Laminex® XR Grade Compact Laminate

Laminex® XR Grade Compact Laminate is an extra resilient decorative panel made from thermosetting resin, homogeneously reinforced with cellulose fibre and manufactured under high pressure and temperature. The panels are strong, self supporting, chemical resistant and moisture resistant.

Laminex XR Grade Compact Laminate is a general purpose compact laminate suitable for interior use in both vertical and horizontal applications. Laminex XR Grade Compact Laminate is suited to a wide range of applications including use in chemical laboratory environments.

XR GRADE COMPACT LAMINATES

Finish	Carbide
Colour	6 Standard Colours
Thickness	13 mm
Decorated	Double Sided
Core	Black
Panel Dimension	3600x1500mm
Applications:	Shower & Toilet Cubicles, Office Worktops, Interior Wall Cladding, Lockers, Kitchen Benchtops & Cabinetry, Educational Furniture, Durable Furniture, Laboratory Worktops & Laboratory Furniture

CHEMICAL RESISTANCE

The chemicals and reagents listed below were rated for Laminex XR Grade Compact Laminate in a covered method (watch glass cover) with exposure for a period of 16 hours at 20 to 22°C. Reagents listed over do not damage Laminex XR Grade Compact Laminate. Those reagents marked with an asterisk (*) may cause slight change in gloss and/or colour, depending upon the duration of exposure whereas those marked with two asterisks (**) will cause severe damage and/or severe colour change. Prompt cleanup of all spills using water, a cloth and mild detergent is recommended. It is always a good idea to obtain laminate samples and perform in-situ tests with chemicals most likely to be in contact with the product prior to purchase.

PROPERTIES

Property or Attribute	Unit	Requirement	Standard
Physical Properties			
Specific Gravity (minimum)	Kg/m^3	1350	EN ISO 1183-1
Weight 13mm thickness	Kg/m^2	18.5	
Panel Tolerance			EN 438-4
Length	mm	± 5	
Width	mm	± 5	
Thickness 13mm	mm	± 0.60	
Flatness	mm/m	≤ 3	
Optical Properties			AS/NZS 2924.1*
Colour Stabilities	Grey Scale Blue Wool Scale	Minimum 4 Minimum 6	
Stain Resistance Groups 1 and 2	Rating	Pass	
Stain Resistance Groups 3 and 4	Rating	Pass	
Mechanical Properties			
Modulus of Elasticity	Mpa	≥ 9000	EN ISO 178
Tensile Strength	Mpa	≥ 60	EN ISO 527-2
Flexural Strength	Mpa	≥ 80	EN ISO 178
Craze Resistance	Rating	Pass	AS/NZS 2924.1
Impact Resistance	cm	Pass	AS/NZS 2924.1
Immersion in Boiling Water	-	Pass	AS/NZS 2924.1
Scratch Resistance#	N	Pass	AS/NZS 2924.1
Stability at elevated temperature	%	Pass	AS/NZS 2924.1
Wear Resistance	Cycles	Pass	AS/NZS 2924.1
Wet Heat Resistance at 100°C	Rating	Pass	EN 438-4
Steam Resistance	Rating	Pass	AS/NZS 2924.1
Thermal Properties			
Thermal Conductivity Coefficient	W/mK	± 0.3	DIN 52612
Cigarette Burns	Rating	Pass	AS/NZS 2924.1
Dry Heat at 180°C	Rating	Pass	AS/NZS 2924.1

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

Minimum if 1N for dark colours

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Acids
Acetic Acid (Glacial), 98%
Chromic Acid, 10%
Citric Acid, 10%
Dichromate Cleaning Solution*
Formic Acid, 90%
Hydrochloric Acid, 37%
Hydrofluoric Acid, 40% **
Nitric Acid, 30%
Nitric, 65%**
Perchloric Acid, 60%*
Phosphoric Acid, 85%
Sulphuric Acid, 33%
Sulphuric Acid, 98%**

Alkalis
Ammonium Hydroxide, 28%
Potassium Hydroxide, 15%
Sodium Hydroxide, 46%

Salts
Copper Sulphate, 10%
Ferric Chloride, 10%
Potassium Permanganate, 1%
Silver Nitrate, 1%
Sodium Chloride, 10%
Sodium Hypochlorite, 16%

Organic Chemicals
Formaldehyde, 10%
Furfural
Phenol, 90% *

Most conventional cleaning agents
Resistant to most common cleaning agents. Avoid the use of highly alkaline, highly acidic or abrasive cleaning agents.

Solvents
Acetone
Dichloromethane
Ethyl Acetate
Ethyl Alcohol
Ethylene Glycol
Ethylene Glycol Mono Butyl Ether
Isopropanol
Methyl Alcohol
Methyl Ethyl Ketone
Methyl Isobutyl Ketone
N-butyl Acetate
N-hexane
Tetrahydrofuran
Toluene
Trichloroethylene
Xylene

Biological Stains
Carbol Fuschin, 1%**
Crystal Violet, 0.5%
Gentian Violet, 1% solution
Hydrogen Peroxide, 3%
Iodine Tincture, USP, 2%**
Malachite Green Oxalate, 1%
Methylene Blue, 1%
Methyl Orange, 0.04%
Methyl Red, 0.1%
Methyl Violet 2B, 1%
Sudan III
Wrights Stain, 1%

Note: Some chemical reagents will become more concentrated if allowed to evaporate on the laminate. It is therefore recommended that all spillages be washed and rinsed off the laminate as soon as possible.

WHEN SPECIFYING

Materials shall be Laminex XR Grade Compact Laminate of nominal thickness of ..... mm, as supplied by The Laminex Group. Colour shall be .....

SITE WORK NOTES

Fabrication

Laminex XR Grade 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

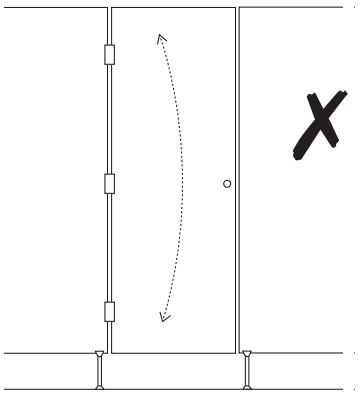
Compact Laminate is a wood based product and it's movement is influenced by humidity absorption.

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.

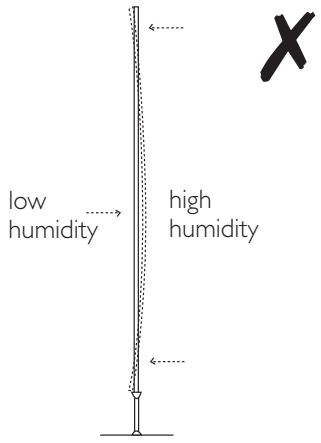
To minimise warpage of doors and panels it is recommended that panels must be cut with the long edge parallel to the length of the sheet. Warpage occurs when both sides of a door or panel are not exposed to the same humidity level.

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

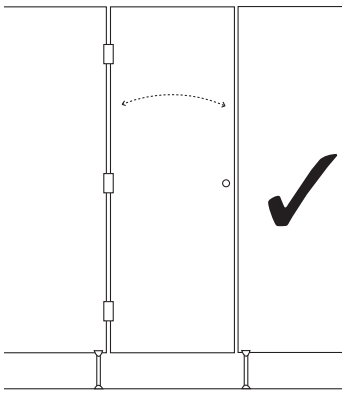


Front view

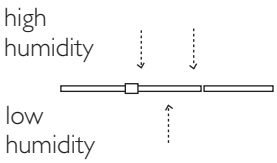


Side view

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



Front view



Top view

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/m²
Open Time	Depends on type
Application Pressure	0.2 N/mm²
Time	4-8 hours at 20°C

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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).

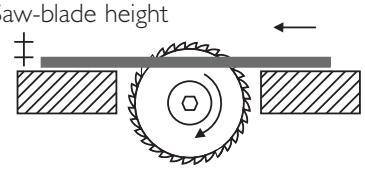
Remove grease from surfaces to be glued, slightly roughen them and ensure they are dust-free.

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

Saw-blade height

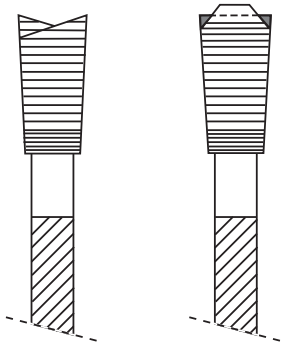


Feed - 7 -22 m/min.

Tooth - Alternate or trapezoidial flat tooth with carbide or diamond tip.

Alternate tooth

Trapezoidial flat tooth



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.

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

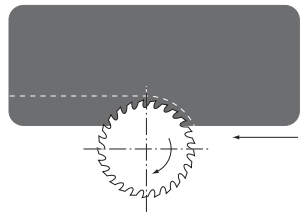
Manually operated routing cutter

Manually operated spindle moulder

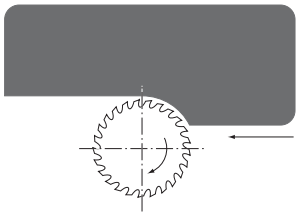
Diameter	20-25mm
Number of Revolutions	18,000-24,000
Speed	20-30m/sec

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

Groove-circular saw



Edge cutter



Routering shapes

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

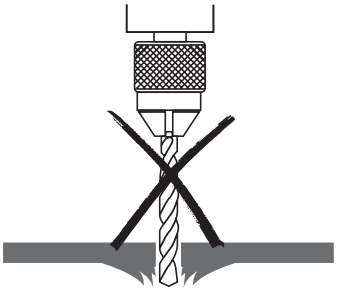
Materials - Cutters made of hard metal or diamond.

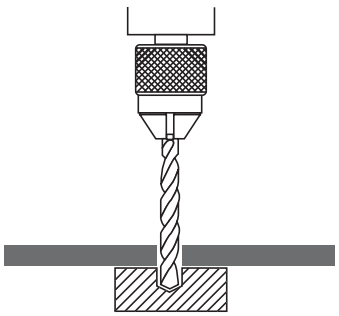
DRILLING

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

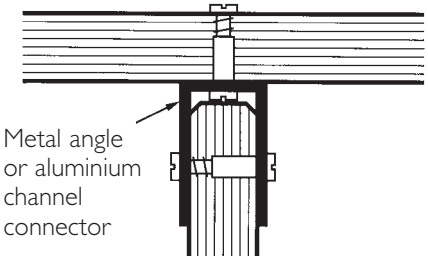
Large holes, e.g. for suspension and locking equipment, are to be drilled with combination drills without a centering point.



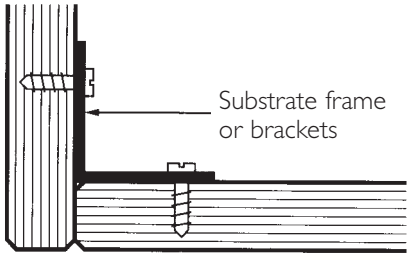


INTERSECTIONS

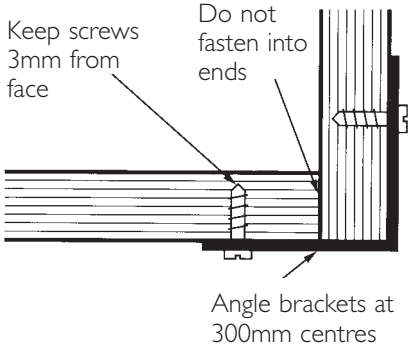
T-Intersection



External Corner

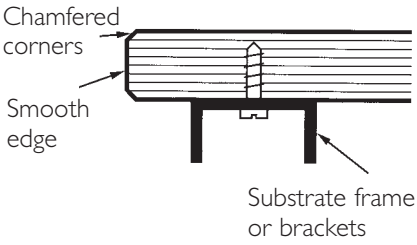


Internal Corner

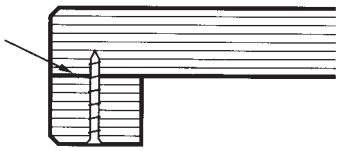


EDGES & NOSINGS

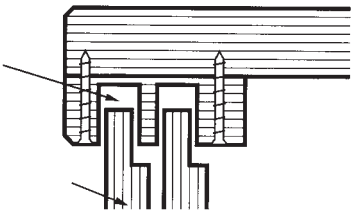
Standard Edge



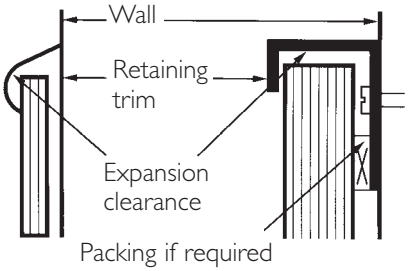
Built-Up Edge



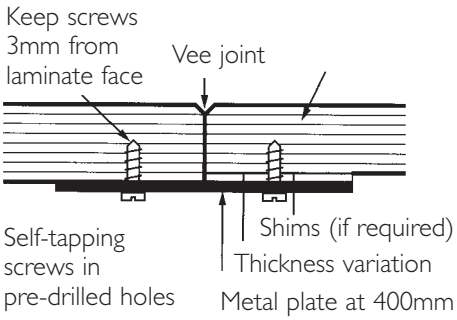
Edge with Sliding Doors



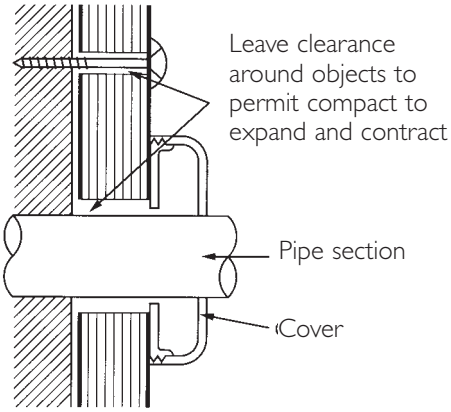
SPLASHBACKS



JOINTS



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

Green*first*
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, quartenary 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.