



WONDERBOARD[®]
HYGIENIC HACCP WALL AND CEILING LINING

Instructions for the perfect result

A product from:



General information	3
Product features	3
Transport, packaging and storage	5
Processing	6
Assembly overview	8
Assembly instructions - Direct gluing	10
Assembly instructions - 2 component adhesive joining	14
Assembly instructions - Wall systems	17
Assembly instructions - Partition	19
Assembly instructions - Ceiling system	20



General information

Approvals and certification

UVIGO



A university has carried out a study for Milin BV looking at microbial behaviour, mould adhesion and bacterial adhesion. During this study, tests were carried out on Wonderboard panel material. Various species of contaminating microorganisms were used that can be found in the food industry and the medical industry. The results of the tests show that the degree of adhesion is lower than the maximum level from international scientific studies for materials permitted in the food industry.

HACCP



This stands for Hazard Analysis Critical Control Points. The HACCP system is a method for producing foodstuffs that meet the very highest demands in terms of food safety. It requires companies which are involved in the preparation, processing, treatment, packaging, transport and distribution of foodstuffs to identify all aspects of the production process and analyse the hazards associated with them. This control process, based on EU directives, aims to ensure that the production process of all foodstuffs goes hand in hand with the least possible risk of contamination. HACCP is a preventive system that must be implemented by the companies themselves. Tracking down and then controlling the health risks in preparation and treatment processes increases the food safety of the product.

ISO



The factories producing the Wonderboard panels are ISO 9001:2008 certified. The ISO 9001:2008 is a standard that sets requirements for an organisation's quality management system. It complies with the USDA/FSIS requirements and is approved by the Canadian Food Inspection Agency (CFIA).

ASTM



The Wonderboard panels are made according to the industry standard ASTM D-5319-2008. The technical data of the panels in this instruction brochure is the result of tests performed based on this standard.



The Wonderboard panels have an A+ emission rating! This means that Wonderboard is a low-emission material and no odours or substances are emitted or released. As a result, employees, but also products that are processed or produced in this space, will not come into contact with unwanted substances or odours.

The technical data sheets of the Wonderboard panels can be downloaded from our website www.wonderboard.eu. Here you will find the various ASTM test methods used to determine the mechanical and physical properties. This ensures your product is safe.

Applications

The Wonderboard product system is an off-the-shelf package as a solution for the building sector, for both renovation and new construction. The panelling and sandwich panels are used in areas that are subject to strict hygiene requirements (HACCP) and where ease of cleaning is a prerequisite.

Warranty

The warranty is valid only if the Wonderboard product system has been fully assembled in accordance with this instruction brochure. The warranty can be requested from our sales department. The guarantee certificate is available on the website or can be requested via info@wonderboard.nl.

Product features

A special kind of high-strength polyester resin is used in the panels, combined with fibreglass reinforcement to produce high-quality panels that are both durable and flexible. The net result is a surface with a high resin component which is tough, strong and easy to clean.

This unique fused protective layer means that the panels are not only resistant to moulds and bacteria, but also dirt-repellent and impact-resistant.

The panels are resistant to scratches and wear. A file containing an accurate list of aggressive chemicals to which the panels are resistant can be downloaded.

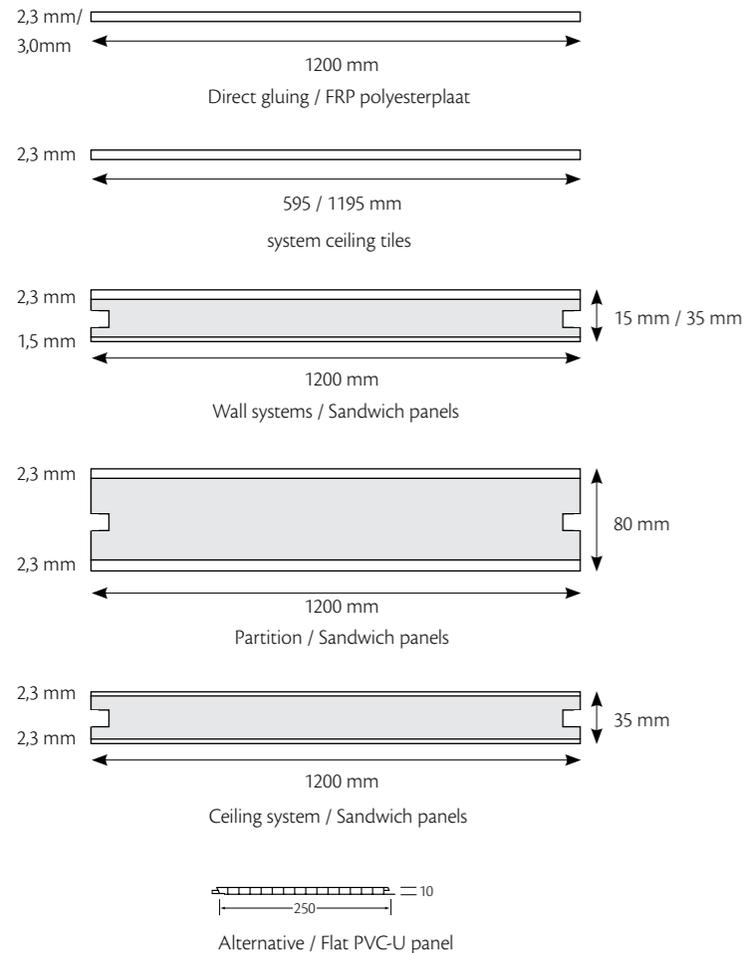
In addition, the panels do not absorb odours and they are the same colour right through. Whereas other types of panels suffer from corrosion problems, Wonderboard does not rust at all.

The panels are thermally stable and retain their full strength at temperatures from -50°C to +100°C. For long-term exposure, the permissible temperature range is from -40°C to +85°C.

Model

Direct gluing	FRP polyester	2.3mm	Euroclass E
Direct gluing	FRP polyester	2.3mm	Euroclass B-s2,d0
Direct gluing	FRP polyester	3.0mm	Euroclass E
Wall systems	Sandwich panel	15mm	Euroclass E *
	Sandwich panel	35mm	Euroclass E *
Partition	Sandwich panel	80mm	Euroclass E *
Ceiling tiles	FRP polyester panel	2.3mm	Euroclass E *
Ceiling system	Sandwich panel	35mm	Euroclass E *
Alternative	Flat PVC-U panel	10 mm	Euroclass C-s2,d2

* at an additional cost, sandwich panels can be produced 1 or 2-sided with a fire class B-s2,d0



Working

Plastics expand and contract when the temperature changes. This means that the Wonderboard panels can also expand and contract; The linear expansion coefficient: 0.030 mm/m/°C. Take this into account in the finishing profiles.

Colour

The panels that we keep in stock are white. The colour is actually similar to RAL 9016. Other (RAL) colours are possible for orders of 1000 m2 upwards. The panel is the same colour right through.

Cleaning

This can be done using steam or a high-pressure cleaning jet. a chemical resistance list is available. This list can be found on www.wonderboard.nl (downloads). Always rinse thoroughly with clean water.

Fire safety classification

Basic 2.3mm (stock)	EN 13501-1	E
upgrade 1	EN 13501-1	C s3 d0
upgrade 2 (minimum thickness 2mm)	EN 13501-1	B s2 d0

Default, the 2.3mm Wonderboard sheet has a fire safety classification of Euroclass E according to EN 13501-1. Above certain minimum amounts, the fire safety class can be raised to Euroclass Cs3d0 and Bs2d0. Upon request, test reports are available via info@wonderboard.nl.

Technical data sheets

For more information on the mechanical, physical and chemical properties, see the technical data sheet of the 2.3mm FRP polyester panel. It can be downloaded from www.wonderboard.eu.

Dimensions

Length	2500 / 2750 / 3000	mm
Width	1200	mm
Thickness	2.3	mm
Weight	± 3.2	kg/m2

Transport, packaging and storage

Transport

The Wonderboard panels must be transported on stable pallets of at least the same dimensions as the panels. In addition, it is recommended to secure each pallet individually using ribbon. The pallets can be loaded or unloaded with a forklift truck. During loading and unloading, the panels should be prevented from sliding over each other. It is best to lift each panel individually to avoid damage to the surface.

Packaging

- Wonderboard, FRP polyester panel	2.3mm	per 100-unit pallet
- Wonderboard, FRP polyester panel	3.0mm	per 100-unit pallet
- Wonderboard, Sandwich panel	15 mm	per 75-unit pallet
- Wonderboard, Sandwich panel	35 mm	per 30-unit pallet
- Flat plastic panel	10 mm	per 4-unit pack

Storage

The sheets and sandwich panels must be stored indoors, lying horizontally on a flat surface. The flat pallets should be sufficiently supported, over an area that has at least the dimensions of the panel. Storage outdoors in the sun and rain must be avoided. Make sure that no moisture can get in between the panels.

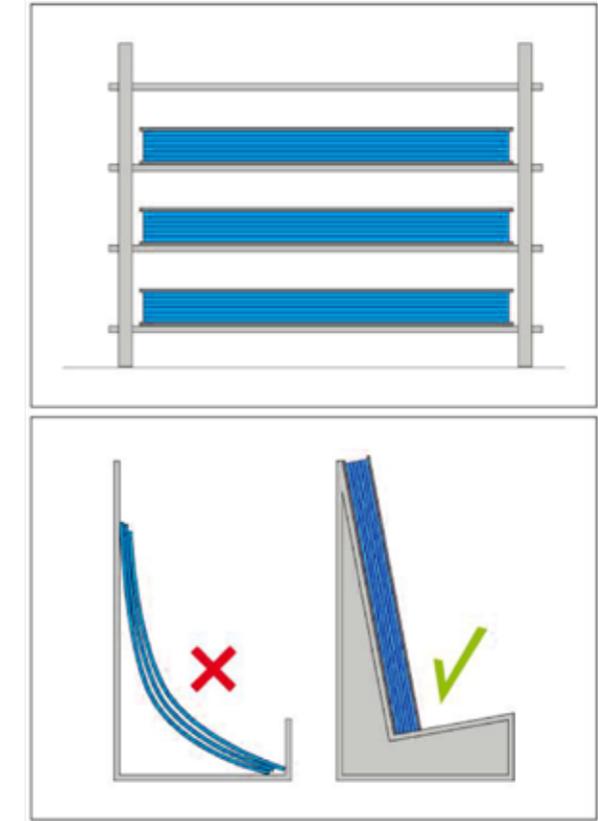
- The panels may not get wet. In the event the panels do get wet, wipe them dry and position them in a manner that allows them to dry. Do not install wet Wonderboard panels.
- The materials must be stored in a dry and well-ventilated area at a minimum prevailing temperature of 10°C.
- The 2.3mm panels and 15 and 35 mm sandwich panels must always be stored horizontally and fully supported. If the panels cannot be stored this way, the 15 and 35 mm sandwich panels can be stored under an angle between 60 and 70 degrees. The entire surface must be supported at all times.
- A protective plate must be placed on the top panel and between the pallet and the bottom panel.
- Incorrect storage may result in permanent deformation of the panels.
- The weight of the stacked pallets may not exceed 1500 kg.

Handling of the product

Do not slide the front or back of the Wonderboard panels and sandwich panels over each other. Avoid contact of sharp and hard objects with the back and front of the panels.

Check

We handle our products with the utmost care. However, we would like to ask you to check the Wonderboard panels and sandwich panels for imperfections, such as shipping damage, production faults, etc. upon delivery by our carrier. Also perform a visual check of the panels during installation.



Processing

Substructure

Ensure the substructure is such that a strong and stable construction is guaranteed. When glued directly onto the walls, always make sure these are dry, free of grease and smooth.

Battens

To install wall cladding using sandwich panels, sustainably impregnated wooden battens, a metal stud wall or plastic battens are used.

Brush or paint roller

Primers are applied using a brush. On smooth surfaces, using a paint roller works faster than using a brush.

Tools

The panels are cut and sawn using normal woodworking tools. A circular saw with a hard metal saw blade, sabre saw or hand saw with fine teeth (no wood saw). Always wear the proper personal protection.

Glue guns

Use a hand, compressed air or battery-operated glue gun to apply the 1-component glue (600 ml adhesive sausage). For the 2-component adhesive joining (tandem cartridge) a hand or air-pressure glue gun.

Glue spreader

In the case of direct gluing, spread the glue evenly across the wall. This can be done using a 4mm glue spreader.

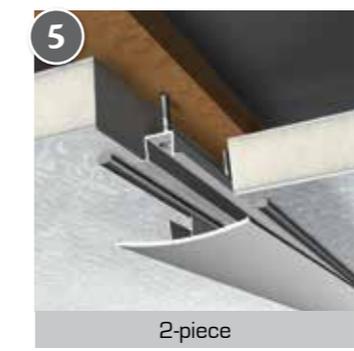
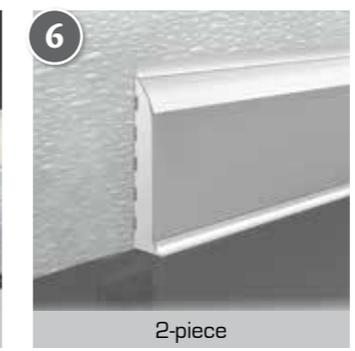
Other tools

Hand roller, hammer, drill, file, sandpaper (machine), spirit level, plumb line, trestles, laser.





<p>Inner corner profile</p>	<p>Outer corner profile</p>	<p>start - and end u-profile</p>	<p>Connecting profile</p>	<p>Component adhesive joining / inner corner</p>
 <p>2.3 mm</p>	 <p>2.3 mm</p>	 <p>2.3 mm</p>	 <p>2.3 mm</p>	 <p>2.3 mm</p>
<p>The inner corner profile (item no.: 1035) is mounted according to the drawing.</p>	<p>The outer corner profile (item no.: 1025) is mounted according to the drawing.</p>	<p>start- and end u-profile (item no.: 1030) is mounted according to the drawing.</p>	<p>The connecting profile (item no.: 1020) is mounted according to the drawing.</p>	<p>The glue (item no.: 1053) is applied between the tape (item no.: 1046). Remove the tape immediately after applying the glue.</p>

<p>Ceiling detail</p>	<p>Skirting detail</p>	<p>Inner corner detail</p>	<p>Partition detail</p>
 <p>2-piece</p>	 <p>2-piece</p>	 <p>2-piece</p>	 <p>SWP</p>
<p>The panels (item no.: 1085) are connected to each other on the battens. This is done using the 2-piece clip-on covering profile (item no.: 1075+1080).</p>	<p>Mount the Solid foam skirting (item no.: 163 or 164) onto the wall using glue (item no.: 1051). The skirting can then be finished using white silicone mastic (item no.: 1045).</p>	<p>Mount the inner corner profile (item no.: 1027) using glue (item no.: 1051). The corner profile can then be finished using white silicone mastic (item no.: 1045).</p>	<p>To connect the sandwich panels to each other, a separate tongue strip (item no.: 1084) is inserted into a groove. The sandwich panels are then connected using the 2-piece clip-on covering profiles (item no.: 1075+1080), or 2-component grouting (item no.: 1053).</p>

Assembly instructions - Direct gluing

Application conditions

Use the materials at a minimum room temperature of 10°C. This temperature applies throughout the installation process of the Wonderboard system.

Drying the walls



The walls must be dry, not just visually, but the actual moisture must be removed from within the wall. This can be achieved by installing a building dryer in the relevant space for a considerable time or by setting the heater to high. The duration will depend on the condition of the walls.

Checking the moisture in the walls



The moisture content in the wall can be measured using a moisture meter.

Removing obstacles



It is recommended to remove all obstacles before cleaning the walls. This will allow for quick and effective cleaning and installation. Depending on the size of the obstacles, they can later be finished using the required profiles, sealant or 2-component glue.

Sanding the walls



The current sandwich panels often have rust spots. Sand these rust spots. Remove any loose paint and coating layers using a putty knife and sand these spots as well using a sanding machine. Then lightly sand the remaining part of the wall.

Assembly instructions - Direct gluing

Cleaning the existing wall



Removing any traces of grease, light surface contaminants and adhesive residues. Apply the cleaner to the surface. Wipe dry in a single direction with a clean cloth. The cleaner evaporates and extracts heat from the surface causing it to cool down. This may cause condensation on the surface. After degreasing, it is recommended to wait approximately 10 minutes before applying the glue to the completely dried surface. Application temperature: +10°C to +40°C. Consumption: 1000ml, per ± 50m².

Degreasing the Wonderboard panel



Clean the back of the panel using cleaner, acetone or a similar product.

Applying the primer

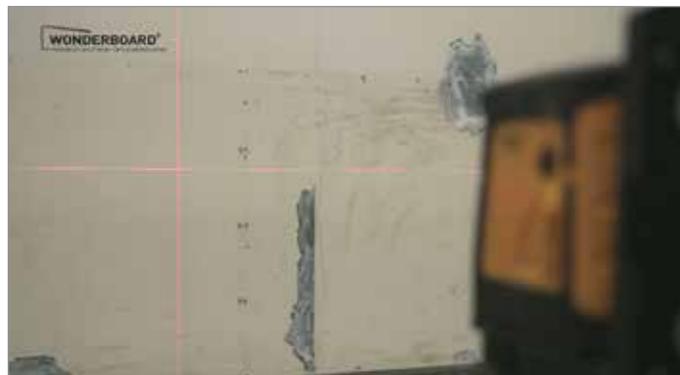


Universal primer

In many situations, the use of a primer is not necessary. The reason for applying a primer is to improve the adhesion between the glue and the surface on surfaces the glue does not adhere to properly. A primer may be required for the following surfaces: coated metal, plastic, plasterboard, masonry, concrete, wood and stucco. This also applies to surfaces that are frequently exposed to fat, dust and acids/salts and/or liquids.

The primer must be thoroughly shaken before use. The bonding surfaces should be smooth, dry, clean and have sufficient load-bearing capacity. The primer can be poured into a paint box and be applied using a brush or a paint roller. Apply the primer evenly in a thin layer. Application temperature: +10°C to +30°C. Close the canister or bottle immediately after use. We recommend that you check the adhesion of the glue under practical conditions by performing an adhesion test.

Working lines



Mark out a visual vertical line with a spacing of 1200mm. For professional use, this can be achieved with a laser or a perpendicular. This way, you will know exactly where on the wall the glue should be applied while at the same time it prevents inconsistencies in the application pattern. This also applies horizontally, for rooms where panels are installed at a height exceeding 3000mm. In the case of a plastered floor, end, for instance, 50mm above the floor. The plastered floor will be applied up this height. Always seek the advice from the application company that will install the plastered floor.

Direct gluing



Direct gluing

The sealer can easily be applied without primer on most surfaces. Prior to the application of the sealer, the surface must be thoroughly degreased, dry and dust free. If necessary, use a cleaner to achieve this. The application temperature of the sealer is: +10°C to +40°C.

Place the 600 ml adhesive sausage in the hand, compressed air or battery-operated glue gun. For a professional application, the glue is applied using a compressed air glue gun. With the glue gun, apply only vertical glue lines to the wall with a spacing of 60mm within the marked working lines. Continue where there is no glue present. To achieve a perfect bond, the glue can be spread evenly across the entire surface using a 4mm glue spreader.

The sealer is a high-quality, professional and universal sealant and construction or assembly glue that cures under the influence of air humidity into a durable, permanently elastic rubber. We recommend that you check the adhesion of the sealant under practical conditions by performing an adhesion test. Consumption: 600 ml adhesive sausage per 1.2m², meaning 1 adhesive sausage per linear metre of Wonderboard.

Installation of Wonderboard



Installation of Wonderboard

The longest available Wonderboard panel is 4000mm. If a wall with a height exceeding 4000mm must be covered, horizontal working lines must be marked out first. As a result, a horizontal perpendicular connection can be seen across the wall. Now position the panel against the wall at the desired location with the help of your colleague. Wipe from the centre of the panel outward thereby continuously pressing on the panel. After installation, let it dry by not immediately starting with the finishing of the skirting board. This will allow the glue to cure properly.

Finishing profiles, 2.3m

Before positioning the Wonderboard panel against the wall, you can prepare the 2.3mm profiles. Cut the finishing profiles to the desired length. Apply a thin line of transparent sealant (item 1045) in the profile used in areas where the walls are frequently cleaned with water. Slide the required finishing profiles onto the 2.3mm panel. Take account of a minimum clearance of approximately 2mm for the profile.

Note!

If the 2-component adhesive joining are used instead of the 2.3mm finishing profiles, see the instructions on page 14 of this instruction brochure.

Exterior corner finish

There is a standard 2.3mm profile for the exterior corner. The exterior corner can also be finished using a 50x50 mm plastic corner, provided with rounded edges. For more stringent requirements, stainless steel is more suitable. In most cases, gluing will suffice.

Floor-wall connection

Start- and End u-profile.

The start- and End u-profile. can be placed at the location of the floor-wall connection. This eliminates possible unevenness and ensures a clean finish when this profile is sealed on the finished concrete floor.

Self-levelling screed floor

If self-levelling screed floor will be fitted, the floor can be applied against the profile.

Storage of tandem cartridges

+10°C to +25°C

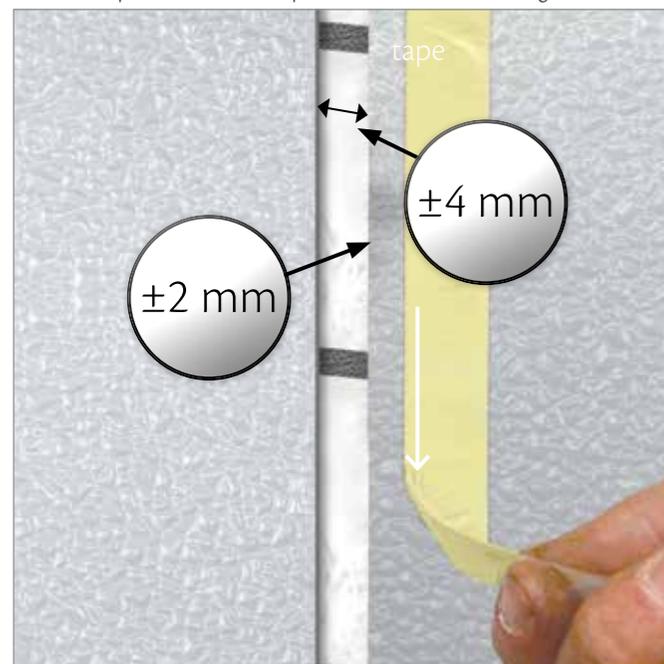
Application conditions

The temperature in the room must be at least 10°C. At a temperature of 20°C and an RH of 50-75%, the curing time is 24 hours. The maximum strength will be reached after 7 days. It is recommended not to clean the joints under high pressure within these 7 days. Always apply to dry, dust and grease-free surfaces. Avoid contact with the skin.

Application

Step 1

When installing the Wonderboard panels, adhere to a joint of approximately 4mm between the panels. Make sure the panels are free of dust, dirt and grease. Use



Step 2



Apply the tape (item no.: 1046) in such a manner that it creates an overlap of approximately 2mm on both sides. This will determine where the 2-component glue will be applied.

Step 3



Install the tandem cartridge in the glue gun and dispose of the first 10 cm to ensure the best possible mix is used. Do this with all new cartridges. You should also always use a new nozzle when installing a new cartridge.

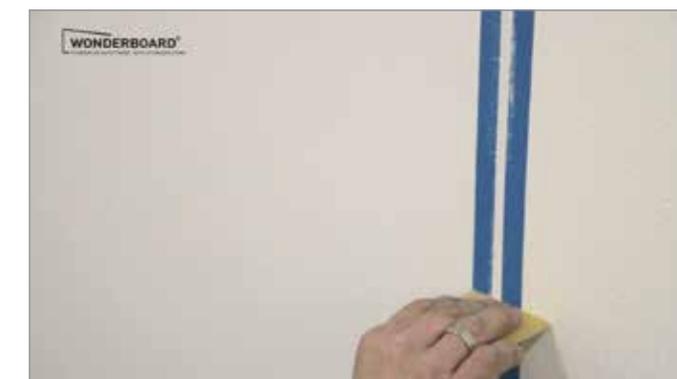
Consumption: per tandem cartridge, ± 20m¹

Step 4



Apply the 2-component glue in the joint from the top to the bottom and check it immediately.

Step 5



Then wipe the joint with a spatula. To prevent possible blistering, it is advisable not to use water or other products while jointing.

This will create an approximately 8mm wide joint.



Step 6



After five minutes, remove the tape from the Wonderboard panel from the top to the bottom.

The result will be a smooth hygienic 2-component joint.



Important!

Allow the 2-component glue to cure at a relative humidity between 50 and 75% and a temperature of 20 degrees Celsius.

At a different temperature and/or humidity, the curing time will be longer.



Application conditions

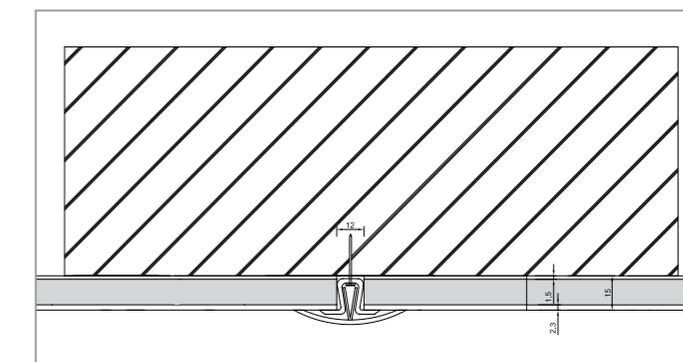
The temperature in the room must be at least 10°C.

Battens

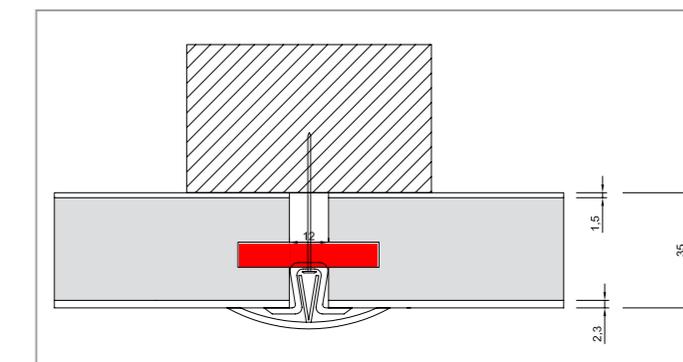
To install the sandwich panels, impregnated wooden battens, a metal stud wall or plastic battens are used. The space between the battens is 600mm. Apply a line of glue on the centre batten behind the sandwich panel to provide additional fixation of the sandwich panel.

Installation of the sandwich panels

15 mm sandwich panel / installed directly against the wall



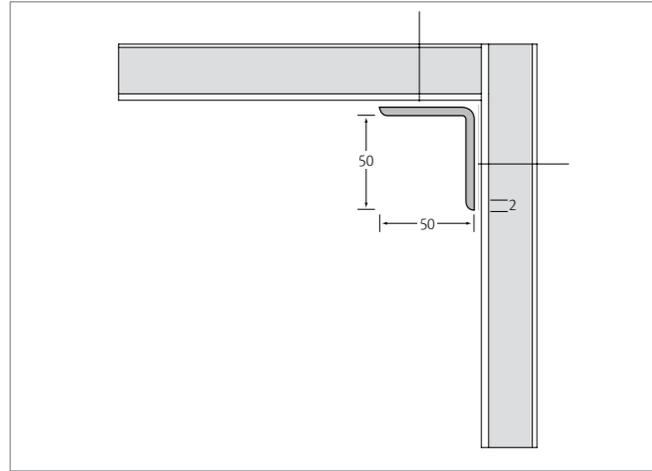
35 mm sandwich panel / installed against the battens



Install the 35 mm sandwich panels against the battens and finish with the 2-piece connecting profile strips (item no: 1075+1080), which can then be sprayed with transparent sealant for those areas where the walls are frequently cleaned with water.

Direct gluing is not possible if the paint is coming off the wall or if the existing wall is coated. In such a case, we recommend using the 15mm sandwich panels, which can be mounted directly up against the existing flat walls.

Inner corner finish and wall-ceiling connection



For the finishing of the wall-ceiling connection, install the interior corner profile (item no.: 1051) or stainless steel screws. If desired, the corner profile can then be finished with a white silicone mastic (item no.: 1045). It is also possible to make an inner corner using the 2-component adhesive.

Exterior corner finish

There is a standard 2.3mm profile for the exterior corner. The exterior corner can also be finished using a 50x50 mm plastic corner, provided with rounded edges. For more stringent requirements, stainless steel is more suitable. In most cases, the corners are glued.

Floor-wall connection

U-profile

The U-profile can be placed at the location of the floor-wall connection. This eliminates possible unevenness and ensures a clean finish when this profile is sealed on the finished concrete floor.

Self-levelling screed floor

If self-levelling screed floor will be fitted, the floor can be applied against the profile.



Application conditions

The temperature in the room must be at least 10°C.

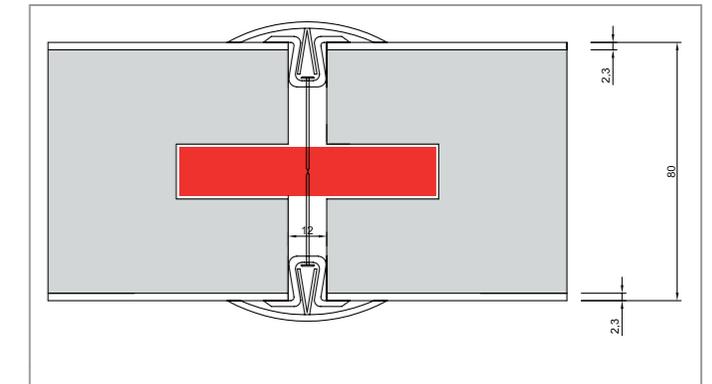
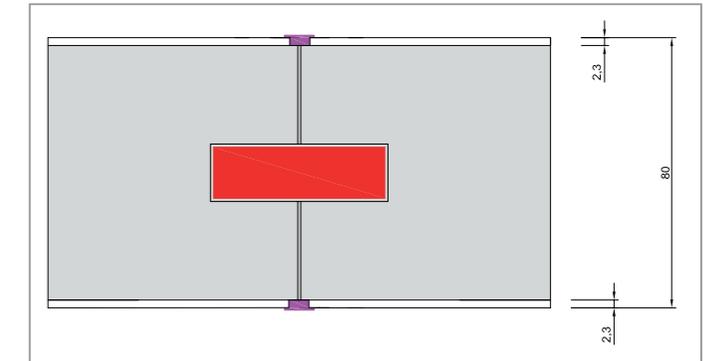
U-profile

Make sure the floors, walls and ceilings are smooth. Place the U-profiles on the floor, the wall and against the ceiling. Align these U-profiles to allow the 80mm sandwich panel to be inserted easily. The U-profiles can be secured using stainless steel wall plugs. Apply a line of glue in the U-profile for additional fixation.

Wall

To connect the sandwich panels to each other, a separate tongue strip (item no.: 1084) is inserted into a groove. The sandwich panels are then connected using the 2-piece clip-on covering profiles (item no.: 1075+1080). This connection can also be created using a 2-component adhesive joining.

80mm sandwich panel / 2-component adhesive joining



Application conditions

The temperature in the room must be at least 10°C.

Battens



To install the sandwich panels, impregnated wooden battens, a metal stud wall or plastic battens are used. The space between the battens is 1200mm. Use battens with a spacing of 600mm if the ceiling can be touched.

Installation of the sandwich panels



Installation of the sandwich panels

Installation of the sandwich panels Install the 35 mm sandwich panels against the battens and finish with the 2-piece connecting profile strips (item no: 1075+1080).

Features

- Reliability
- Durability
- Hygienic
- Impact-resistant
- Self-cleaning
- Scratch-proof
- Can be glued directly
- Dirt-repellent
- HACCP

The product that solves hygiene problems!

WONDERBOARD® Dealer:
HYGIENIC HACCP WALL AND CEILING LINING

www.wonderboard.nl

A Milin B.V. product

MilIN®
PANELS & PROFILES