

Manual & Technical Data Sheet

Compact Laminate

Description:

Product Description:

HPL compact sheets are decorative high pressure laminate sheets as per EN 438-4 and EN 438-6 with a thickness of over 2 mm. They are large format sheets with a decorative, durable surface and homogeneous, closed cut edges. One or both sheet surfaces have decorative colours or designs. The surfaces can be smooth or textured.

Compact is self-supporting (5mm or thicker) and load bearing. Compact Laminate is excellent product in contact with water, highly durable, and it has excellent mechanical properties such as impact and vandalism resistance. Compact laminate is extremely popular for bathroom cubicles, lockers, table and counter tops and for cladding when impact and durability are keys.

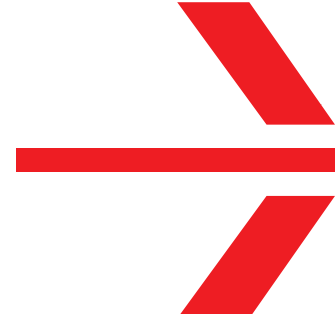
Envy is the first ever compact laminate to have real wood veneer for faces, finished with the industry highest class finishes for aesthetics, durability and performance.

Robusto is standard compact laminate, phenolic resin impregnated kraft paper core with melamine resin impregnated décor paper for faces.

Applications:

HPL compact sheets of type CGF/CGS can be used indoors almost without limitation.
Cladding and wall panels.
Bathroom cubicles.
Office furniture and office cubicles.
Lockers.
Fast Food table tops.
Food Courts table tops.
Desks.
Counter tops.
Shop fittings.
Lab Top.

Pharmacies
Cold stores
Elevator interior
Kitchen cabinets front
Roller shutters panels
Skirting
shelves
Partitions.
Panels, tops and partitions in train compartments.
Bus interiors.
General decoration purposes.



HPL Compact Advantages/properties:

- Good dimensional stability
- Self-supporting > 5 mm thickness
- High impact and shock resistance/impact strength
- Especially high resistance to water and steam
- Resistance to frost and heat
- Permanent and non-corroding
- High colour fastness
- Easy to clean
- Food contact approved
- Meeting the highest hygienic requirements; surface and edges can be disinfected
- Resistant to organic solvents - Low electrostatic charge (no accumulation of dirt)
- Easy installation, replacement, space-saving
- Easy machining
- Good fire behaviour (D-s2, d0 as per EN 13501-1, without further testing; B-s1, d0 as per EN 13501-1 with certificate for CGF*); low smoke development; non-dripping; non-melting.

The further properties are listed in EN 438-4* and EN 438-6**

Standard Sizes:

Robusto :3x7 (915x2315mm), 4x8 (1220x2440mm), 6x12 (1830x3660mm),
Envy : Envy is supplied as ready to assemble cut-to-size cubicles

Core Colors:

Robusto Black, brown.
Envy : Black, Brown, Grey, Red.
Other colors are available upon request.

Machining:

Compact laminate is of extremely high density in comparison to other boards common to the field the jus it requires special, yet simple, attention to tools and methods of cutting to avoid chipping and extreme wear of tools and saws.

For optimum results:

- 1- Consult your machinery and tools supplier for the use of carbide and diamond tipped saws and routers.
- 2- Use table disc saws with pre-scoring blade to avoid chipping and broken edges on the bottom face. Changing the exit angle can prevent chipping on the bottom face.
- 3- Good dust extraction system must be used when cutting.
- 4- Use MDF, Plywood, ..etc board under the HPL compact sheet for good sawing results.
- 5- Cutting disc saw number of teeth, infeed and rotating disc speed are important elements in good sawing quality.





Fabrication:

In the event of slight change in HPL sheets with climate change , the change in length is typically half of the change in width and that could result in sheet warpage. Known fastening and connection methods can be used .In areas with exposure to moisture, corrosion-resistant accessories must to be used.

Tongue and Groove is the method to connect 2 compact sheets together when sheets are 10mm or thicker. Groove width and groove side thickness must be at least 3 mm. Where the design allows, the groove side thickness should be larger than the groove width . The groove depth should be kept as low as possible without exceeding 10mm. Compact sheets must be mounted with sufficient clearance between tongue and groove. Biscuit connection can also be used. Depending on the design load, Corner joints should only be executed with square blocks or corner rails.

Since dimensional changes are possible, bonding with adhesives must allow for movement. Sheets can be bonded only in the same running direction thanks to the difference in dimensional changes in the length and the width of sheets.

Use piano hinges for small doors but 2 hinges or more depending on the door size must be used to ensure dimensional stability. When selecting the hinges, observe the required expansion flexibility for the compact sheet. The door leaf should be cut from the compact sheet in longitudinal direction. Door catches , locks or any required rubber seals must not introduce any permanent tensions into the door leaf.

For fixing fittings with screws which pass fully through the sheet, the holes in the compact sheet have to be drilled accordingly larger .For screw fixings which do not pass fully through the sheet such as expanding anchors, holes must be drilled larger.

Screws with a low pitch provide better pull-out strength values. Pre-drilling is always necessary. The hole diameter has to be one thread depth smaller than the outer screw diameter. Drilled holes must be at least 1 mm deeper than the insertion depth of the screw. Lubricate screws before insertion.

Routing and Edge profiling:

Achieving high quality edges is possible with HPL compact. The use of diamond tipped router heads which were developed for compact sheets is highly recommended for profile routing. Secure guidance of the workpiece and tool is imperative and essential. No special coating is required for the cutting edge/profile but in case improved appearance of the routed edge is required, silicone-free furniture oils can be used as coating. Exposed sharp edges and corners must be slightly rounded to avoid injuries.

HPL compact sheets under 3 mm thick require rigid supports. Sheets with a thickness over 8 mm are suitable for large area (horizontal) use with more widely spaced supports. Supports may be required depending on the size and the application.

The same ambient conditions on both sides of HPL compact sheets are important for optimum balance of the sheets.

Drilling :

Drills are the best choice for fixing compact sheets. These are special drills with a tip angle of about 60 – 80° with a steep angle and large chip removal space. The feed rate of the drill has to be continuously decreased, to prevent splintering at the exit point on the compact sheet. The use of baseboard is always recommended. For drilling through holes, drills with a tip angle of 50 – 60° is preferred. For drilling blind holes, the hole depth should be chosen so that at least 1.5 mm sheet thickness remains. Make fixing centers close to each other sufficiently to prevent movement. Allow for enough hinges to support cubicle doors. For holes drilled parallel to the sheet face (through the thickness of the sheet), the remaining thickness must be at least 3 mm.

tongue and groove, groove width (a) and groove side thickness (b) must be at least 3 mm. Where the design allows, the groove side thickness (b) should be larger than the groove width (a). The groove depth should be kept as low as possible (max. 10 mm). As for the rest, the following guide values apply:





Transport:

Large, flat and sturdy pallets are necessary for transporting HPL compact sheets.

Stacks must be secured against falling or sliding.

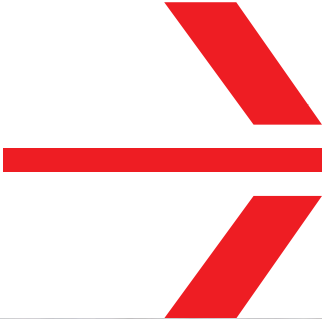
Protect sheet surfaces from hard objects during transport to avoid scratches. HPL compact sheets must be lifted and moved not pulled/dragged.

Storage:

HPL compact sheets must be stored in a closed storage room under normal room climate conditions (18-23 °C and 50-60 % relative humidity). Compact sheets should be stored horizontally on a protective board covered with plastic film with the edges straight. The top sheet of each stack should also be covered with plastic film and a protective board. Deformation may occur if sheets are not stored levelled horizontally.



Properties	Attributes	Test method clause no.	EN-438-2/05	Standard
Length and width tolerance		6	(+10 / - 0mm)	(+10/ - 0 mm)
Thickness tolerance		3 to < 5 mm	±0.30	±0.30
		5 to < 8 mm	±0.40	±0.40
(As per EN-438, Table 1)		8 to <12 mm	±0.50	±0.50
		12 to <16 mm	±0.60	±0.60
		16 to < 20 mm	±0.70	±0.70
		20 to <25 mm	±0.80	±0.80
Resistance to surface wear (revolution min)		10	> 3 5 0	>400
Resistance to immersion in boiling water t>5 mm	Increase in thickness	12	2%	<1.5%
Resistance to dry heat at 180°C	Gloss	16	3	3
Appearance (grade not worse than)	Others	16	4	4
Dimensional stability at elevated temp. (max%) t>5 mm	Machine direction	17	0.3%	<0.2%
	Cross direction	17	0.6%	<0.45%
Resistance to impact by large diameter ball t , 6 mm	Drop height (mm min)	21	1800	>2000
Resistance to scratching n (min)	Smooth Finishes	25	2 . 0	>2.0
	Textured Finishes		3.0	>3.0
Resistance to staining (grade not worse than)	Group 1 & 2	26	5	5
	Group 3 & 4	26	4	4
Resistance to cigarette burns	Appearance (grade not worse than)	30	3	3
Resistance to water vapour	Appearance (grade not worse than)	14	4	4
Resistance to moisture	Appearance (grade not worse than)	24	4	4
Flexural modulus (stress) EN ISO 178	Mpa (min)	24	9,000	>10,000
Flexural strength EN ISO 178	Mpa (min)		80	>90
Tensile strength EN ISO 178	Mpa (min)		60	>70
Density	9/cm ³ (min)	EN 1501183	1.35	>1.40
Light Fastness (Xenon arc)	Contrast (Grey Scale)	27	4 to 5	5



LAMEX inc,

236 Rue, Einstein
Dollard des Ormeaux
QC, H9A 3J2.
Montreal, Canada.

+1 (800) 470 1270
info@lamexlaminat.com
lamexlaminat.com

