LAMILUX WALL CLADDING GUIDE

UNLIMITED HYGIENE SOLUTIONS

DESCRIPTION

This Guide provides information about LAMILUX GRP and its application as wall cladding.

Customized Intelligence

Serving the customer is our first priority

SELECTION OF RECOMMENDED QUALITIES

LAMILUX
Super Plus

LAMILUX
Embossed

LAMILUX
HG4000

LAMILUX
LAMIGraph

LAMILUX
FireShield

LAMILUX
TextureWall

Depending on the product quality, the surface can be equipped with AntiBac or matt finish. Various colors (RAL, NCS, and customer-specific) and designs are available. For easy application and neat looks, Lamilux recommends a minimum thickness of at least 2,0mm.

SAFETY INSTRUCTION

Please comply with the following information on work safety when handling and especially when machining our material. Please consult as well our safety data sheet available from your sales agent.

- Eating, drinking and smoking are not allowed in work area
- Ensure adequate ventilation in work areas
- You must work with protection goggles when machining
- Wearing gloves will protect hands against cuts
- A fine dust filter mask must be worn if the user is exposed to dust
- Any dust which accumulates should be vacuumed off immediately if possible

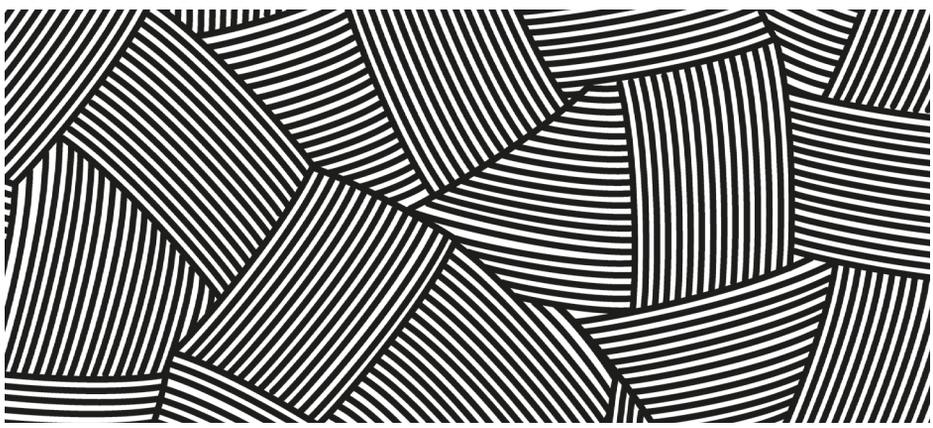
PREPARATION

GRP panels are preferably installed on walls by gluing. A variety of substrates are suitable for GRP cladding, including e.g. aluminum, steel, concrete, cement, gypsum, plaster, tiles, etc. depending on the type of substrate different glue types are used:

Absorbent porous substrate
Water or solvent based trowelable mastic
1 Component Polyurethane (PU) /
MS Polymer if primered before

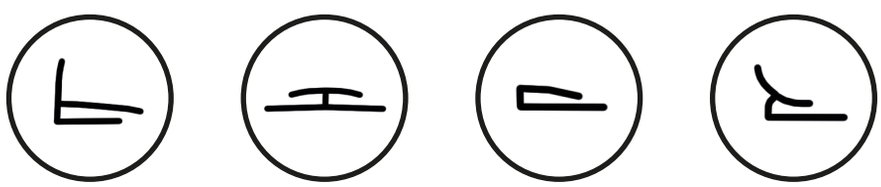
Non porous substrate
1 Component Polyurethane (PU),
1 Component MS Polymer

For recommendation ask your sales agent or local glue supplier. The glue should be applied to GRP following the glue manufacturer's instruction. If not stated otherwise, the adhesive should be applied evenly without a preferential orientation, similar to the depiction below.



The gaps of the expansion joints need to be sealed either with a 1-component modified silicone sealant, or with profiles (e.g. as following).

Profile 1 Profile 2 Profile 3 Profile 4



- Before starting, please make sure that LAMILUX products and the glue should be stored indoors at room temperature in a well ventilated dry area at least 48 hours before gluing
- Unwind the GRP-sheets and store them flat, approx. 1 day before gluing
- Do not stack on concrete floor or any other surface that emits moisture
- Installation should not begin until the building is enclosed, permanent heating and cooling operation is installed, and residual moisture from plaster, concrete terrazzo work has dissipated
- For installation we recommend an ambient temperature according to the instructions of the glue supplier.
- Make sure that the substrates are clean, dry, solid, flat , i.e. avoid dust, dirt, bumps, loose plaster, etc.
- Remove wallpaper, soluble or loose paint and other foreign materials which can have an influence on the adhesion
- For neat and smooth looks of the wall cladding, remove high spots and fill in low spots (e.g. with smoothing cement) to smoothen the substrate wall
- Do not store grp panels standing on the edge
- We recommend a maximum application temperature of 60°C and maximum humidity of 60%
- For advice on special applications and further questions, please contact your LAMILUX agent.

INSTALLATION

1. Cut panel to fit (leave space for thermal expansion of the GRP panel, as given below) and cut out any fixture openings

After removing the residual material and leveling the substrate, take measurements for the GRP. Please consider expansion joints (gaps) to compensate thermal expansion of the cladded sheets.

Minimum Gap Size	Recommended [mm]
Gap at Floor	6
Gap at Ceiling	6
Gap Between Panel and Profile	3
Gap Between two Panels w/o profiles	4 - 6
Gap at Rivets and Holes	4 - 6

2. Apply glue all over the surface of the backside of the panel using a notched trowel, as recommended by the adhesive supplier

For your guidance, the glue consumption for 1 component PU- or MS polymer is about 600 – 1200 ml/m², tooth pitch of notched trowel approx. 6 mm.
Hint: for an easier application of the 1 component MS or PU glue warm up the glue cartridges in warm water (but not hot water!)

3. Place panel on the wall. Pay attention to leave appropriate space at panel joints and corners for expansion and contraction

Fix the GRP sheet in the destined position with a light pressure on the sheet and check its fitting.

4. Using a pressing roller, remove all air pockets by working from the middle of the panel to the edges

Hint: Best to start start at an inside corner and set the first panel with a plumb line

5. **When working with profiles: Put appropriate profile between panels and ends leaving a minimum of approx. 3 mm for expansion between panel and profile system.**

6. **Install the next panel**

MECHANICAL FASTENERS

If additional processing with screws or rivets is required after fixing the GRP with adhesive, it is recommended to comply with the following instructions. Pre drill the holes, taking into account the recommended spacing for thermal expansion. Also ensure that there is a sufficient surrounding edge which is at least one and a half times wider than the hole diameter.

It is useful to limit the surface pressure on the GRP with sufficiently large washers, a profile or other reinforcement. This will also increase the pull out strength. Start the fixation from one side. The use of non-corrosive fasteners is recommended. Simple carbide drills with a conventional cutting edge geometry and very small cutting edge radius are suitable for drilling small number of holes. If a larger number of holes are to be drilled, it is recommended to use a diamond tipped or pcd tipped drill.

TYPICAL PROPERTIES OF GRP

Density	1.3 - 1.6	g/ccm
Tensile Strength	30 - 100	MPa
Tensile Modulus	6000 - 8000	MPa
Flexural Strength	75 - 190	MPa
Flexural modulus	4000 - 5600	MPa
Water absorption	< 0,1	%
Water vapor diffusion	< 0.01	%

ADVANTAGES OF GRP

Moisture resistant

Corrosion resistance (no rust)

No bumps or buckling

Easy to clean

Mould resistant

Weathering resistance

Less water condensation

Unlimited design possibilities

CERTIFICATES

- ASTM E84 Class C, Class A
- EN 13501 E,s2,d0 / B,s2,d0
- BS476 Pt. 6 + 7
- REACH
- ROHS
- LAMILUX AntiBac according to ISO 22196 & JIS Z 2801
- VOC
- HACCP

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