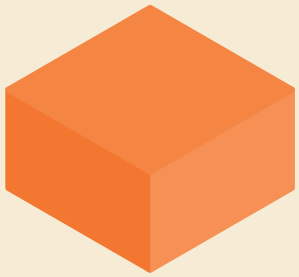
Compact HPL
Description and Use



SM 'art®
Surface Materials

Designed and made in Italy

Company

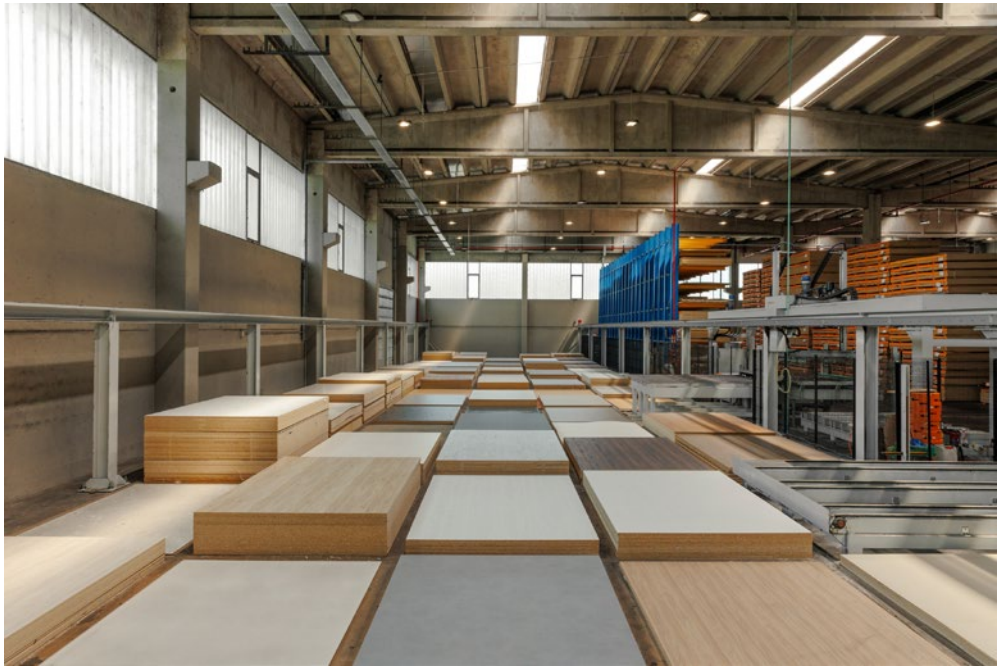
We are a dynamic and constantly evolving company that has made innovation its mission, adopting a new creative and productive approach.

We design and produce decorative panels and laminates.

We aim to create astounding design materials with a strong **Made in Italy** connotation, not only as a concept, but indeed as the majority of the raw materials we use come from Italy.

By investing in **equipment and valuable raw materials**, we are able to conceive and craft unique decors and finishes in order to create products that convey emotions, materials with a soul.

Through collaboration with **architects and designers**, the artists of today, we want to create a hotbed of ideas that allows us to pursue the dream of a high-end bottega.

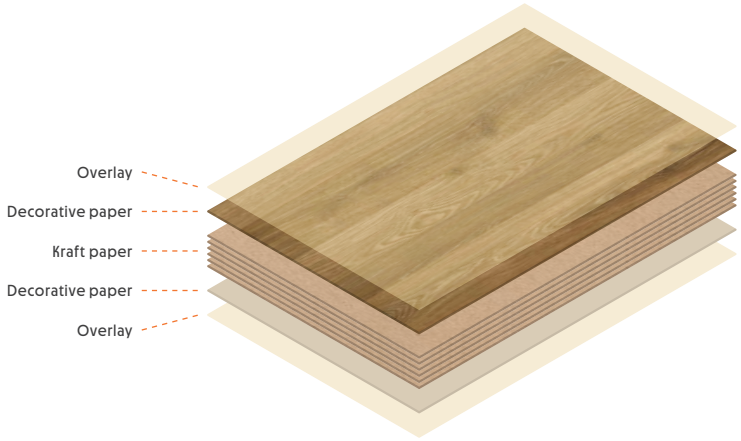


Compact HPL

We produce Compact HPL slabs with sophisticated texture and innovative decors.

We manufacture Compact HPL laminates with the **Synchropore 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 TFT Thermo Fused Texture panels are identical in colour and surface finish.



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 impregnated with thermosetting resins**. The overlay gives the superficial abrasion resistance that features the finished product. Thanks to the overlay paper the laminate can be used horizontally.
- **Decorative papers impregnated with thermosetting resins**. The resins give the superficial resistance to the product. This type of paper can be printed with 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 with thermosetting** and they are composing the thickness of the laminate. The more kraft papers you put the thicker the laminate will be.

Thanks to the heat and pressure given by a specific short cycle press the resins polymerize and indissolubly bind the various layers of paper. The press is also, thanks to specific steel plates, impressing, the tactile textures to the Compact HPL surface.

Compact HPL slabs are particularly indicated for kitchen and bath tops, tables, furniture elements and interior decoration.

Compact HPL slabs produced by SM'art are in compliance with the European norm EN438.

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 installatio**n, to let them gradually reach the same environment temperature and humidity levels.

Handling and transport

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

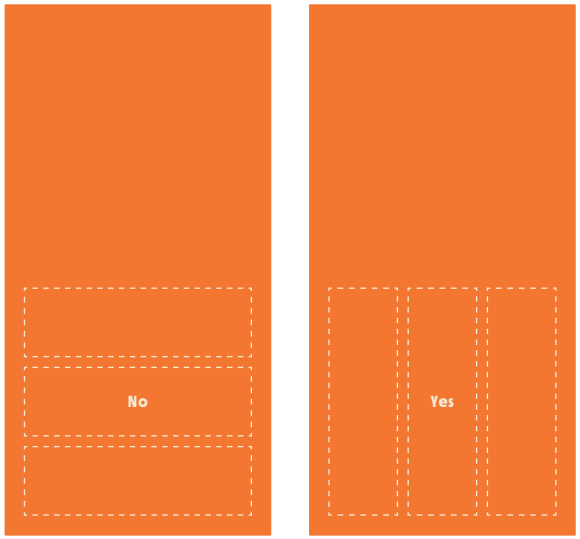
When loading and unloading, **the panels should always be lifted, not slid upon one another**, to avoid scuffing.

During transportation Compact HPL panels should be **packed horizontally and secured on pallets**. Pallets should be very rigid, thus not bowing when lifted.

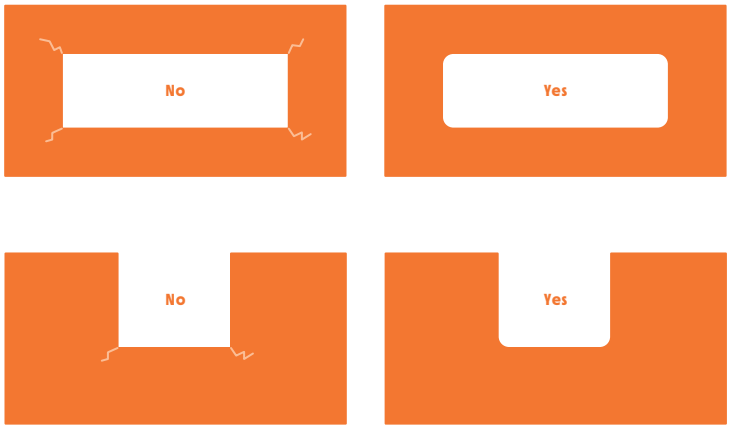
All the **corners should be protected** with carton or plastic to prevent damages.

The panels should be tighten 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.

Cutting



↑ FIG.**01**



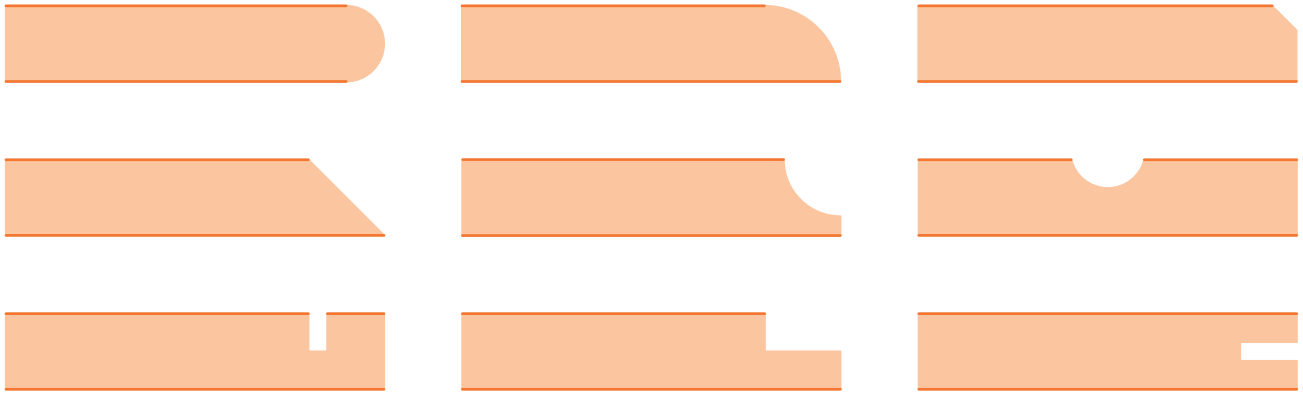
↑ FIG.**02**

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** [→ FIG.**01**]. 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.

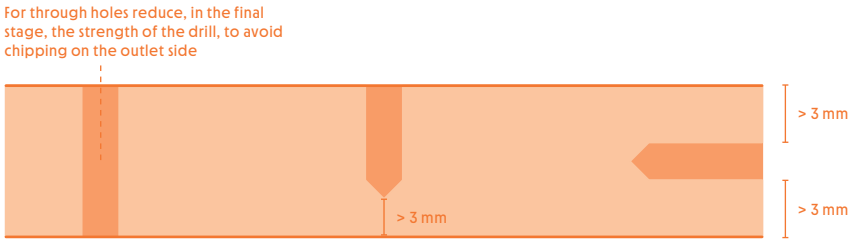
The holes and the internal corners should never present sharp corners, which could cause cracking, but should always be rounded with the maximum radius possible [→ FIG.**02**].

Machining

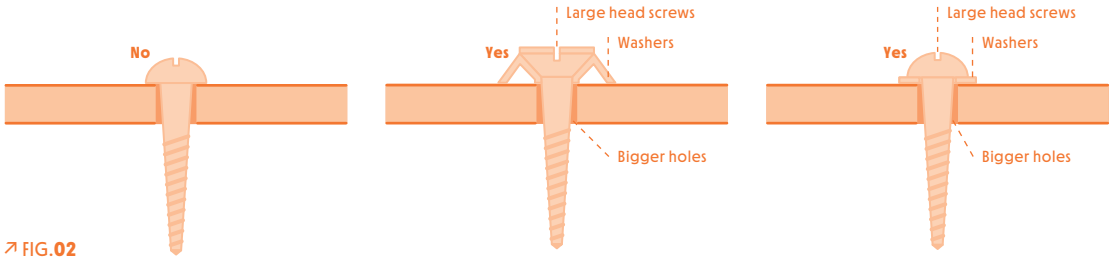


To get a good machining is better to **engrave a least 2 mm but not more than 5 mm of materials**. The use of diamond tipped tools could enhance the finished realization.

Drilling



↗ FIG.**01**



↗ FIG.**02**

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** [→ FIG.**01**].

Dimensional change

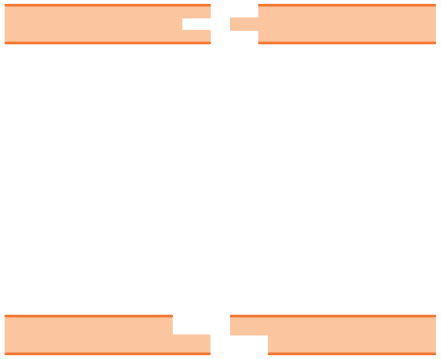
For through holes, the holes diameter should always be **at least 0,5 mm larger than the one of the screws** [→ FIG.**02**], and rubber or plastic washers should be used to avoid direct contact between the screws and the laminate surface, and which should give some allowance to the panel dimensional 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 [→ FIG.**02**].

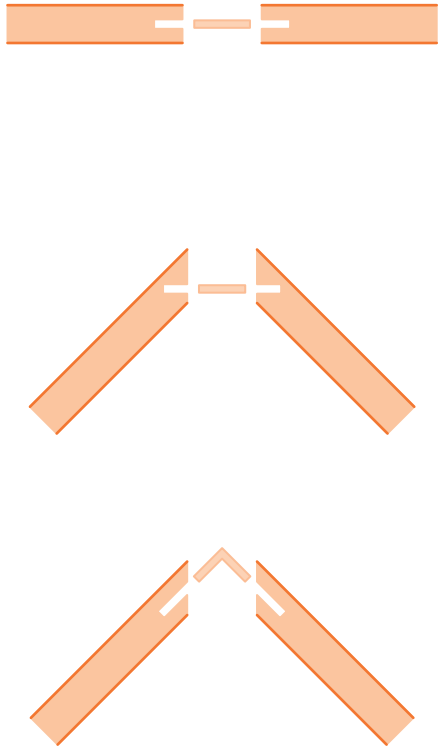
Boards assembling

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

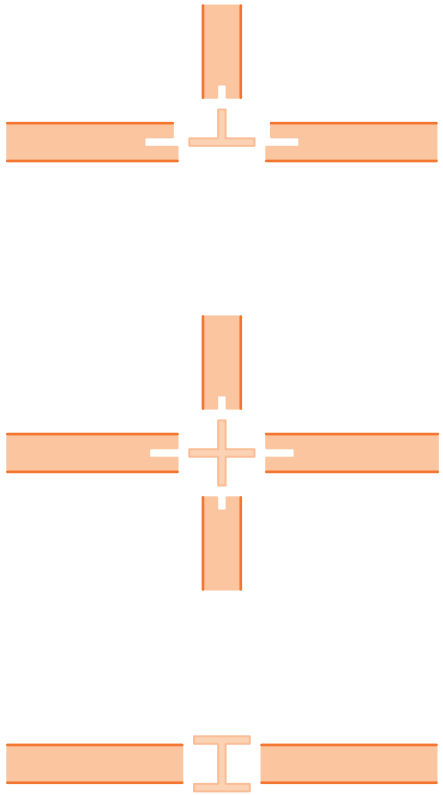
Restrained joint



Restrained joint with aluminum core



Restrained joint with aluminum profiles for mobile walls



Fixing of the panels

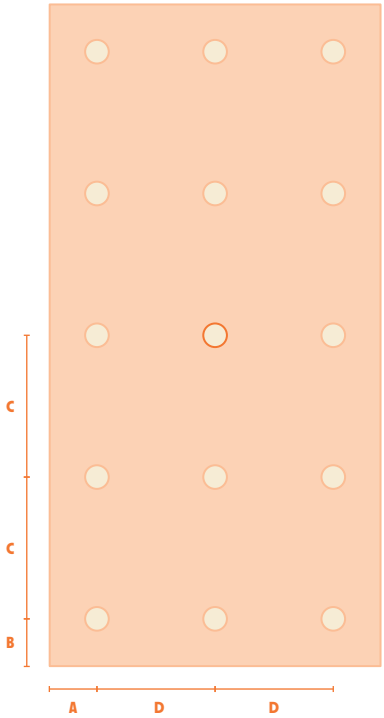
- The panels are flxed with visible systems, half visible systems, or invisible systems, to **a substructure made of: aluminium, anodized aluminium, galvanized iron or solid timber**. The substructure allows the mechanical stress absorbing, and a thermal exchange due to the ventilation between the panel and the wall.
- The panels must be **dry, mat 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

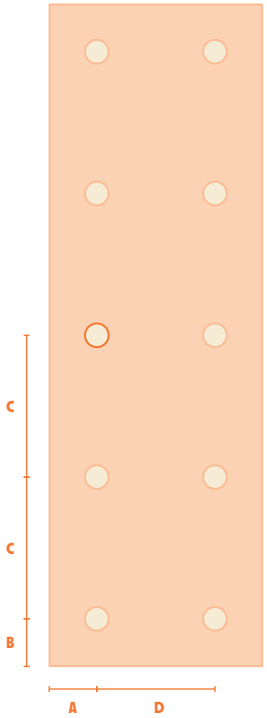


Firm point

Sliding points

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.

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