

 *massivholzplatte*

Use of 3L solid  
wood panels in  
exterior applications





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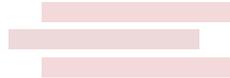
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## Basic suitability of 3L solid wood panels

3L solid wood panels can be used as panel material in exterior applications (e.g. façades), provided they are not exposed to severe weather conditions and that practices and rules for constructional wood protection are followed systematically.

Swelling and shrinkage of natural

wood means that minor fissures appearing during use are unavoidable and are not to be regarded as defects (e.g. in particular, near drip edges, end-grain areas, knot plugs).



*3L solid wood panels can be used as panel material on outdoor areas*

## Panel quality

For exterior applications with direct weathering only 3L solid wood panels of the type SWP/3 according to EN 13353 are to be used.

The overall panel thickness should be at least 19 mm and the top layers thickness must be at least 3.5 mm. The common types of wood (e.g. spruce, larch, Douglas fir) with an appearance class on the exposed side of at least A (according to EN 13017-1) and of B or C on the unexposed side can be used. Lower appearance classes can be used on the weathered side if changing weathering behaviours are taken into consideration.

For repair work plugs and wood repair patches are acceptable to a certain extent.



*Larch*



*Spruce*



*Douglas fir*

For the appearance class A (quality of wood) the following essential, stipulated and permissible features (extract from EN 13017-1, table 1) are:

- lamella of a type of wood well balanced in colour and texture (a coarser texture is permissible) with at least 60 mm width
- healthy, sound intergrown knots of up to 40 mm diameter (spruce) and 60 mm (pine and larch)
- natural plugs and single resin pockets up to 3 x 40 mm and repaired resin pockets
- no bark pockets; single surface checks permitted
- pith occasionally permitted up to 400 mm in length
- no discolouration
- no rot or insect attack
- sapwood in pine and larch (up to 20%) permissible
- single small blemishes in the surface processing and on the narrow sides permitted
- no end joints in the lamella

The features for the appearance classes B and C can be seen in the table 1 of EN 13017-1.

*A clean, exact cut must be ensured. Horizontal edges must always have a bevel cut of 15%.*



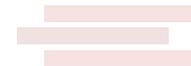
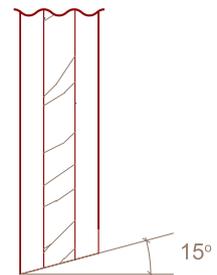
## Processing

3L solid wood panels are available on the market in different formats. The usual standard size is 5 x 2 m.



The processing is done with common wood processing machines. A clear, exact bevel cut must be ensured. Horizontal edges must always have a bevel cut of 15% so that liquid water can run off from the surface and there is an exactly defined drip edge.

All edges exposed to weathering must be rounded with a radius of at least 2.5 mm and must be protected effectively against moisture absorption by constructive or chemical wood preservation.



## Surface treatment

Use of 3L solid wood panels in exterior applications with direct exposure to weathering is recommended only with coating.

The wood must be pre-treated with a primer to prevent wood-discolouring fungi (blue stain protection). Coating systems withan

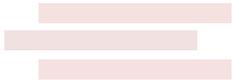
intermediary layer thickness (dry-film thickness of about 30 to 60µm) which are sufficiently pigmented are suitable.

Transparent (colourless) or extremely dark coatings are not permitted without proof of suitability



Furthermore application of a primer to the back of the panel is also recommended.

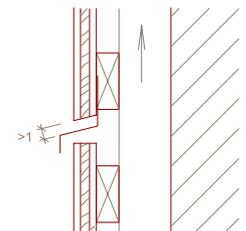
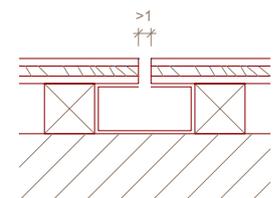
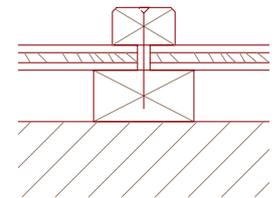
*Using 3L solid wood panels in exterior areas directly exposed to weathering is only recommended with coating.*



## Construction principles

The façade should always be rear-ventilated (i.e. with air flow) or at least ventilated. Blunt joints (capillary joints) must be avoided at all costs and between the individual panels the joint widths are greater than the panel thickness (the edge must be kept free for maintenance work) or these joints are to be covered by suitable profiles. Horizontal joints are to be executed with a Z profile so that no end-grain wood remains unprotected.

The panel elements must be mounted using hidden fasteners, which usually means attaching them from the back side. Using 3L panels in splash water areas is not permitted.



## Instructions for use by the end consumer

The state of the surface treatment must be checked once a year and if necessary be treated. Maintenance intervals are ascertained according to the type of coating and the intensity of the weathering. Intervals should be chosen according to guidelines of the

coating manufacturers and the state of the façade. If required maintenance must be carried out ahead of time on problem areas (e.g. drip edges, end-grain, knots, knot plugs, fissures, etc.).



## Additional technical literature

*Brochure  
„Wood facades“*  
by Holzforschung  
Austria  
93 pages.

*Specialist rules for  
carpentry „Exterior wall  
claddings of Timber  
Construction“*  
by the German  
Federation of Carpenters,  
April 2006,  
32 pages.



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