

## 1 Product composition

HYDROPANEL sheets consist of the following:

- Portland cement
- selected mineral fillers including mica providing extra high dimensional stability and low hygric movement
- organic reinforcing fibres
- functional additives

## 2 Production method

HYDROPANEL sheets are manufactured on a Hatschek machine and are autoclaved, rectified and calibrated. The edges can be bevelled (=BE : Bevelled Edge)

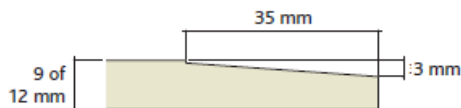
## 3 Dimensions and tolerances

|                                      |      |       |      |
|--------------------------------------|------|-------|------|
| Thickness (mm)                       | 9 mm | 12 mm | 6 mm |
| Weight ex-works (kg/m <sup>2</sup> ) | 12.7 | 17.0  | 8.5  |

Dimensions and gross weight per sheet

| Thickness mm | W x L mm x mm | Number of bevelled edges (BE) | Surface m <sup>2</sup> / sheet | Weight kg / sheet |
|--------------|---------------|-------------------------------|--------------------------------|-------------------|
| 9            | 900 x 1,200   | 4 BE                          | 1.08                           | 13.7              |
| 9            | 1,200 x 2,600 | 2 BE                          | 3.12                           | 39.6              |
| 9            | 1,200 x 3,000 | 2 BE                          | 3.60                           | 45.7              |
| 9            | 600 x 2,600   | 2 BE                          | 1.56                           | 19.8              |
| 9            | 600 x 3,000   | 2 BE                          | 1.80                           | 22.9              |
| 12           | 1,200 x 2,600 | 2 BE                          | 3.12                           | 53.0              |
| 12           | 1,200 x 3,000 | 2 BE                          | 3,60                           | 61.2              |
| 12           | 600 x 2,600   | 2 BE                          | 1.56                           | 26.5              |
| 9            | 600 x 3,000   | 0 BE                          | 1.80                           | 22.9              |
| 9            | 600 x 2,600   | 0 BE                          | 1.56                           | 19.8              |
| 9            | 900 x 1,200   | 0 BE                          | 1.08                           | 13.7              |
| 6            | 1,200 x 2,600 | 0 BE                          | 3.12                           | 25.5              |
| 9            | 1,200 x 2,600 | 0 BE                          | 3.12                           | 39.6              |

BE = Bevelled Edge (Afgeschuinde kant)



Tolerances

| Tolerance             | Complies with EN 12467 (level I) |
|-----------------------|----------------------------------|
| Thickness (mm)        | ± 0.5                            |
| Length and width (mm) | ± 3                              |
| Squareness (mm/m)     | 1.0                              |

## 4 Colour

HYDROPANEL has a beige colour. 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.

| <i>A. Testing according to ISO quality management system</i> |              |            |                      |                   |
|--|--------------|------------|----------------------|-------------------|
| Density  | Dry          | EN 12467   | 1,180                | Kg/m <sup>3</sup> |
| Bending strength   | Ambient, ⊥   | EN 12467   | 23.0                 | N/mm <sup>2</sup> |
|  | Ambient, //  | EN 12467   | 17.0                 | N/mm <sup>2</sup> |
| Modulus of elasticity  | Ambient, ⊥   | EN 12467   | 10,000               | N/mm <sup>2</sup> |
|  | Ambient, //  | EN 12467   | 10,000               | N/mm <sup>2</sup> |
| Delamination resistance                                      | Ambient      |            | 0.50                 | N/mm <sup>2</sup> |
| Hygrical movement  | 0-100%, mean |            | 1.20                 | mm/m              |
| Porosity   | 0-100%       |            | 40                   | %                 |
| <i>B. Classification</i>                                     |              |            |                      |                   |
| Durability classification                                    |              | EN 12467   | Category B           |                   |
| Strength classification                                      |              | EN 12467   | Class 2              |                   |
| Fire reaction classification                                 |              | 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 expansion coefficient                                | α            |            | 6.5*10 <sup>-6</sup> | m/mK              |
| Thermal conductivity coefficient                             | λ            |            | 0.19                 | W/mK              |
| Water vapour diffusion resistance                            | μ            |            | 17-21                | -                 |
| Specific heat capacity                                       | C            | bij 23°C   | 1018                 | J/kgK             |

## 6 Advantages

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

- water resistant and water tight (according NBN 492)
- vapour open
- high strength and good resistance to accidental impacts
- high contribution to racking strength of constructions
- fire safe (no fire ignition, no spread of fire)
- resistant to extreme temperatures
- high contribution to sound insulating systems
- resistant to many living organisms (fungi, bacteria, insects, vermin, etc.)
- resistant to many chemicals
- environmentally friendly, no harmful gas emissions

## 7 Applications

- Interior walls: high performance separating wall, backer board for tiling, sound insulating separating wall, impact resistant separating wall
- Interior floors: backer board for tiling on load bearing structural floor and suspended floors
- Ceiling: board for painted ceiling

The following surface finishing is possible:

- Walls: paint, tiles, wall paper, render,...
- Ceilings: paint, wall paper,...
- Floors: tiles, carpet, parquet floor, laminate parquet

## 8 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 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.

- Universal EURO PANELS OVERSEAS NV sawing blade on fast rotation stationary sawing machines or hand circular saw with guidance (available from EURO PANELS OVERSEAS NV or Leitz-Service). Available diameters: 160, 190, 225 en 300 mm
- Jigsaw with carbide-tipped tooth cutting blade type T141 HM from Bosch (available from EURO PANELS OVERSEAS NV)
- Diamond cutting blade without teeth on fast rotation stationary sawing machines or hand circular saw with guidance.
- Cut and snap: score both sides of 6 or 9 mm boards with score-knife with carbide-tipped tooth and snap on a supported edge. (available from EURO PANELS OVERSEAS NV).

### Edge beveling:

When processing the sheet it must be sufficiently supported so that it does not sag. The working bench must be very stable and may not vibrate. Electrical machines must have an adequate dust extraction system.

- Electrical planer with reversible blades (e.g. Metabo Ho E 0983 or Festool HL 850).
- Wooden plane with Widia-blade (available from EURO PANELS OVERSEAS NV). For smaller dimensions and smaller quantities.

### Drilling:

The sheet must be sufficiently 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. Pionier from Metabo)

### 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.

- Screws: Can be screwed directly without pre drilling.  
Dimensions of the screw
  - Hydropanel screw in galvanised steel for wood and metal-stud (screws available from EURO PANELS OVERSEAS NV): 4.0 x 35 mm
  - Hydropanel screw in stainless steel for 2 mm thick metal profiles (screws available from EURO PANELS OVERSEAS NV): 4.5 x 32 mm
- Nailing: Can be nailed directly without pre drilling. The head of the nail may not be driven too deep in the sheet. The pneumatic nailing machine is regulated with constant depth.  
Dimension of the nails
  - Hydropanel nail in stainless steel (available from EURO PANELS OVERSEAS NV): 2.8 x 45 mm
  - Hydropanel nails on tape (nails and machines available from Senco): 2.5 x 45 mm
- Stapling: The back of the staple may not be driven too deep in the sheet. The pneumatic nailing machine is regulated with constant depth.  
Dimensions of the staples
  - Mechanical stapling (staples and machines available from Senco): 1.88 x 40 x 11.4 mm
- Gluing: Can be glued with glue mortar on brick wall or concrete.  
Type of glue
  - Glue mortar (e.g. Omnicem E Flex of Omnicem DB Flex from Omnicol)

#### Finishing of bevelled edges:

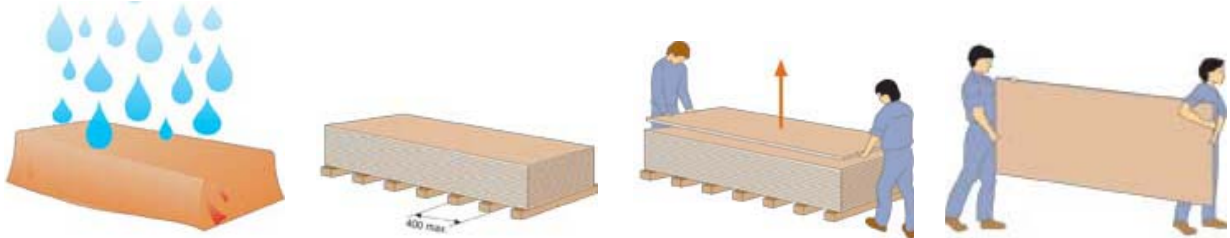
Bevelled edges have to be finished with a specially developed finishing system consisting of a primer (optional), a filler and a joint strip. Two different systems are offered; one ready to use (Ready Mix = RM) and one powder based system (Powder Mix = PM).

System 1: HYDROPANEL RM PRIMER + HYDROPANEL RM FINISHER + HYDROPANEL STRIP

System 2: HYDROPANEL PM PRIMER + HYDROPANEL PM FINISHER + HYDROPANEL STRIP.

More detailed info can be found in the application guidelines. (Finishers, primers and strip are available from EURO PANELS OVERSEAS NV)

## 9 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 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.

## 10 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.

## 11 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.

## 12 Certification

The manufacturer is able to deliver the CE declaration in terms of the European Construction Products Directive. The products are delivered with the ATG label 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.



An 'Environmental Product Declaration' (EPD) for HYDROPANEL has been made according ISO 14025 by the German Institute for construction and environment "Institut Bauen und Umwelt e.V." (IBU) and can be obtained on demand.

## 13 More information

Information on the different applications can be found in the EURO PANELS OVERSEAS NV 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.

Consulted norms and specifications and available test reports can be found in the application guidelines for HYDROPANEL.

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