s1,d0	
		NF P 92-501	M1	
<i>C. Type test or best estimate</i>				
Thickness swell with saturation	after 2 hours		≤ 1.0	%
	after 24 hours		≤ 1.5	%
	after more than 24 hours		≤ 2.3	%
Ball throwing resistance		DIN-18 032	OK	
Frost resistance		DIN 52104	Frost resistant	
Thermal expansion coefficient			11*10 ⁻⁶	m/mK
Thermal conductivity coefficient			0.35	W/mK
Water vapour diffusion resistance number	0-50%		50	
	50-100%		20	

<i>Acoustic insulation airborne noise</i>										
Thickness (mm)	8	10	12	16	18	20	24	28	32	40
Kg/m ²	9.6	11.4	16.0	18.8	24.4	25.4	31.7	34.3	42.6	48.7
Rw (dB)	30	31	31	33	33	33	35	36	37	38

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, DURIPANEL S3(B1) has the following specific properties:

- strong, rigid and versatile joinery sheet
- can be worked on with joinery machinery
- screwing and automatic nailing without pre-drilling
- frost resistant
- low thickness swell with saturation in comparison with resin-bound wood fibre boards (OSB, etc.)
- high resistance to impact loads

¹ A safety factor is to be applied whenever permissible loads are calculated.

7 Applications

It is important that each time of application one-sided moistening (also construction moisture) or drying out is avoided (e.g. by protection with a moisture-retarding coat) to ensure the good dimensional stability of the sheet.

- Outside walls: outside wall support sheet for insulation + decorative plaster, outside wall support sheet for insulation + stone strips, outside wall support sheet for insulation + tiles
- Floor: floor element (carrying, floating, raised)
- Walls: separation wall, wall lining, acoustically absorbent wall elements, outside of internal cavity walls
- Ceilings: ceiling covering
- Roof: support sheet for flat or inclined roof
- Industrial use: permanent formwork

8 Available factory finishing

DURIPANEL S3(B1) can be supplied by EURO PANELS OVERSEAS NV cut to size. Holes 5 to 11 mm in diameter can be factory pre-drilled (for visible fixing). A small chamfer (45°, 2mm), large chamfers, tongue-and-groove machining and rebated sections are feasible.

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.



DURIPANEL S3(B1) can be treated like wooden chipboard. For intensive use, it is advised to use carbide tipped tools.

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.

- stationary saw, fast rotation with blade with teeth (optionally carbide tipped)
- hand circular saw (with rail), fast rotation with blade with teeth (optionally carbide tipped)
- jigsaw (optionally with carbide-tipped tooth cutting blade)
- hand saw (optionally with carbide-tipped tooth cutting blade)

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: cup drill or circular cutter (optionally carbide tipped)

Edge finish:

- a grinder
- fine emery cloth or sanding block
- carbide-tipped plane

Fastening accessories:

Depending on the application the following fastening accessories can be used (see application instructions for more information). The material (e.g. stainless steel, galvanised steel, phosphated steel) is also chosen depending on the application.

1. Bonding (invisible fixing):

DURIPANEL S3(B1) can be fixed with adhesive for interior applications. The adhesive is to be used in accordance with the application guidelines and guarantee conditions of the adhesive supplier. Further information is available from EURO PANELS OVERSEAS NV.

2. Screwing:

- screws with mushroom head and torx recession
- screws with countersunk head, wings on the head and full thread without predrilling
- screws with countersunk head and full thread, subject to predrilling and countersinking

3. Nailing:

- pneumatic nailing with nails with flat head without predrilling
- hand nailing with nails with flat head without predrilling

The head of the nail may not be driven too deep in the sheet. The pneumatic nailing machine is regulated with constant depth.

4. Stapling

- automatic stapling

The back of the staple may not be driven too deep in the sheet. The pneumatic nailing machine is regulated with constant depth.

Joint finishing:

The finishing of joints between sheets must take place with synthetic joint products (e.g. acrylate, polyurethane, epoxy, etc.). Cracks in finished joints can only be avoided if the supporting structure is movement-free and if the sheet is not subject to too large thermal or hygric movements.

Kit:

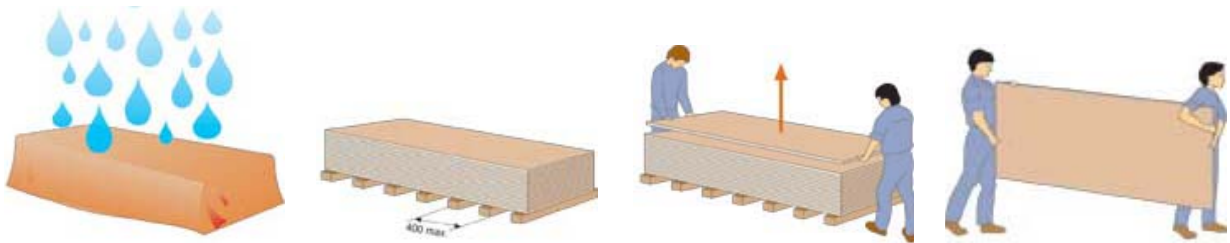
Only use neutral kits. Non-neutral silicones or thiokols can result in spots.

Coating/laminating (wood/synthetic):

- Covering: DURIPANEL S3(B1) can be coated for interior applications.
- Laminating: DURIPANEL S3(B1) can be covered with laminate for interior applications. Gluing must take place according to the application instructions and the guarantee conditions of the glue supplier.

The sheet may not be differentially loaded (with CO₂ and H₂O), this to guarantee dimensional stability. This can be achieved by treating the sheet on both sides with the same coating system, or by using a back coating with the same diffusion characteristics as the coating system on the image side. Other prior conditions are the system construction, the dimensions of the sheet, and the temperature and moisture loads. More information is available from EURO PANELS OVERSEAS NV.

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, which guarantees the conformity to the standard NBN EN 12467 "Fibre-cement flat sheets". The manufacturer is also ISO certified.



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.

This product information sheet replaces any previous editions. EURO PANELS OVERSEAS NV 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 NV.

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