

Laminex® Compact Laminates

Laminex® Compact Laminates are an innovative and durable decorative panel made from thermosetting resins, homogeneously reinforced with cellulose fibres and manufactured under high pressure and temperature. As such, the panels are strong, self supporting, moisture resistant and durable.



Laminex Compact Laminates come in three ranges, each with its own particular properties, applications, and colours. Multipurpose Compact Laminates, Innovations® Compact Laminates, and Laboratory Compact Laminates.

MULTIPURPOSE COMPACT LAMINATES

Finish	Natural
Colours	27 Standard Colours
Fire Resistance	Not Standard
Thickness	13mm x 27 colours 18mm x 4 colours
Decorated	Double Sided
Core	Black
Panel Dimension	3670x1820mm
Applications:	Shower & Toilet Cubicles, Office Worktops, Interior Wall Cladding, Lockers, Kitchen Benchtops & Cabinetry, Educational Furniture, Durable Furniture

INNOVATIONS COMPACT LAMINATES

Finish	Natural
Colours	6 Standard Colours
Fire Resistance	Not Standard
Thickness	13mm
Decorated	Double Sided
Core	Black
Panel Dimension	3670x1820mm
Applications:	Same as Multipurpose Compact Laminates

LABORATORY COMPACT LAMINATES

Finish	Natural	Core	Black
Colours	3 Standard Colours	Panel Dimension	2550x1860mm 3050x1530mm
Fire Resistance	Not Standard	Applications:	Laboratory Worktops, Laboratory Furniture
Thickness	16mm		
Decorated	Single Sided		

PROPERTIES

Property	Unit	Compact Laminate Material Properties			Standard*
		Multipurpose	Innovations	Laboratory	
Physical Properties					
Specific Gravity (minimum)	kg/m ³	1350	1350	1350	* EN 438-4
Weight 13 mm thickness	kg/m ²	18.5	18.5	-	
Weight 16 mm thickness	kg/m ²	-	-	22.5	
Weight 18 mm thickness	kg/m ²	25.2	-	-	
Panel Tolerance					
Length	mm	± 5	± 5	± 5	EN 438-4
Width	mm	± 5	± 5	± 5	
Thickness 13 mm	mm	± 0.60	± 0.60	± 0.60	AS/NZS 2924.1
Thickness 16 mm & 18 mm	mm	± 0.70	± 0.70	± 0.70	
Flatness	mm/m	≤ 3	≤ 3	≤ 3	
Optical Properties					
Colour Stabilities	Grey Scale Blue Wool Scale	Minimum 4 Minimum 6	Minimum 4 Minimum 6	Minimum 4 Minimum 6	
Stain Resistance Groups 1 and 2	Rating	Pass	Pass	Pass	
Stain Resistance Groups 3 and 4	Rating	Pass	Pass	Pass	
Mechanical Properties					
Modulus of Elasticity	Mpa	≥ 9000	≥ 9000	≥ 9000	EN 438-4
Tensile Strength	Mpa	≥ 60	≥ 60	≥ 60	EN 438-4
Flexural Strength	Mpa	≥ 80	≥ 80	≥ 80	EN 438-4
Craze Resistance	Rating	Pass	Pass	Pass	AS/NZS 2924.1
Impact Resistance	cm	Pass	Pass	Pass	AS/NZS 2924.1
Immersion in Boiling Water	-	Pass	Pass	Pass	AS/NZS 2924.1
Scratch Resistance*	N	Pass	Pass	Pass	AS/NZS 2924.1
Stability at elevated temperature	%	Pass	Pass	Pass	AS/NZS 2924.1
Wear Resistance	Cycles	Pass	Pass	Pass	AS/NZS 2924.1
Wet Heat Resistance at 100 °C	Rating	Pass	Pass	Pass	EN 438-4
Steam Resistance	Rating	Pass	Pass	Pass	AS/NZS 2924.1
Thermal Properties					
Thermal Conductivity Coefficient	W/mK	± 0.3	± 0.3	± 0.3	DIN 52612
Cigarette Burns	Rating	Pass	Pass	Pass	AS/NZS 2924.1
Dry Heat at 180°C	Rating	Pass	Pass	Pass	AS/NZS 2924.1
Fire Properties					
Fire Hazard Indices	Range				AS/NZS 1530.3
Ignitability	0 - 20	10	12		
Spread of Flame	0 - 10	0	0		
Heat Evolved	0 - 10	2	4		
Smoke Developed	0 - 10	4	3		
Cone Calorimeter					
Group Number	1 - 3	3	3		AS/NZS 3887
Average Specific Extinction Area	m ² /kg	8	31		

* AS/NZS 2924.1: compact general purpose standard (CGS) material type.

* Minimum 1N for darker colours

WHEN SPECIFYING

Materials shall be Laminex Multipurpose, Innovations, or Laboratory Compact Laminates of nominal thickness of mm, as supplied by The Laminex Group. Colour shall be

SITE WORK NOTES

Fabrication

Laminex Compact Laminates can be cut, drilled and machined with standard woodworking equipment fitted with tungsten carbide edges. Surface mounted objects should be secured using self-tapping screws in pre-drilled holes.

Screws into the edges should be avoided.

Metal brackets are recommended for securing the panels together. Mitring of edges should be avoided as they are vulnerable to damage.

Standard tools for hardwood can be used for machining or processing such as sawing, drilling and routing. Neither the surface nor the sawn edges need to be protected or sealed. Panels will present a distinctive black edge.

CUTTING DOORS OR PANELS

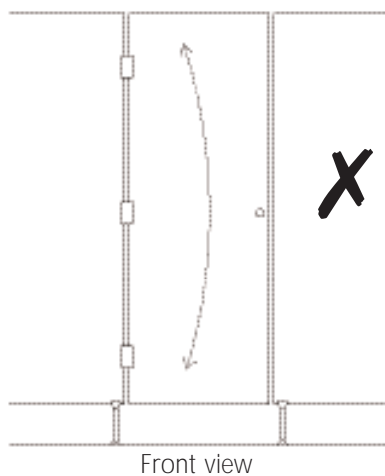
Compact Laminate is a wood based product and its movement is influenced by humidity absorption.

Similarly to other laminates; Compact Laminates will expand more in the width than in the length due to the grain direction of the cellulose fibres in the paper-paper core.

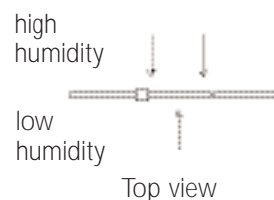
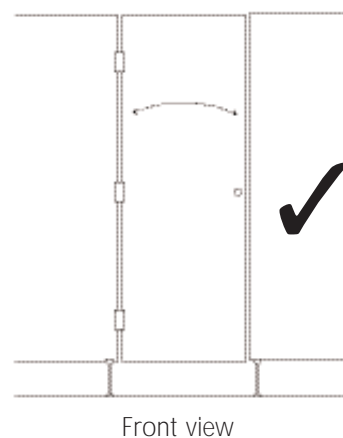
To minimise warpage of doors and panels it is recommended that panels must be cut with the long edge parallel to the length of the sheet. Warpage occurs when both sides of a door or panel are not exposed to the same humidity level.

The longer a sheet is, the larger the impact of warpage will be. Ensure as far as possible that ambient conditions are the same on each side of a panel where it is used, mounted on a wall or enclosing a cabinet for example.

Incorrect: door cut out of width of a sheet, warpage vertically



Correct: door cut out of length of a sheet, warpage horizontally



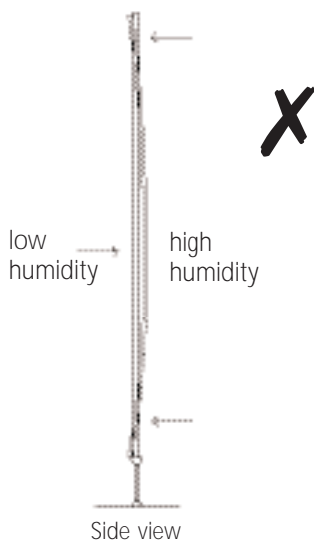
Note: An exception is when Compact Laminate is used for sash doors. The panels have to be cut out of the width of the basic sheets instead of the length. If a sash door is cut out of the length of a sheet the horizontal bow will interfere with the sliding action of the door. It is preferable to have a vertical bow for this application and cutting out of the width of the basic sheet is recommended.

GLUEING

Compact panels can be glued to each other and to almost any other material with one or two part adhesives, e.g. epoxy or polyurethane adhesive systems,

Glueing is usually carried out together with a mechanical joint to provide sufficient pressing during drying.

Glue Type	Epoxy/Polyurethane
Application	100-250 g/m ²
Open Time	Depends on type
Application Pressure	0.2 N/mm ²
Time	4-8 hours at 20°C



Please follow the instructions below for thickening the edges of panels.

Panels and strips must have the same "grain direction".

Panels, strips and adhesive must be pre-conditioned in the same way (temperature and humidity preferably the same as the future conditions of use).

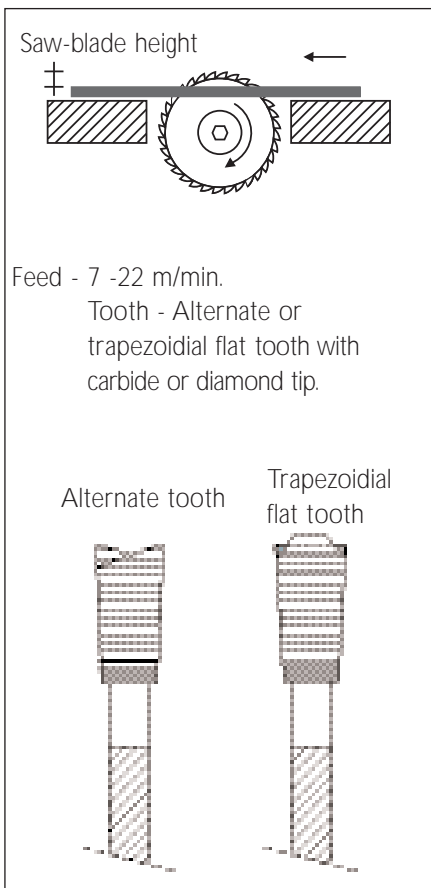
Remove grease from surfaces to be glued, slightly roughen them and ensure they are dust-free.

PROCESSING

(Sawing)

Stationary circular saw. The following requirements are required:

Section	300mm	350mm	400mm
Teeth	72	84	96
Number of Revolutions	6,000	5,000	4,000
Blade Thickness	3.4mm	4.0mm	4.8mm
Height Setting	30mm	35mm	40mm



Jig saw - Carbide-tipped, interior corners of cut-outs should be drilled first with 6mm hole diameter.

Entering tooth - At the decorative side of the panel if only this side will be in view.

Cut edges - The best results are obtained with stationary machines. Any sharp edges can be removed with sand paper.

Rake angle - A rake angle of 45° gives the best performance.

Corner profiles - First cut to length, then saw to the correct length. Measure the length of leg from the corner.

Routing - If panels are supplied with a protective film do not remove it until these are assembled. If the film burns or melts during routing, remove only the film in the edge areas.

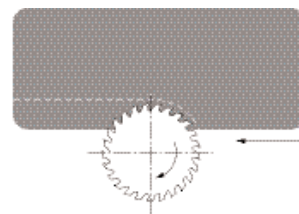
Manually operated routing cutter

Manually operated spindle moulder

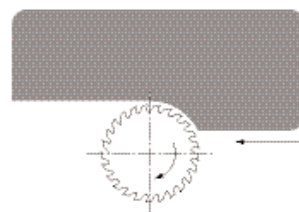
Diameter	20-25mm
Number of Revolutions	18,000-24,000
Speed	20-30m/sec

Diameter	125mm
Number of Revolutions	6,000-9,000
Speed	40-60m/sec
Start	5-15 m/min

Groove-circular saw



Edge cutter



Routing shapes

- Straight and slanted bits for cutting edges and bevelling.
- Hollow or round bits for rounded edges.
- Diamond groove-circular saw blades for grooves.

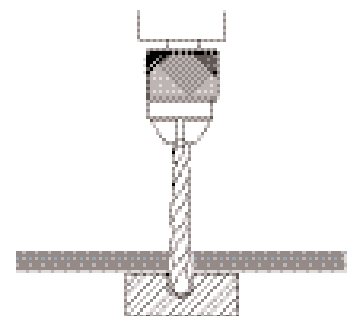
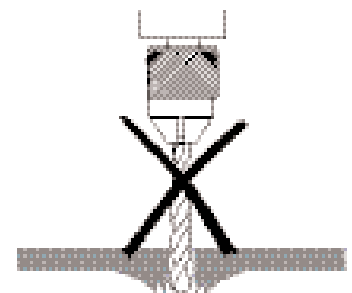
Materials - Cutters made of hard metal or diamond.

DRILLING

HSS drill, top angle 60-80°. Panels should be drilled with support sheets.

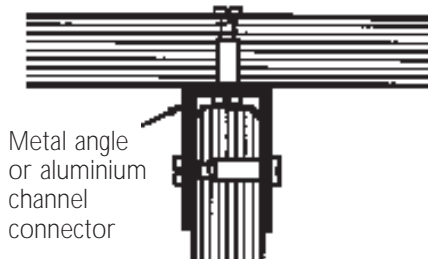
Section	5mm	8mm	10mm
Number of Revolutions	3,000	2,000	1,500
Start	60-120 mm/min	40-80 mm/min	30-60 mm/min

Large holes, e.g. for suspension and locking equipment, are to be drilled with combination drills without a centering point.



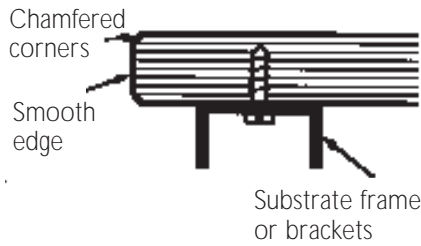
INTERSECTIONS

T-Intersection

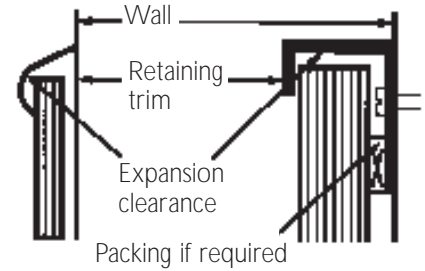


EDGES & NOSINGS

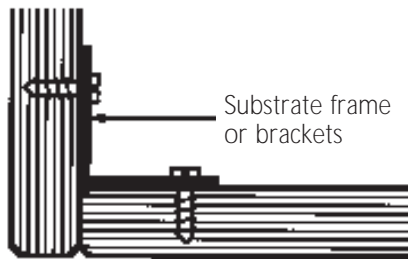
Standard Edge



SPLASHBACKS



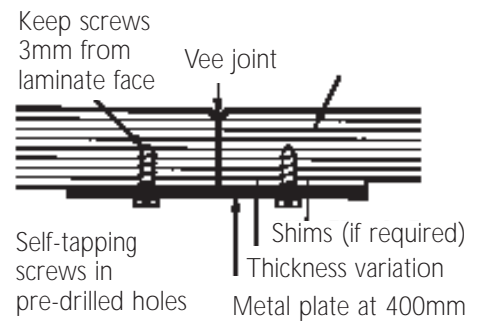
External Corner



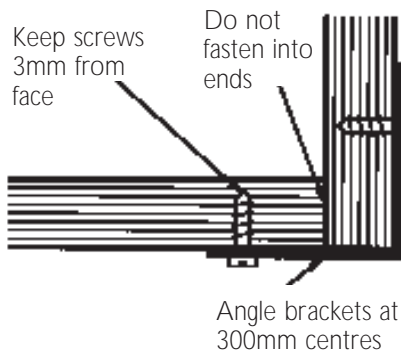
Built-Up Edge



JOINTS



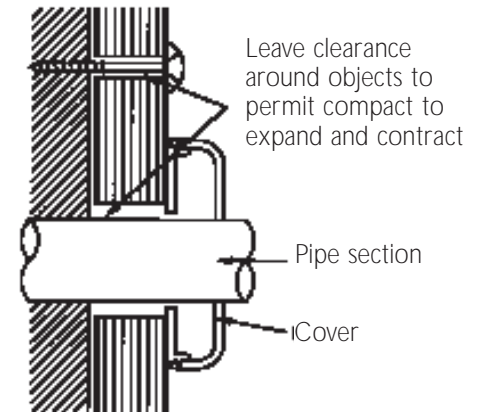
Internal Corner



Edge with Sliding Doors



Pass-through Objects



General Site Work Notes

Appendix 1. Handling & Product Application Guidelines
Section 9:1

Laminate Product: Care & Maintenance

Appendix 2. General Care and Maintenance
Section 9:2

Greenfirst

Section 3:1

CARE & CLEANING

The non-porous surface is easy to clean. For general cleaning of standard interior applications, household cleaners, water or soap are highly recommended. The use of abrasive or polishing materials should not be used.

Both the decorative surface and homogenous core of Laminex Compact Laminates are impervious and resistant to most commonly used cleaning agents and disinfectants.

The surfaces of Laminex Compact Laminates furniture can be easily cleaned with a dry or damp cloth and, if necessary, a mild household cleaner. Wipe damp surfaces with an absorbent cloth.

Alternatively, the panels can be steam cleaned.

Removing Severe Soiling

Severely dirty surfaces or areas where normal soiling* has built up over a long period of time are easy to clean with hot water and an interior detergent- or soap-based cleaning agent, applied with a sponge or soft nylon brush.

Apply the diluted cleaning agent to the surface and leave it to soak for a while. Then rinse off with clean water and dry with an absorbent cloth.

* dust, pencil, ball pen, ink, coffee, tea, fruit juice, lipstick, grease, nicotine stains, shoe polish, soap residues, limescale, water-soluble paints and adhesives.

Removing Special Staining

Solvent-based varnishes and adhesives (nail varnish, rubber stamp ink, aerosol paint) should be removed with organic solvents such as acetone, white spirit, turpentine or petroleum.

Remove wax from candles or crayons immediately with water and a mild household cleaning agent. Dried wax stains may first have to be scraped off with a wooden or plastic spatula and the remainder removed with an organic solvent.

Two part paint or adhesive, synthetic resin and the like should be removed immediately with water or an organic solvent. Once these products have set, they cannot be removed without damaging the surface.

Limescale can be removed with acidic cleaning agents containing approximately 10% acetic acid or citric acid.

The manufacturer's instructions must be strictly followed. Rinse surfaces and edges very thoroughly!

Paint, varnish, ink, shoe polish, lipstick, tar and other soluble (but strong stains) can be removed with organic solvents such as acetone, white spirit, turpentine or petroleum.

Rub silicone off dry or use silicone remover.

Both the decorative surface and core of Laminex Compact Laminates are highly resistant to most commonly-used disinfectants such as:

- alcohol, preferably up to 70% solution in water.
- aldehydes, although not in, or in combination with, quarternary ammonia compounds.
- chlorine bleaching compounds.

(However, long term use of these products can cause certain pigments to fade.)

- phenols, not to be used for kitchen disinfection.
- peroxide compounds (hydrogen peroxide and organic peracids)
- quarternary ammonium compounds

Some manufacturers offer products containing both cleaning and disinfecting components. These are known as detergent sanitisers, and are intended for simultaneous cleaning and disinfection of light to medium soiled surfaces in rooms where there is no great risk of infection.

HANDLING & STORAGE

During transportation, use flat, stable pallets of at least the same dimensions as the panel.

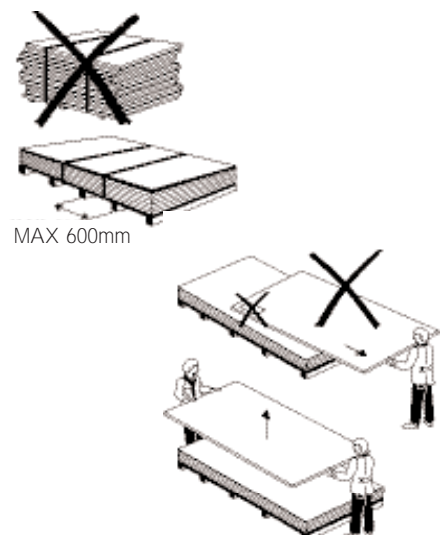
When moving a sheet, lift it to prevent scratches on the surface.

The sheets should be stored in an enclosed area, protected against moisture and heat.

For horizontal storage on pallets, the sheets should be supported over the entire surface with a protective layer between the pallet and the bottom sheet and also on the uppermost sheet.

For vertical storage the sheets should be placed on their sides, exactly vertical and be supported over the full height.

Remove stickers before installation.



LAMINEX LABORATORY COMPACT LAMINATE

Chemical Resistance

Acid		No effect	Excellent	Good	Fair	Failure
Hydrochloric Acid	37%	X				
Sulphuric Acid	33%	X				
Sulphuric Acid	98%		X			
Nitric Acid	20%	X				
Nitric Acid	30%		X			
Nitric Acid	65%			X		
Phosphoric Acid	85%	X				
Acetic Acid	99%	X				
Hydrofluoric Acid	48%					X
Chromic Acid	60%	X				
Bases						
Ammonium hydroxide	28%	X				
Sodium hydroxide	46%	X				
Salt						
Silver Nitrate	1%	X				
Potassium permanganate	10%		X			
Ferric (III) chloride	10%	X				
Copper Sulphate	10%	X				
Sodium hypochlorite	13%	X				
Sodium chloride	10%	X				
Organic Chemicals						
Formaldehyde	37%	X				
Furfural			X			
Phenol w/v water	85%		X			
Solvents**						
Acetone		X				
Ethylalcohol		X				
Ethylene glycol		X				
Methylethyketone		X				
Dichloromethane		X				
Ethylacetate		X				
Acetic anhydride		X				
n-Butyl acetate		X				
n-Hexane		X				
Methylalcohol		X				
Methylisobutylketone		X				
Tetrahydrofurane		X				
Toulene		X				
Trichloroethylene		X				
Xylene		X				
Biological Stain						
Acridine orange	1%	X				
Basic fuchsin	1%	X				
Carbol fuchsin	1%		X			
Malachite green oxalate	1%	X				
Methylene blue	1%	X				
Methyl violet 2B	1%	X				
Wright stain	1%	X				
Gentian violet (dye)	1%	X				
Iodine 0.05M				X		
Most conventional cleaning agents		X				

Test Procedure: The test was conducted by applying 5 drops of each reagent on the surface covered with a watchglass (except for those marked**). Chemicals marked ** were tested using a saturated cotton wool ball covered by a bottle. The chemicals were tested over a period of 24 hours, rinsed off with water and evaluated. **No effect:** No detected stain, loss of gloss or change in work surface material. **Excellent:** Slight stain or loss of gloss, but no change to the function, smoothness or life of the work surface material. **Good:** A clearly discernible stain or loss of gloss, but no change to the function, smoothness or life of the work surface material. **Fair:** Unacceptable staining or discernible deterioration or etching of the work surface material. **Failure:** Severe stain or moderate deterioration, pitting cratering or etching of work surface material. All information is based on our current knowledge. It is intended as information concerning our products and their application possibilities, and is therefore not intended for any form of guarantee with regard to any specific product characteristic. Test results differ per colour. Please note: Laminex Laboratory Compact Laminate samples are available upon request. We recommend that you test the Laminex Laboratory Compact Laminate material in situ with the chemical most likely to be in contact with the product before purchasing.