

COMPACT HPL - DESCRIPTION AND USE

SM 'art[®]
Surface Materials

Designed and made in Italy

ABOUT US

We are a dynamic, constantly evolving company which has made innovation its mission, taking a new approach to production, management and creativity. Pre-empting trends and proposing new decorative solutions, we have quickly earned the trust of operators in the sector.

We are characterised by our constant research into the product: prestigious raw materials, state-of-the-art technologies and an insatiable creative talent are our greatest strengths. We then add meticulous attention to our customer's requirements with tailor-made style. Now you have a complete picture of the offering that we develop, create and distribute all over the world for the fitting, furniture and construction industries.

COMPACT HPL

We produce Compact HPL sheets with sophisticated texture and innovative decors. We manufacture Compact HPL laminates with the Synchronopore or Register embossing technology. Our goal is to create Compact HPL laminates with high technical performance which touch for their aesthetic aspect. The laminates coordinated to the melamine panels are identical in colour and surface finish.



COMPACT HPL

The Compact HPL is a product composed by two overlay papers (one per side), two decorative papers (one per side) and many kraft papers.

- The overlay paper is impregnated with melamine resins. The melamine resins give superficial abrasion resistance features the finished product. Thanks to the overlay paper the laminate can be used horizontally.
- Melamine impregnated decorative papers. The melamine resins give the superficial resistance to the product. We at SM'art use 100% melamine impregnation which enhance the resistance to water of the finished product. On this type of paper can be printed any kind of pattern: woods, stones, textiles etc... there is, almost, no limit to what you can print. The decorative papers give the aesthetic features to the Compact HPL.
- The kraft papers are impregnated in phenolic resins and they are composing the thickness of the laminate. The more kraft papers you put the thicker the laminate will be. The kraft paper thanks to the phenolic resins give hit resistance to the finished product.

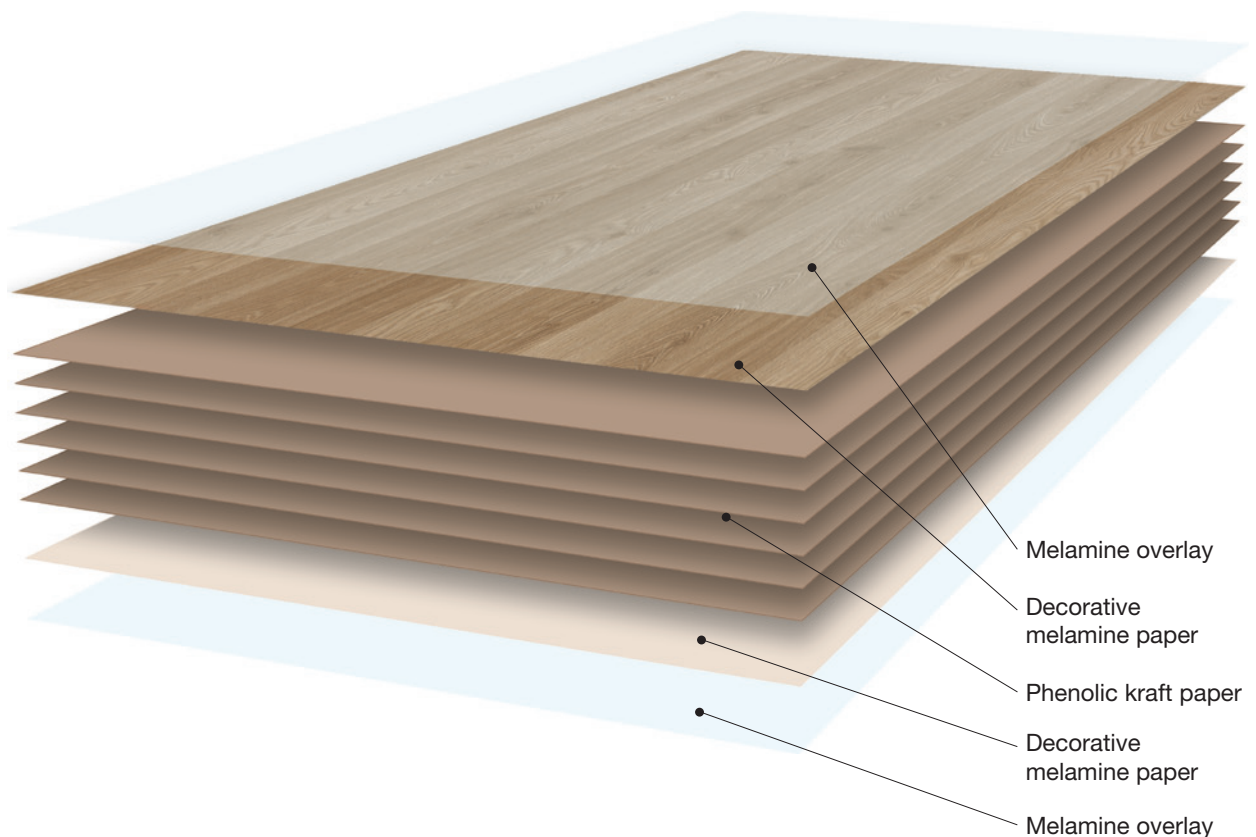
The decorative papers and the kraft papers are impregnated with thermosetting resins. Thanks to the heat and pressure give from a specific press they adhere to the substrate.

The press is also impressing, thanks to specific palates, the tactile textures to the Compact HPL.

The SM'art Compact HPL is produced on one face, the bottom face is produce with the Wonder finish. Wonder is a soft structured finish.

Compact HPL are particularly indicated for the furniture production, furniture elements and interior decoration.

The SM'art Compact HPL are produced in compliance with the European norm 438.



HANDLING AND TRANSPORT

High pressure laminates are sharp on the edges, for this reason they should always be handled wearing gloves for protection.

When loading and unloading, the panels should always be lifted, not slid upon one another, to avoid scuffing.

During transportation Compact HPL panels should be packed horizontally and secured on pallets. Pallets should be very rigid, thus not bowing when lifted. All the corners should be protected with carton or plastic to prevent damages.

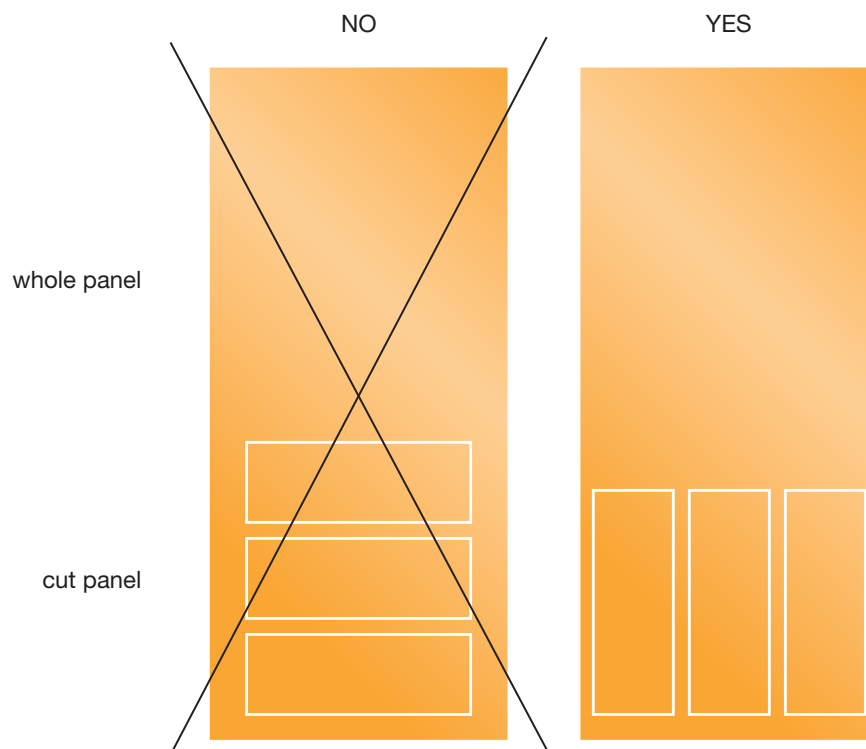
The panels should be tightened with metallic straps so to be well secure on the pallet. Particular care to sliding panels should be taken in case of laminate with protective film.

STORAGE

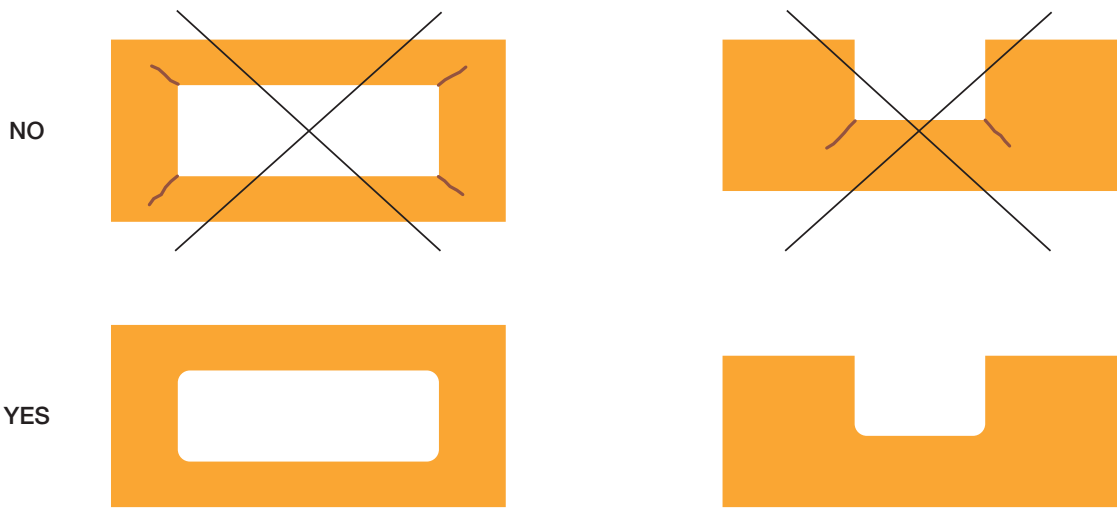
Compact HPL panels should be stored horizontally on the same flat and strong pallets used for transportation. They should be stored under roof and protected by humidity and sharp changes in temperature. They should be protected by a polyethylene film. The panels should be conditioned 24 hours before the installation, to let them gradually reach the same environment temperature and humidity levels.

CUTTING

The Compact HPL sheets have to be cut with a slower speed compared to the thin HPL laminate. To enhance the cutting is suggestable to use a wooden board under the last Compact HPL board.



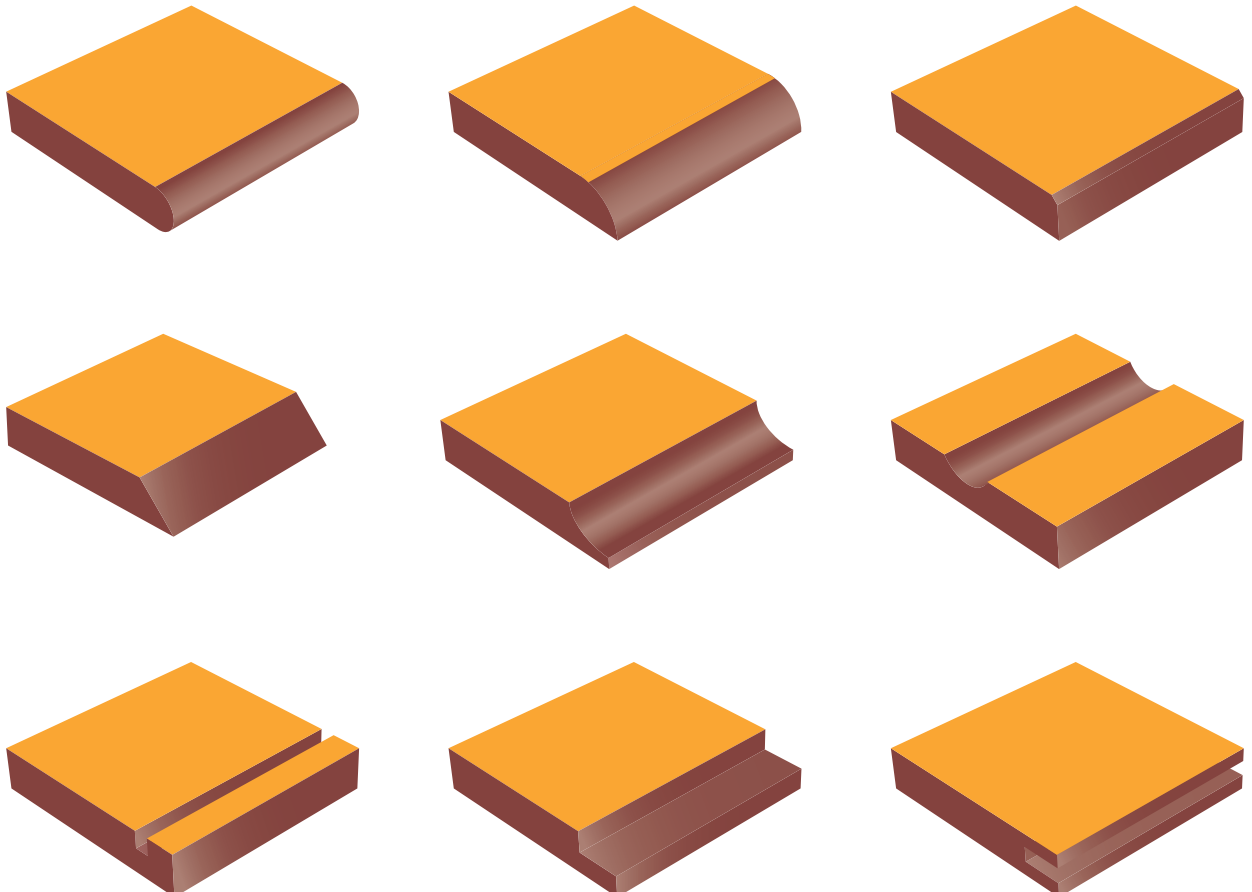
The cutting scheme should always be made considering that the longer side of the cut piece should always be parallel to the long side of the entire panel. This in order to minimize the dimensional variation of the panels, which is almost double on the short side of the panel, compared to the long side.



The holes and the internal corners should never present sharp corners, which could cause cracking, but should always be rounded with the maximum radius possible

MACHINING

To get a good machining is better to engrave a least 2mm but not more than 5 mm of materials. The use of diamond tipped tools could enhance the finished realization.



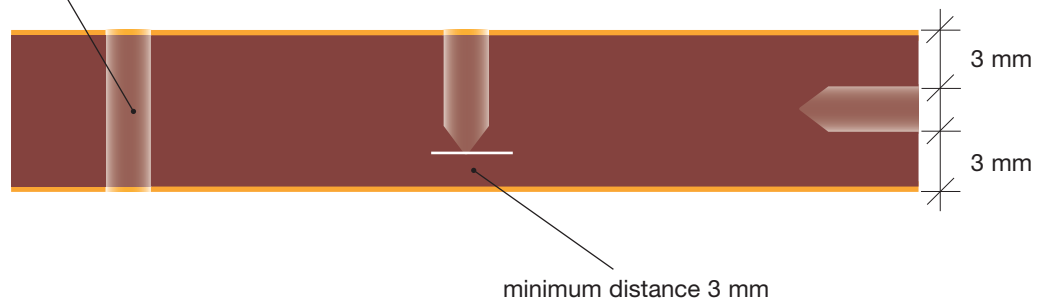
DRILLING

To drill Compact HPL boards you can use normal woodworking portable or fixed drills, with helical bits with a point angle between 50 and 90° adopting tungsten carbide tools. When drilling a laminate particular care should be taken not to over heat the point of the drill which could damage the surface.

During the drilling operations it is advisable to lay the compact laminate on a wooden board or particleboard.

It is possible to drill through holes, dead holes and screw threads.

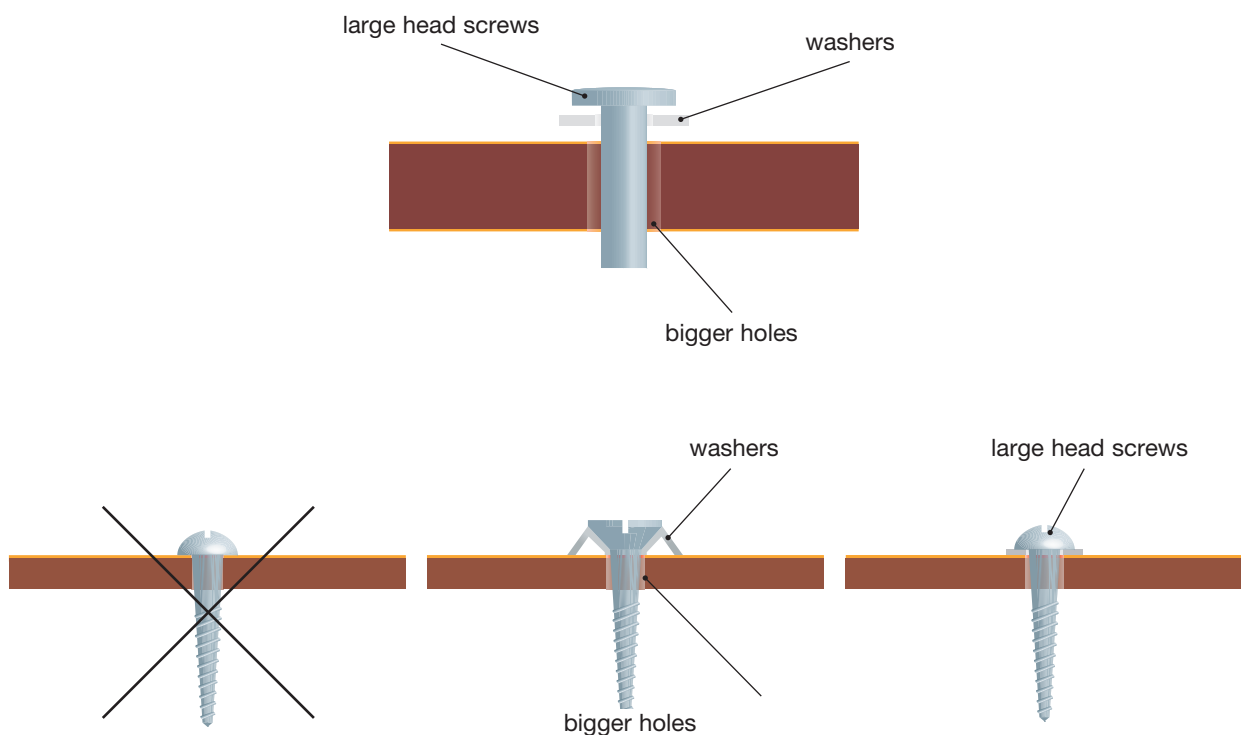
for through holes reduce, in the final stage, the strength of the drill, to avoid chipping on the outlet side



DIMENSIONAL CHANGE

For through holes, the holes diameter should always be at least 0,5 mm larger than the one of the screws, and rubber or plastic washers should be used to avoid direct contact between the screws and the laminate surface, and which should give some allowance to the panel dimensional variations due to changes of temperature or humidity.

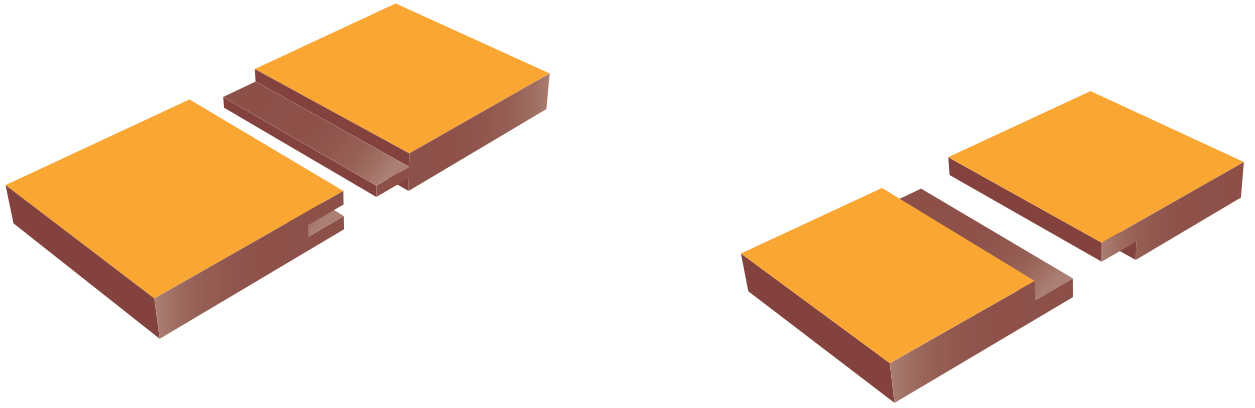
To avoid the direct contact between the screw and the panel surface, plastic or rubber washers should always be used.



BOARDS ASSEMBLING

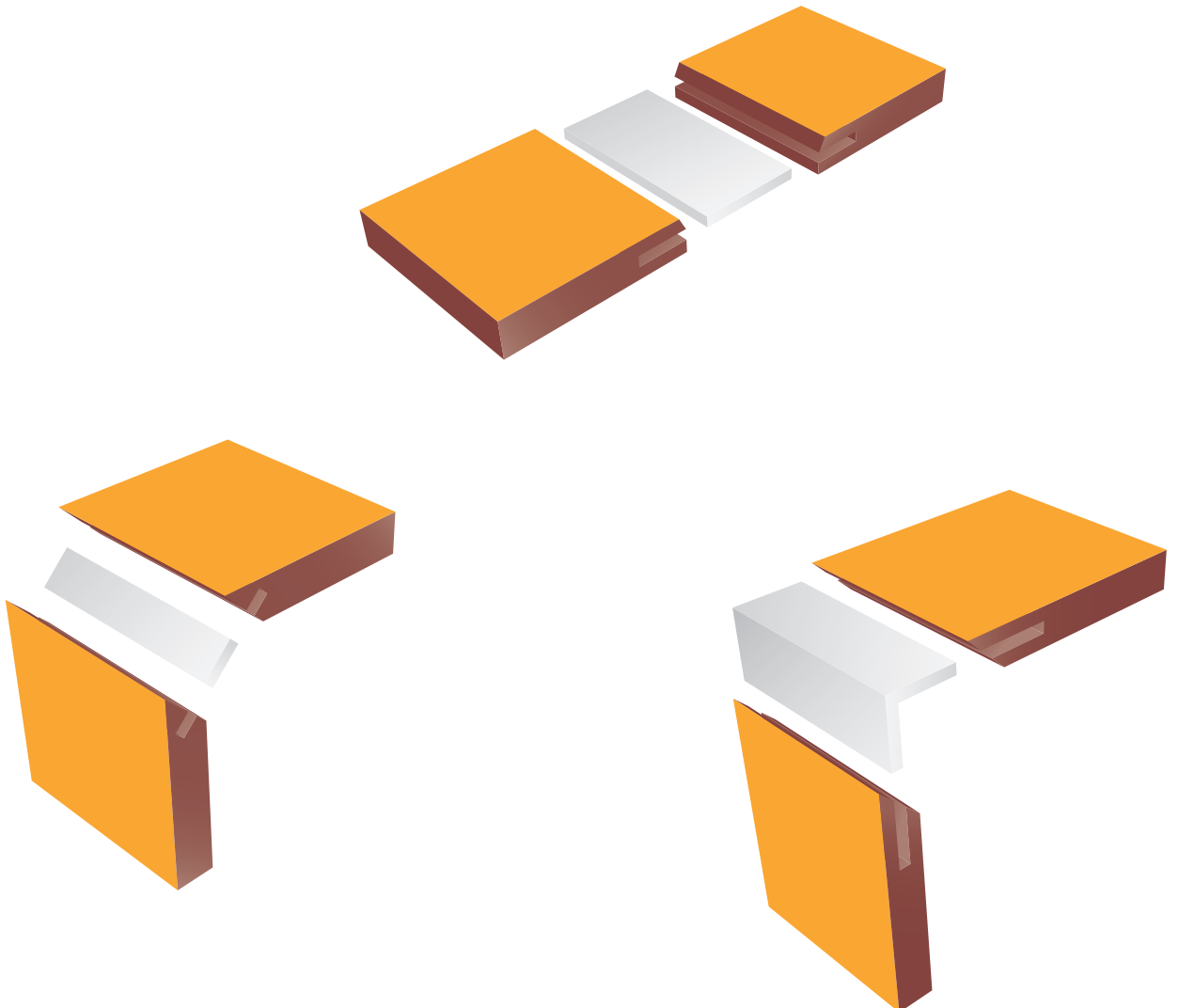
If two boards of Compact HPL are restrained jointed the thickness of the tongue should be at least of 3mm. The groove should be the less deep possible, maximum 10 mm.

Restrained joint

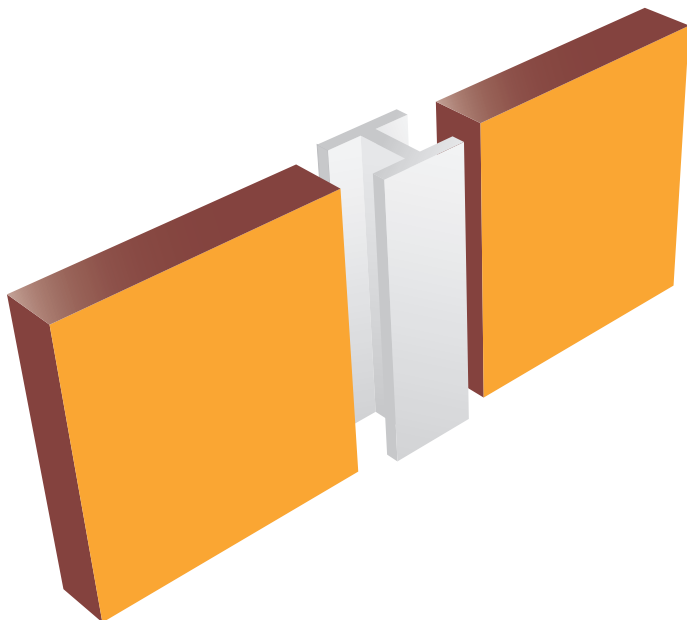
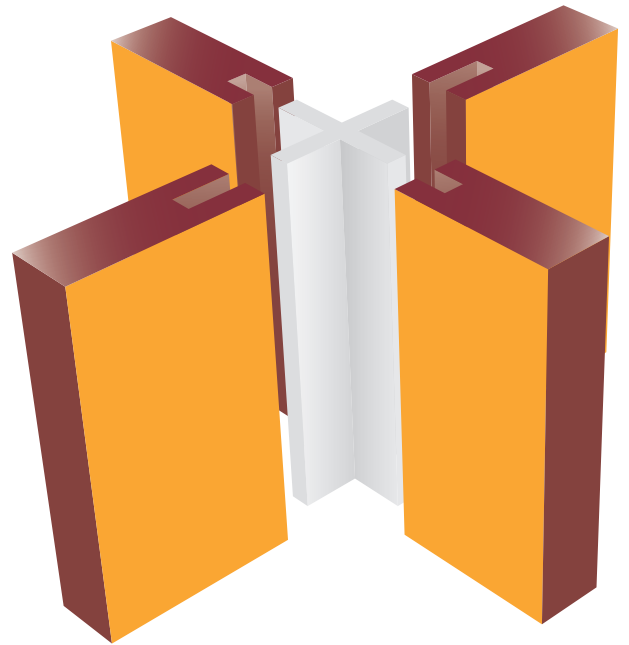
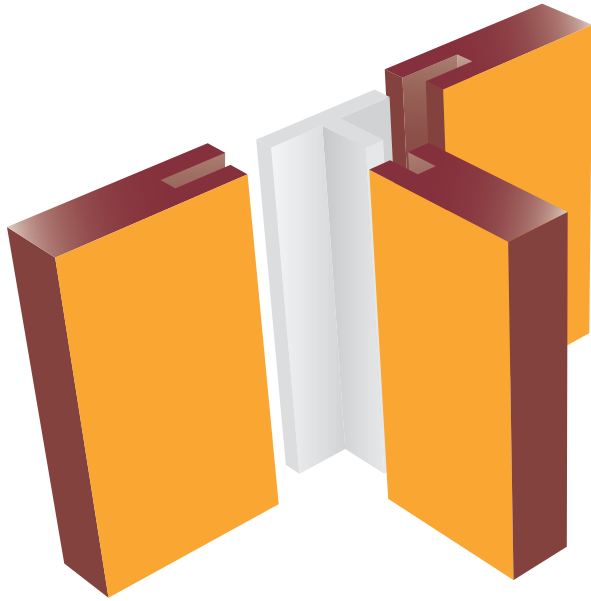


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Restrained joint with aluminum core



Restrained joint with aluminum profiles for mobile walls

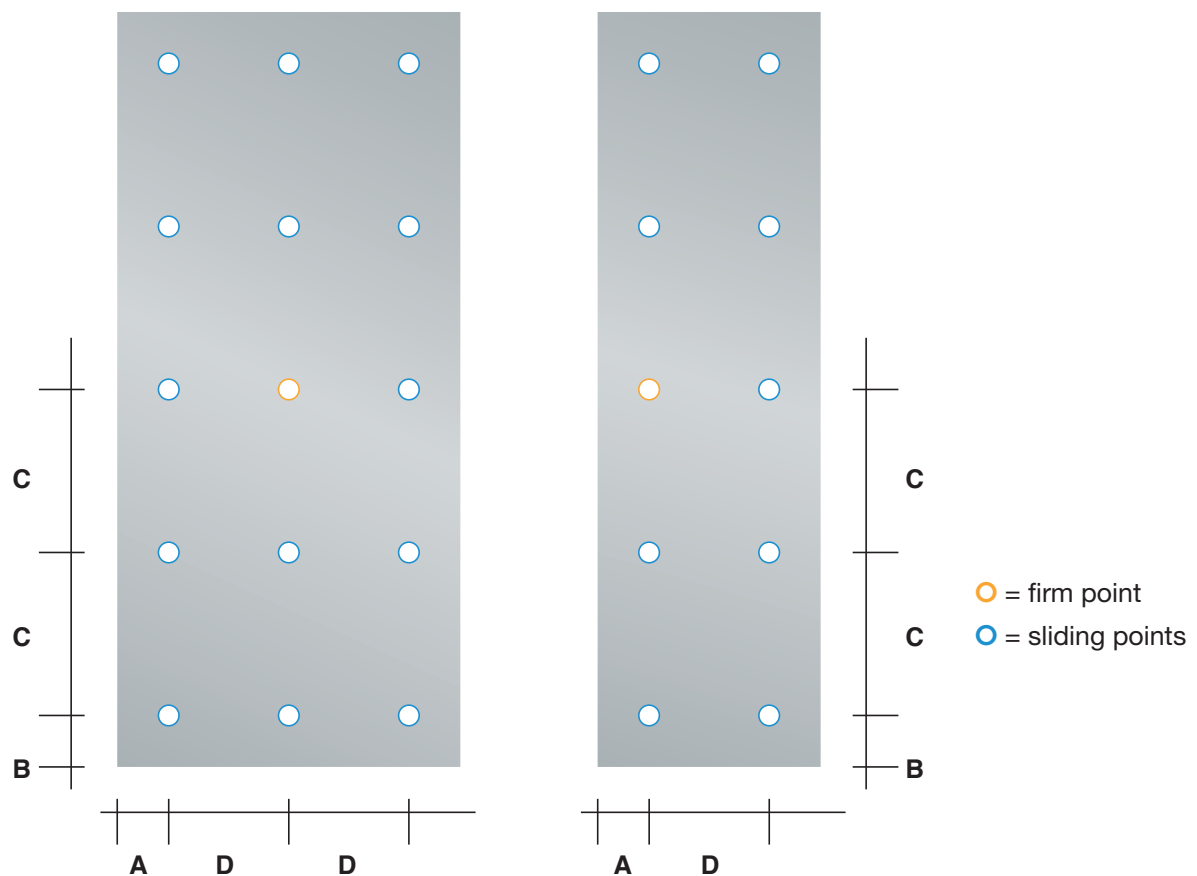


FIXING OF THE PANELS

- the panels are fixed with visible systems, half visible systems, or invisible systems, to a substructure made of: aluminium, anodized aluminium, galvanized iron or solid timber. The substructure allows the mechanical stress absorbing, and a thermal exchange due to the ventilation between the panel and the wall.
- the panels must be dry, flat and not warped.
- the fixing points for visible systems should take into account the advised distances, listed hereby in the drilling schemes.

Firm point

For the fixing systems where the drilling of the panel is required, you should foresee one firm point and all the others sliding points, as shown in the schemes. This precaution allows a free longitudinal and transversal dimensional variation..



Three or more fixing points

thickness mm	max C mm	max D mm	A mm	B mm
8	700	500	20 - 60	20 - 80
10	800	600	20 - 80	20 - 100
12	900	700	20 - 80	20 - 100

Two fixing points

thickness mm	max C mm	max D mm	A mm	B mm
8	550	500	20	20 - 50
10	800	600	20	20 - 60
12	900	700	20	20 - 60

VENTILATION

Behind the installed panels, between the panels and the insulation, it is necessary to leave an open air chamber with air exchange through openings in the top and the bottom of the façade, as well as close to doors and windows, allowing a good ventilation.

Ventilation is essential to prevent:

- different humidity degrees between the two sides of the panel.
- different temperature conditions between the two sides of the panel.
- steam intrusion.
- dirt intrusion

CLEANING

SM'art high pressure laminate can be cleaned with a clean, soft and wet cloth. If the stain is particularly difficult hot water or liquid detergent without abrasives could be used.

Ink, glue or varnish stains can be removed with the use of solvents like alcohol or acetone.