

Lamina Massief

Laminate rainscreen cladding product guide



Vivalda
bringing construction to life®



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1. GENERAL

1.1 COMPOSITION

Lamina Massief is a board made up of thermo-hardening synthetic resin with a centre of impregnated cellulose bands and a sealed acrylic top layer pressed to a homogenous sheet under high pressure and temperature.



attestation with product certificate in accordance with BRL 4101 provided by KIWA N.V.

1.2 BOARD SIZES

2140 x 1060 mm

2800 x 1300 mm

4100 x 1300 mm

2800 x 1850 mm

tolerance: max. -0.0 / + 10.0 mm

1.3 DIAMETERS AND TOLERANCES

6 mm ± 0.4 mm

8 mm ± 0.5 mm

10 mm ± 0.5 mm

13 mm ± 0.6 mm

1.4 SHEET WEIGHTS

6 mm = 8.6 kg/m²

8 mm = 11.3 kg/m²

10 mm = 14.2 kg/m²

13 mm = 18.5 kg/m²

1.5 TRANSPORT

To prevent damage during transport, Lamina Massief sheets must be shipped on proper pallets. Each pallet must be sealed separately.

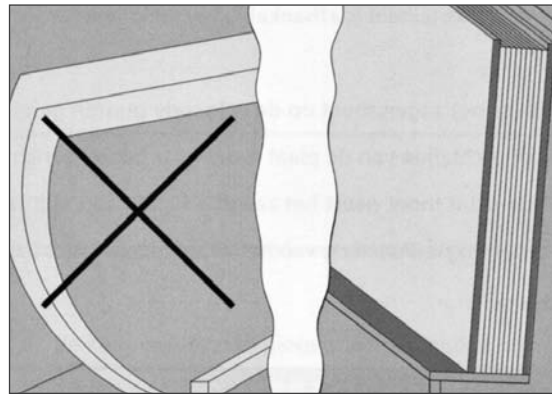
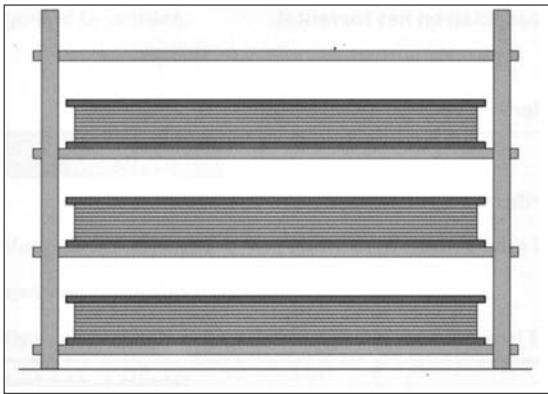
During loading and unloading without the use of a forklift, these sheets must be lifted; the surface may be damaged by sliding them over each other. Grit or dirt between the sheets can also cause damages to the surface and must for this reason be avoided. Because the sheets are equipped with a protective wrap, this must be removed from both sides immediately during mounting.

1.6 STORAGE

- Lamina Massief sheets must be stored in a closed space under normal climate conditions.
- The sheets are to be stored horizontally with sufficient support.

A protective layer is to be laid between the pallet and the bottommost sheet as well as on top of the uppermost sheet.

- In the case of vertical storage, the sheets must be supported in like manner.
- Incorrect storage can lead to lasting deformation of the sheets.



1.7 CHARACTERISTICS

- self-bearing
- slide-proof
- scratch-proof
- low-maintenance
- true to colour
- weather-resistant
- corrosion-resistant
- chemical-resistant
- resistant to soiling
- decorative
- easy to format
- simple to mount

1.8 APPLICATIONS

- gable covering
- balcony sheeting
- privacy screens
- soffit
- facade cladding
- roof edging
- fascia
- gutters
- eaves
- awnings
- sandwich panels
- billboards
- garage doors

2. FABRICATION

2.1 SAWING

Lamina Massief sheets can be optimally shaped using hard metal tools. Tungsten carbide tipped (T.C.T) blades will give a better finish.

2.1.1 CIRCULAR SAW

The best results are achieved with a solid workbench equipped with a circular saw composed of trapezoidal flat teeth.

This tooth shape has a very high tool life.

The circumferential velocity depends on the diameter of the saw blade as well as the rpm.

During sawing, the following points should be noted:

- The sheet must be positioned with the finished visible side upward;
- The sheet must be kept well under pressure against the saw blade;
- The saw blade's height setting must be properly adjusted.

2.1.2 JIGSAW

In general, a jigsaw is used for notches within the sheet. Make sure that the inside angles are not sharply sawed out, otherwise so-called notch fractures may occur. It is advisable to bore or otherwise round these angles out. When using a jigsaw, the sheet's visible side should be facing downward.

2.1.3 BANDSAW

A bandsaw is generally used for sawing panels into shapes which cannot be made by a circular saw.

2.2 DRILLING

Spiral drills (HSS), equipped with a tungsten carbide point at an angle of $\leq 90^\circ$, can be used for drilling holes in Lamina Massief.

Drills with a centering point are used for making holes for inserts, dowels and those with a larger diameter for door and window fixtures.

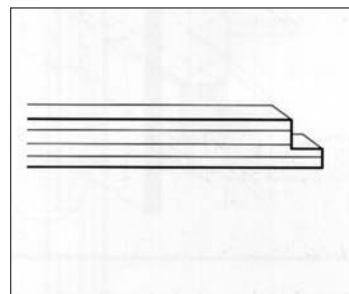
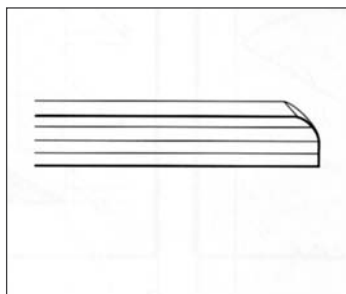
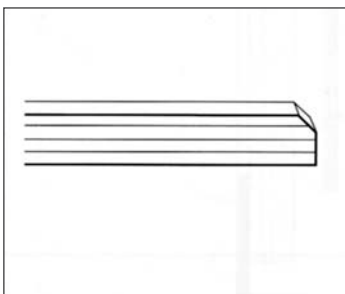
A sheet of hardwood or multiplex should be laid on the underside to prevent splintering at the drill's exit point.

2.3 MACHINING

Hard metal router tools are appropriate for rounding off Lamina Massief with a hand router or a secure tabletop router machine / CNC.

Optically, routed edge working is much more attractive and the chance of damage to the edges significantly less. It will also remove any sharp edges left from the cutting process.

There are many possibilities for facet edging and moulding; some examples follow:



3. VENTILATION

It is of great importance to create thorough ventilation behind facade cladding, with a minimum space of 20 mm. To achieve thorough ventilation for horizontal brace work, ventilation openings must be made both to the upper- and undersides of the structure (see ill. A). This does not apply to vertical brace work (see ill. B).

Facade height determines the size of the ventilation opening:

HEIGHT

0 – 5 m

5 – 10 m

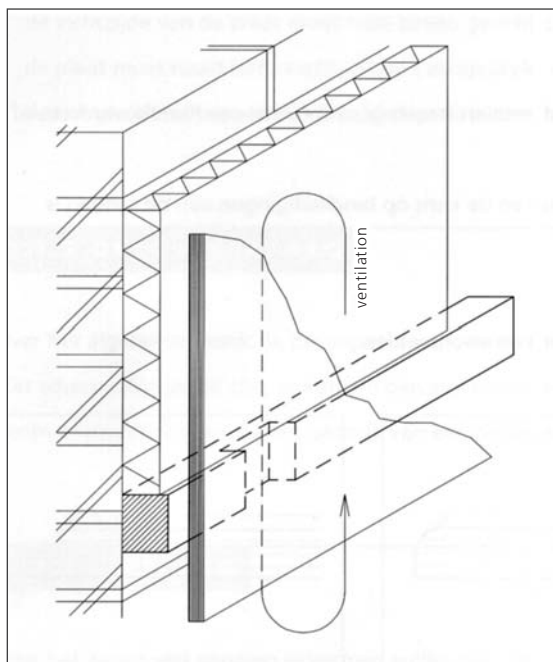
10 – 20 m

VENTILATION

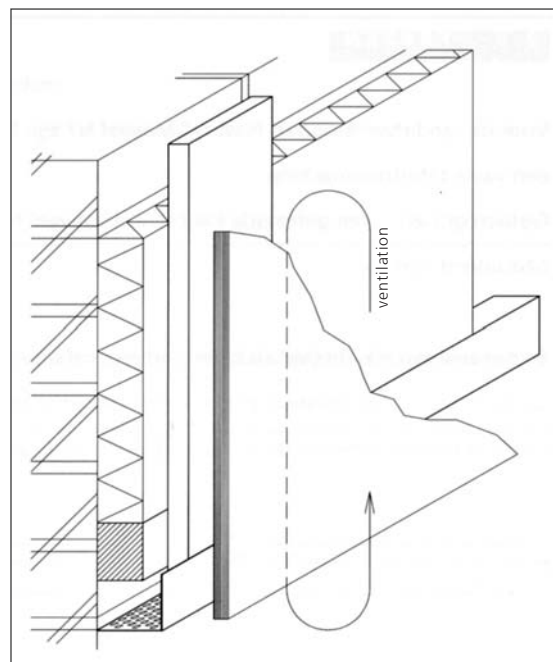
20 cm_ / per m_

50 cm_ / per m_

70 cm_ / per m_



A

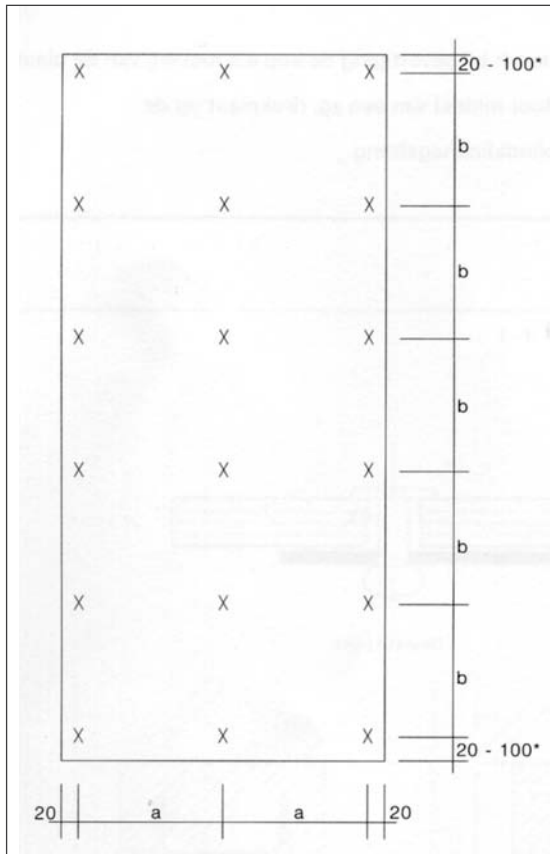


B

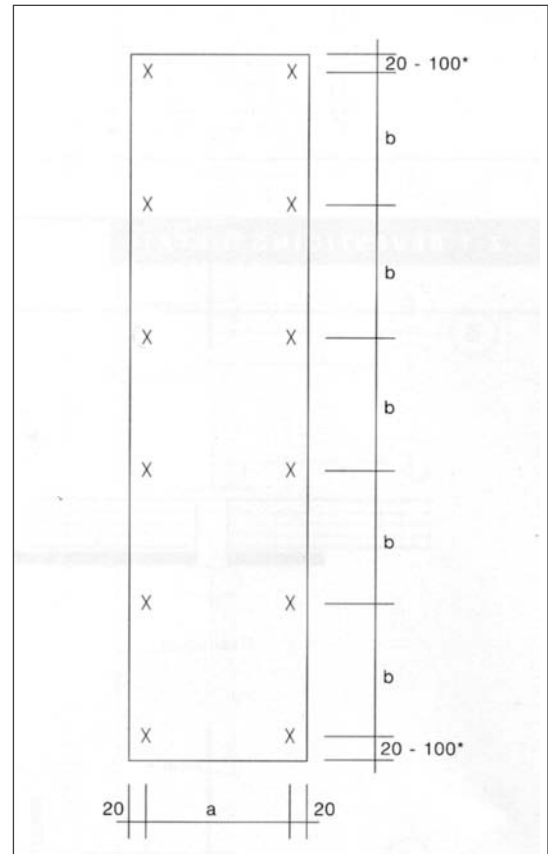
4.3 FIXING DISTANCES

Fixing distances are determined depending on the thickness of the Lamina Massief sheets. The tables below give an indication of the applicable sheet thickness and the respective attachment distance.

ATTACHMENT DISTANCES, BOTH HORIZONTAL AND VERTICAL FOR:	SHEET THICKNESS			
	6 mm	8mm	10mm	13mm
2 SUPPORT POINTS (in mm)	470	620	770	960
3 SUPPORT POINTS (in mm)	600	770	920	1210
ATTACHMENT DISTANCES MIN. 20 mm AND MAX	60	80	100	100



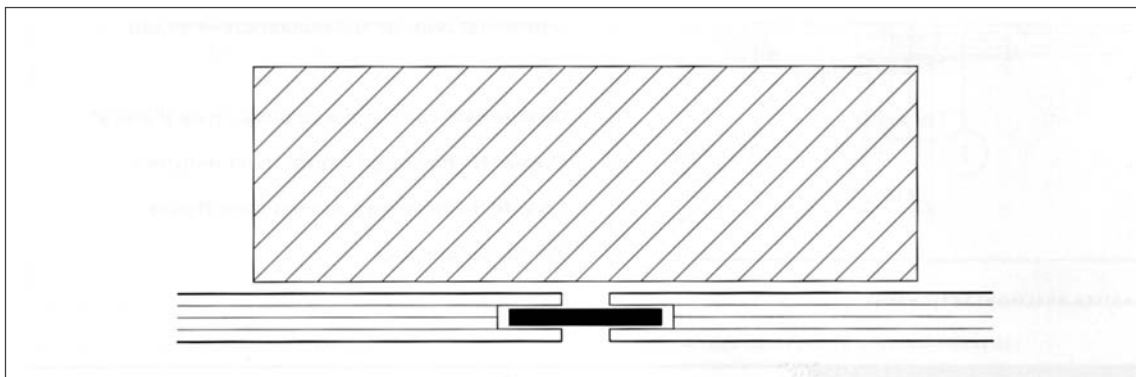
3 OR MORE SUPPORTS



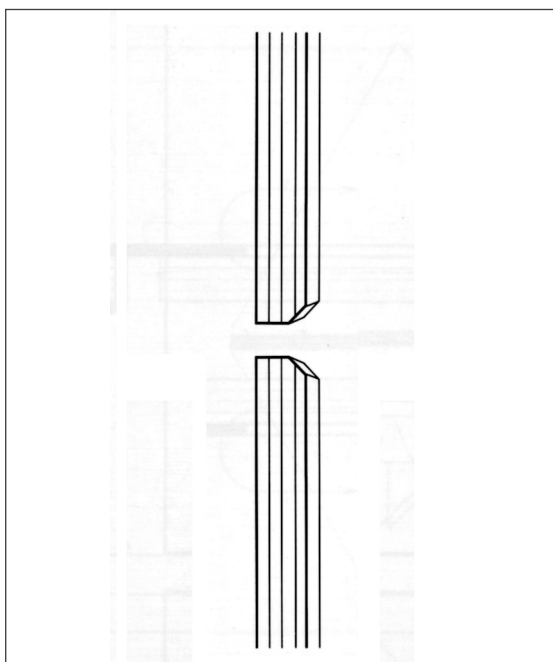
2 SUPPORTS

5. SPECIALISED EDGE FINISHES

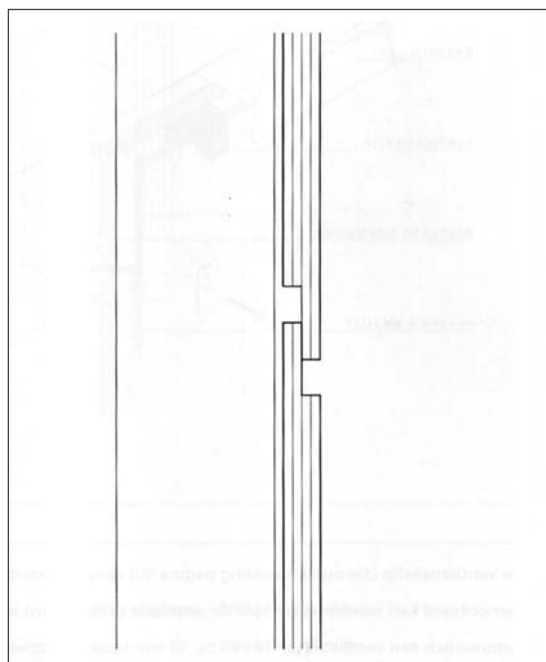
For the jointing of Lamina Massief panels, both in a horizontal and vertical application, a minimum gap of 10mm should be allowed between the boards for expansion and contraction. All Vivalda Massief NT needs allowance for expansion of 2mm/m in length and 2.5mm/m in width at a temperature of -15° C to 90° C. Besides a standard open joint or the use of profiles and gasket, we can offer more specialized finishes, examples of which are following.



VERTICAL TONGUE AND GROOVE



CHAMFERED EDGE



HORIZONTAL HALF LAP

For finishing between the boards, at corners and edges, or to close off the ventilated cavity, we have a full range of profiles in both PVC and aluminium. Please ask for a copy of our accessory brochure for further information.

6. MATERIAL CHARACTERISTICS

Fixing distances are determined depending on the thickness of the Lamina Massief sheets. The tables below give an indication of the applicable sheet thickness and the respective attachment distance.

MECHANICAL CHARACTERISTICS	UNIT	VALUE
SHOCK RESISTANCE	N	> 40
TENSILE STRENGTH / SURFACE	N / MM	> 80
WARP RESISTANCE	N / MM	> 100
ELASTICITY LENGTH	N / MM	> 12000
WIDTH	N / MM	> 9000
PHYSICAL CHARACTERISTICS		
HEAT CONDUCTION COEFFICIENT	W / MK	± 0.3
THERMAL EXPANSION COEFFICIENT (LENGTH AND WIDTH)	MM / MK	< 0.028
VOLUMINOUS MASS	KG / M ³	± 1420
WATER ABSORPTION AT 23° C / 500 HOURS	% WEIGHT	< 3.0
AT 100° C / 2 HOURS	% WEIGHT	< 3.0
FIRE TOLERANCE IN ACCORDANCE WITH NEN 6065 AND 6066		
SHEET TYPE STANDARD B1 – FIRE RETARDANT MODIFIED		
FLAME EXPANSION		CLASS 1
FLAME TRANSFER		CLASS 1
DIMENSIONAL TOLERANCE		
THICKNESS	MM	-0.5 / + 0.5
LENGTH	MM	-0.0 / + 10.0
WIDTH	MM	-0.0 / + 10.0

Vivalda Massief consists of roughly 60% wood fibres originating in sawmill scrap from Finnish managed forests, which have been planted specially for production. The remaining 40% consists of durable resin, which is completely hardened after production. There is a controlled production process which is not damaging to the environment, achieved partly through the very precise selection of raw materials. Sheet refuse can be disposed of along with normal rubbish without any problem. Thermal recycling, though, is the most environmentally friendly solution because the energy released in this manner may also be reused.

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