



expanded glass panels



# USERGUIDE

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# 1. Product description

The Omnex panel is an expanded glass panel finished with fibreglass mesh on either side. This construction panel offers multiple benefits for wall or ceiling construction. Omnex is an independent, non-bound system. This offers the advantage that you can combine the building materials on the market, suitable for gypsum boards and mineral substrates, with Omnex boards. However, the manufacturer's respective guidelines must be followed. The Omnex panel is 100% produced in Belgium.



**Multifunctional**  
suitable for inside  
and outside application



**Light**  
very easy to  
process and carry



**Breather membrane**  
ensures natural  
regulation of damp  
and heat



**Strong**  
robust and high  
impact-resistance



**Flexible**  
convenient for making  
round arches or lining  
bath edges



**Insulating**  
has acoustic absorption  
and thermally insulating  
capacities



**Water and frost resistant**  
suitable for installation in wet  
spaces and resistant  
to extreme cold



**Resistant to mould**  
suitable for the medical  
and food sectors



**Environmentally-friendly**  
made from recycled glass,  
making the panels sustainable  
and healthy for the residential  
environment

## 2. Applications and preparation

### 2.1 Areas of application

#### Indoor use

- › Damp environments such as bathrooms and shower cubicles
- › Interior walls
- › Public amenities such as wellness centres and swimming pools
- › Industrial installations such as commercial kitchens
- › Suitable for open structures

#### Outdoor use

- › Dropped ceilings
- › Façades
- › Timber frame construction

### 2.2 Storage and transport of the panels

Omnex panels are delivered packed flat on pallets. The panels must always be stored horizontally on a level surface. Vertical storage may lead to deformation of the panels or damaged edges and corners. Always carry individual panels vertically.

Open-air storage is permissible, but to enable later surface treatment the panels must be kept covered and protected.

### 2.3 Preparation of the substructure

#### Corrosion protection

In challenging spaces necessitating corrosion protection (swimming pools, wellness centres, commercial kitchens, etc.), compliance with certain requirements is mandatory in order to guarantee the quality of the substructure and securing.

### 2.4 Site environment

Voor een goede implementatie van de wanden of het plafond in droogbouwconstructies, moeten volgende voorschriften in acht genomen worden:

- › Damp or soaked panels may not be used until they are completely dried out
- › Damaged panels may not be installed
- › The relative humidity during installation must be < 80%, with environmental and material temperatures of > 5°C
- › Rapid heating or jumps in temperature should be avoided.
- › The total temperature of the panel must not exceed 70 ° C.

### 2.5 Equipment



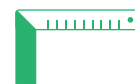
Utility knife



Electric screwdriver or staple gun



Sanding block



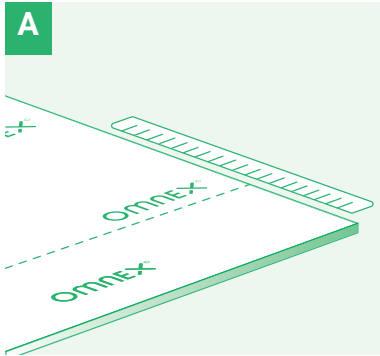
Framing square

### Omnex multifunctional construction panels

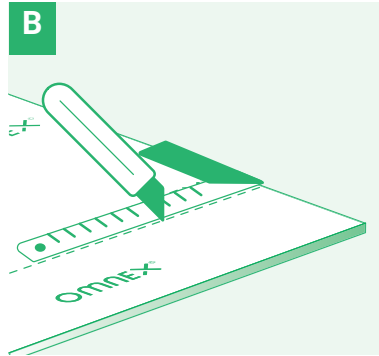
The lightweight, high-quality Omnex construction panels allow you to work quickly and easily in a variety of applications. Use both indoors and outdoors, and in damp environments too. Follow the steps in this installation guide to install the panels correctly.

- › For more information please visit our website at [www.omnex-panels.com](http://www.omnex-panels.com)

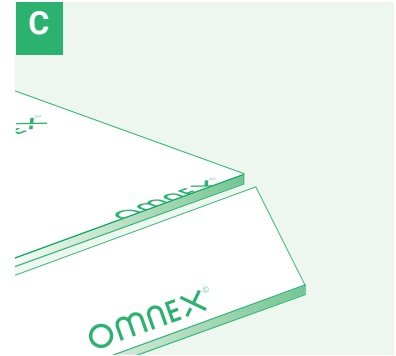
### 3. Processing of the panel



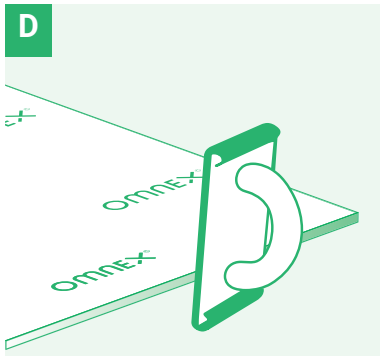
Measure the pieces to fit your requirements and mark them on both faces.



Score the panel using a utility knife and steel ruler, cutting through the fibres.



Break the panel at the cut.



Use a sanding block to sand the broken edges for even joints.



Carefully cut openings for cables, ductwork, power outlets, etc. using a jigsaw or hole saw.

For more accurate cutting, you should use a milling machine. We recommend that you use glasses and a mask.

#### Creating shapes with Omnex\*

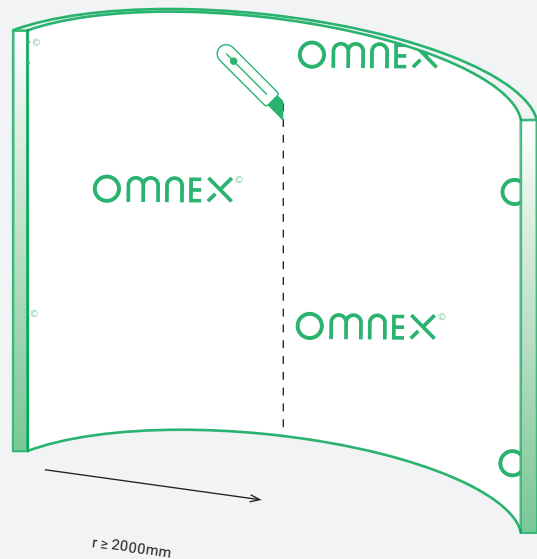
The Omnex panels are flexible and therefore suitable for creating e.g. rounded arches or finishing bath edges. We recommend using our large Omnex panels (2600x1200 or 2400x1200) to create these curved shapes.

##### Radius > 2000mm:

Secure the uncut panel to the shaped support structure.

##### Radius < 2000mm:

Make incisions in the panel and secure it to the shaped support structure. For convex curves, fill the incisions using commercially available sealant.

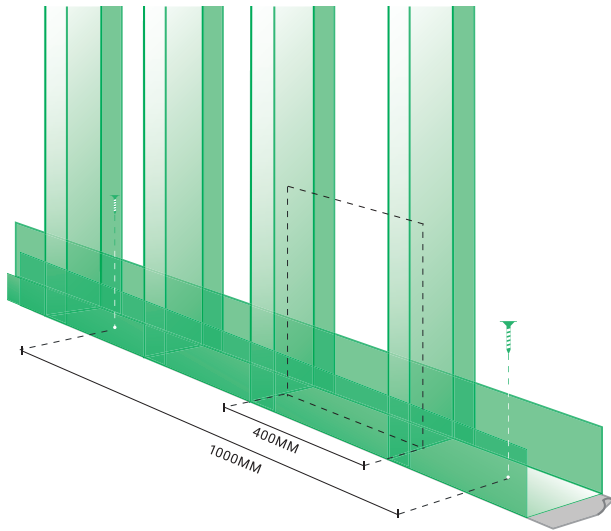


\* Valid for a 10mm panel.

## 4. Support structure

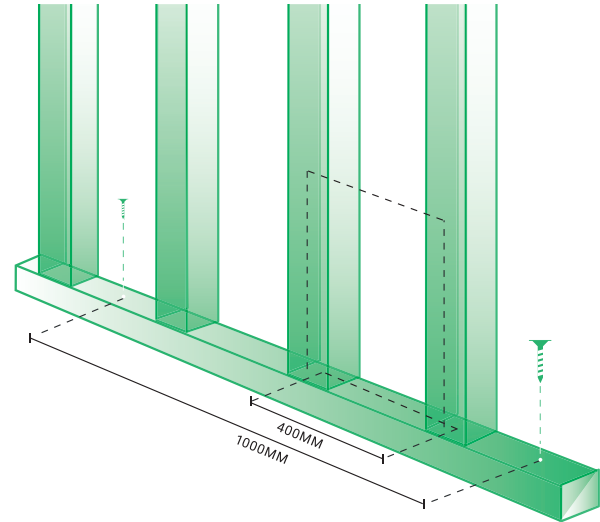
### 4.1 Construction of the support structure

#### Metal support structure



- Use standardised metal profiles in accordance with the EN 14195 standard.
- The metal profiles must provide adequate protection against corrosion.
- Mount sealing tape to the back of the horizontal U channel to improve soundproofing.
- Now secure the U channel to the ground using at least three anchor points.
- The distance between these points must not exceed 1000mm.
- Then secure the vertical profiles plumb to the wall, mounting them in the U channel with a centre distance of 400mm between profiles.
- Use suitable materials to ensure connections are as seamless as possible for proper fire safety and soundproofing.
- Always provide a little clearance in the length of the vertical profiles to address minor variations in construction.
- For outdoor and damp environments, use self-drilling screws made from stainless steel.

#### Wooden support structure



- The wooden construction must be constructed of solid wood/softwood in accordance with (at least) the EN 1995-1-1 standard.
- We recommend at least durability class II
- During installation, the wooden laths may have a maximum moisture content of 20%.
- The horizontal profile must be secured to the ground.
- Employ at least three anchor points, spacing them a maximum of 1000mm apart.
- Then secure the vertical laths to the U channel with a maximum centre distance between laths of 400 mm.
- Laths must measure at least 60x80mm at the panel joints, and 40x80mm in areas without joints.
- The wooden support structure must be installed using a spirit level.
- To compensate for irregular walls, screws with adjustable spacers can be used.
- To improve soundproofing and thermal insulation, damping material may be installed between the laths.

The stability of the substructure must be assessed and approved by the constructor or supplier of the substructure

## 4.2 Securing to wooden or metal frame using screws

- › On a metal substructure, we recommend self-drilling Omnex screws in stainless steel of 6.0x28 mm with a head of diameter 14.5mm.
- › On an aluminium substructure, we recommend Omnex screws in stainless steel of 5.5x24mm with a head of diameter of 14.5mm.
- › For an external mounting on a wooden substructure, we recommend 5.0 x 42 mm Omnex wood screws in stainless steel with a head of diameter 11mm.

Always mount screw heads flush with the panel surface.



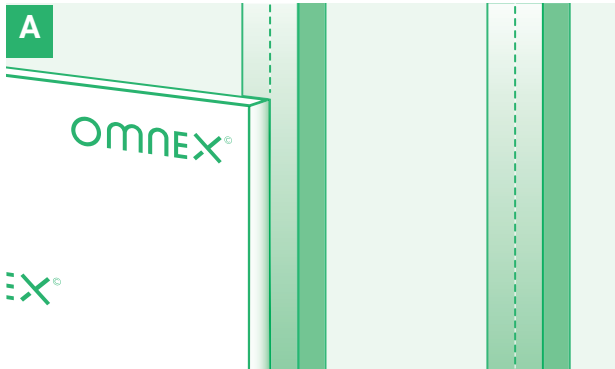
### Screw distances

› Wooden/metal support structure for walls: < 230mm

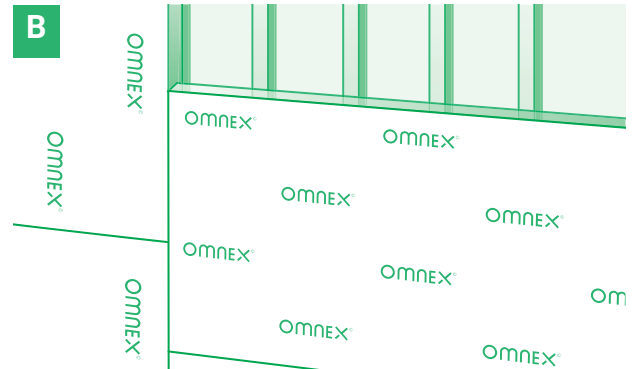
› Wooden/metal support structure for ceilings: < 170mm

› Spacing: > 20mm

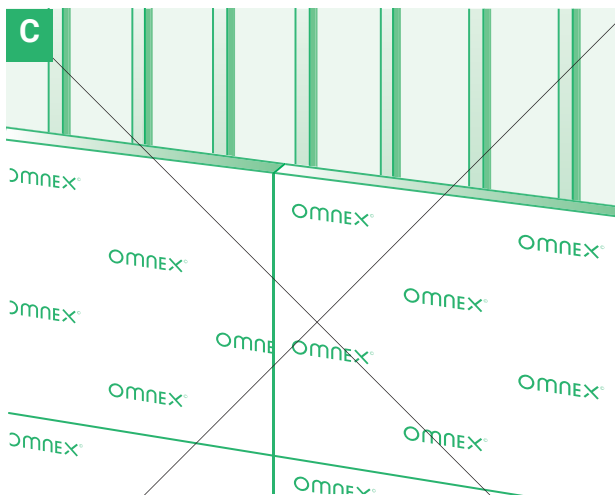
### 4.3 Mounting



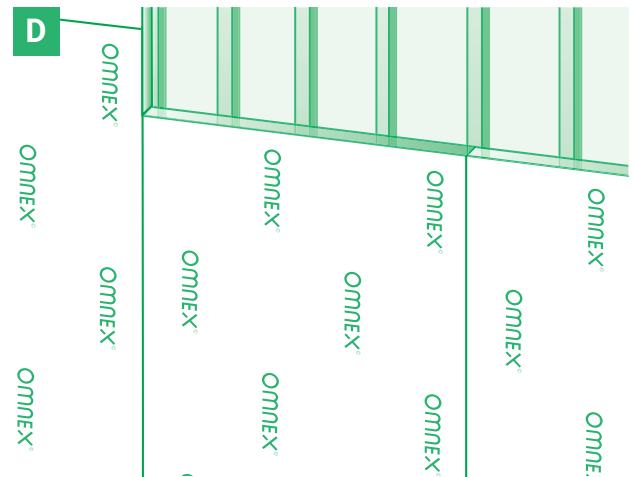
The panels must meet each other in the centres of the supporting laths or profiles.



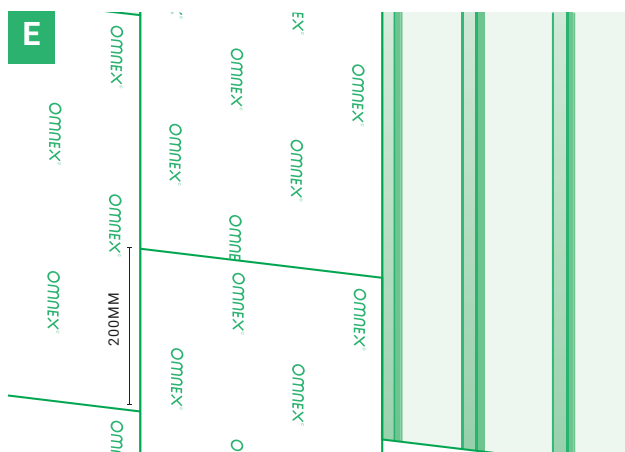
Stagger the panels.



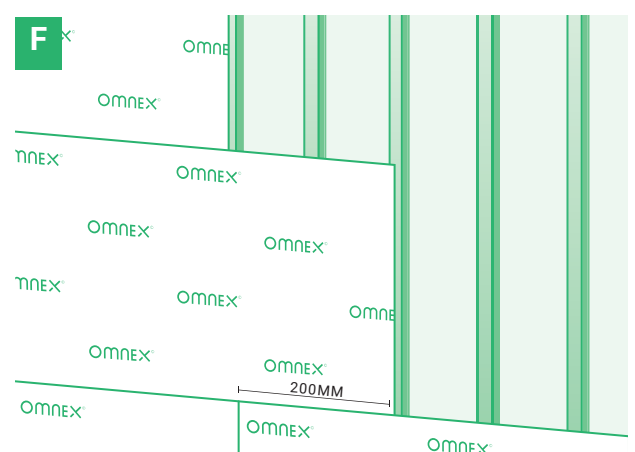
Avoid four-way joints when mounting.



Mount the Omnex panels oriented vertically.



Mount the panels with vertical joints staggered by at least 200mm.



Mount the panels with horizontal joints staggered by at least 200mm.

Direct contact with moisture should be avoided. The plate should be placed at least 200mm above ground level.

- An expansion joint must be provided every 12 running metres.
- For a stable wall structure, single-layer plating is sufficient.
- The panels must be placed with tight joints. The front face of the plaster support must form a perfectly plane surface.



## 5. Inside mounting

### 5.1 Processing of the panel

See chapter 3 page 5: Processing of the panel

### 5.2 Support structure

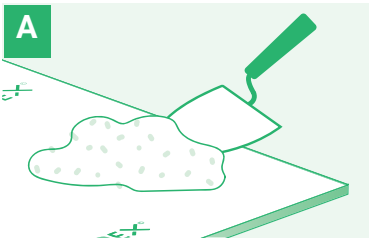
Wooden or metal structure: See chapter 4 page 6: support structure

### 5.3 Fastening by screws

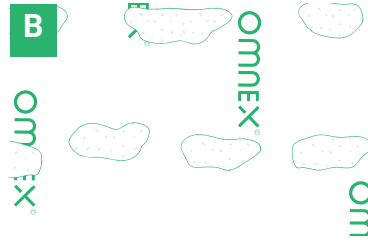
See chapter 4.2 page 7: securing to wooden or metal frames using screws

### 5.4 Securing to masonry using mortar

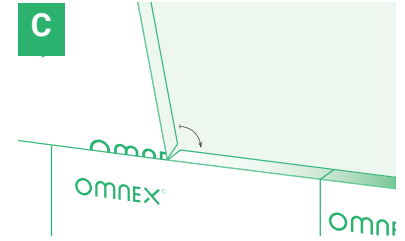
First apply primer to the masonry. When the primer has dried, prepare the mortar, following the manufacturer's instructions.



Take the panel which has been cut to size. Apply even dollops of mortar to it, spaced approx. 30 to 40mm apart. Maintain a distance of approx. 50mm from the edges.



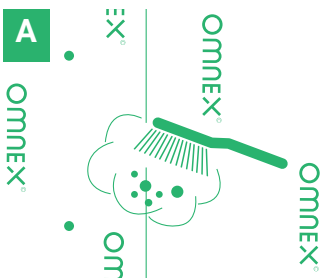
Apply 1 or more rows of mortar down the centre of the panel, depending on the panel width. Then apply the mortar straight onto the Omnex board.



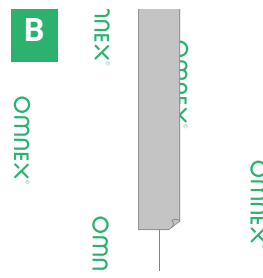
Now press the panel squarely to the masonry. Avoid four-way joints! Install the panels using a spirit level.

### 5.5 Finishing panel joints

Tape over the joints using self-adhesive fibreglass tape, without plastering first.



Use a brush to remove any dust from the substrate.



Apply the fibreglass tape and then immediately apply the finishing layer. Don't wait too long, as the tape adhesive is only calculated for short-term fixation.

## 5.6 Applying facing indoor

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### Plastering

Commercial plasters for mineral substrates can be used in accordance with the manufacturer's guidelines.

### Wallpaper, wall liner, fibreglass wallpaper

These are all easily glued to the Omnex panels. They can also be painted afterwards.

### Stone or ceramic facing

Use mortar for ceramic or stone tiles.

Avoid discoloured edges, only using appropriate silicone sealants for stone. As Omnex panels are faced with fibreglass mesh on both sides, tiles can be fixed directly to the wall with only a single panel layer. The chosen adhesive mortar system must comply with the manufacturer's instructions.

For natural stone, we recommend a flexible marble-suitable adhesive.

For tiles we recommend C2/S1 adhesives according to EN standard 12004.

The tile adhesive must be applied two-sided.

Depending on the manufacturer's instructions, a primer must sometimes be used.

The maximum carrying capacity is 40kg/m<sup>2</sup> for a height <6m. In ceiling applications, please contact the manufacturer first.

## 6. Outside mounting

### 6.1 Processing of the panel

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See chapter 3 page 5: processing of the panel

### 6.2 Support structure

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Wooden or metal structure see chapter 4 page 6: support structure

### 6.3 Fastening by screws

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See chapter 4.2 page 7: securing to wooden or metal frame using screws

### 6.4 Exterior plasters

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1. Distribute the flattening mortar evenly over the plate with a minimum layer thickness of 3mm, depending on what the manufacturer requires.
2. The fibreglass mesh is embedded in the flattening mortar and an overlap of at least 100mm can be provided between to fibreglass meshes.
3. Once the flat surface has completely dried out, the decorative plaster may be applied. The decorative plaster may not be exposed to rain or strong winds during processing.
4. the plate is vapor permeable, so a minimum air gap of 20mm must be provided.

The guidelines of the decorative plaster manufacturer must always be observed.

### 6.5 Natural stone; chapter 5.7 p.10:

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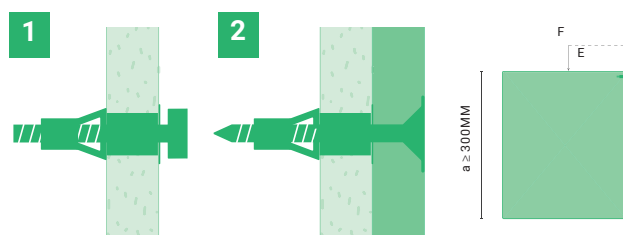
The maximum carrying capacity is 25kg/m<sup>2</sup> for a H<9m. The maximum carrying capacity is 15kg/m<sup>2</sup> for a H >9m and a H<28m.

A reinforcement fibreglass mesh must be provided over the entire surface.

## 7. Additional information

### 7.1 Permissible loads

Secure light or medium-weight wall cabinets and shelving, hanging cabinets or display cases directly to the Omnex panel, using standard commercially available wall plugs (for hollow walls) and appropriate screws. Follow the wall plug manufacturer's instructions for the appropriate diameter and screw dimensions.



**Additional loads:** F per plug for various distances from the centre of gravity (e):

Plug Ø (mm)	e (mm)	50	100	150	200
<b>1</b> Metal wall plug for hollow walls	<i>F perm. (kN)</i>	0,70	0,65	0,55	0,45
<b>2</b> Plug 8/51, 6 screws	<i>F perm. (kN)</i>	0,60	0,50	0,40	0,30

1 kN equals approx. 100 kg

### 7.2 Treatment in damp areas:

Omnex panels are waterproof and resistant to fungus and bacteria. This makes them very suitable to be used in damp spaces.

We recommend using a water seal in wet spaces that experience moderate and high levels of water splashing on the wall and floor surface.

The panels are anti-fungal due to the higher PH value and the air circulation inside the panel. This means you can place an Omnex panel against a mouldy wall without worrying.

### 7.3 Mold prevention and control

The Omnex plates are a very good remedy for mold infection. Mold spots often appear in humid conditions on cold room walls.

The Omnex plates based on expanded glass granules absorb the excess moisture inside.

The moisture will spread through capillarity throughout the panel. When conditions are good, the panel will release the moisture without being soaked. The Omnex plates contribute to the regulation of the relative humidity in the room.

At a room temperature between 5°C-35°C and a relative humidity higher than 70% you create an ideal environment for mold formation.

The air circulation in the Omnex panel itself ensures that the temperature of your walls is increased and thus also your room temperature. A warm wall can absorb more moisture than a cold wall.

Mold develops best on materials that have a PH value between 5 and 7.

The PH value of Omnex panels are +/- 9.

It is therefore useful to optimize the surface of your inner wall by increasing the surface temperature by means of an Omnex inner wall that will serve as a moisture regulator. The thermal conductivity is largely maintained and the wall comfortably warm.

We recommend using the Omnex plate 20mm against mold control.

## 7.4 How to create an angle / shape from an Omnex panel?

With a 10mm thick Omnex panel, take a 20mm cutter with a 90 ° angle. Measure and mark your panel.

Place the milling machine, connected to a vacuum cleaner, on the line drawn. Set the machine to a maximum depth of 9.8 mm. Do not cut through the fiberglass mesh.

In this way, you can easily create an infinite number of angles and shapes with Omnex panels.



Fold the panel into the grooves created to form your corner.



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This document supersedes all previous documents. We reserve the right to make adaptations that lead to technical progress and product improvement. These technical data are indicative, but are not binding.