INNOVATIONS®

Laminex® Innovations® Metallics™

Laminex® Innovations® Metallics™ are high-pressure laminates manufactured with genuine decorative metallic foils. The surface of these products is coated with a protective lacquer similar to a good quality timber lacquer.

APPLICATIONS

Laminex Innovations Metallics are ideal for walls, doors, feature panelling, room dividers, exhibition stands and shopfitting (displays, stands, etc.).

Other uses include fireplace and kitchen hoods, lift linings and many other areas where a metallic look is desired.

Metallic finishes are recommended for light duty interior applications only. They are not recommended for heavy usage areas such as worktops, bars, tables, kitchen splashbacks or kick boards. Laminex Innovations Metallics are not heat formable.

WALL PANELS

When using Laminex Innovations in a wall panel application, it is recommended that the laminate is bonded to a high quality substrate, such as Lakepine MDF and balanced by bonding laminate of the same thickness to the rear of the panel to minimise bowing.

Product Characteristics	
Sizes	2400 x 1200mm
Thickness	0.8 – 1.3mm
Weight	1.5kg/m^2 approx.(1mm)

FIRE PERFORMANCE

The group number classifications are generated from tests carried out and data recorded in accordance with the test procedure described in ISO 5660 2002 - Reaction to Fire Test - Part 1: Heat Release and Part 2: Smoke Production Rate, for the purposes of determination of the Group Classification in accordance with the New Zealand Building Code Verification Method C/VM2 Appendix A.

Laminex Innovations Metallics

Group Number Classification 3

WHEN SPECIFYING

Materials shall be Laminex Innovations Metallics laminate as supplied by Laminex New Zealand Colour/Finish shall be .....

CARE & MAINTENANCE

Caution

Laminex Innovations Metallics are intended for interior use in vertical decorative applications. The lacquered surface of Laminex Innovations Metallics has similar properties to a high quality wood lacquer, thus the surface could be damaged by hard objects and some solvents. The metallic surfaces have low resistance to impacts and low resistance to abrasions.

Avoid the use of solvents for cleaning purposes. Any spillage of liquids should be removed as soon as possible. Avoid the use of abrasive cleaners, even those in liquid form.

Laminex Innovations Metallics should only be cleaned with a soft, moist cloth or moist chamois leather and then dried with a soft, dry cloth. A mild cleaning agent such as glass cleaner can be used to remove smudges and smears.

Do not place hot objects on the surface. Laminex Innovations Metallics laminates are not recommended for use in areas of high humidity such as bathrooms or laundries as exposure to moisture for prolonged periods can cause corrosion of the metallic surface and/or delamination. Protect from strong, direct sunlight as continuous exposure may casue discolouration or fading to the surface over time.

SITE WORK NOTES

Laminex Innovations Metallics come protected with a plastic film that should be left attached while the laminate is being processed. The plastic film should not be exposed to direct sunlight as it may degrade making removal more difficult and the film should be removed within 6 months of receiving the laminate. Ensure that checks for colour, colour uniformity and surface defects are performed before the job is started.

Use laminate from one production batch for a job as small variations in appearance can occur batch to batch due to the production process of the metallic foils.

Laminates should be stored horizontally. If this is not possible, it is recommended to store the sheets propped up on their long edge against a wall but fully supported at an 80 degree angle Condition for at least 48 hours in the same environment as the substrate.

When processing, ensure that the adjoining sheets are running in the same orientation otherwise variations in appearance may occur.

Laminex Innovations Metallics can be sawn, drilled and milled like standard high pressure laminates. It is advisable to use carbide-tipped cutting tools. When cutting, the decorative surface should always face upwards.

Laminex Innovations Metallics should be bonded to Particleboard or MDF using Contact Adhesives or Cross-Linking PVA adhesives. Laminate should be fully supported when glued.

Do not bond directly to plaster, plasterboard or concrete. If heating adhesives the temperature should not exceed 60°C (140°F). Two component epoxide glues and polyurethane adhesives can also be used but care must be taken before they harden. Condensation resin glues such as urea are not recommended as the acid releasd during hardening can adversely affect the metallic foil.

When pressing the laminate to a substrate, a thin protective soft layer (eg. paper) should be placed on top of the metallic surface. Avoid excess glue coming in contact with the unprotected matallic surface. Use only sufficient pressure to ensure a good bond.

During cutting and machining a slight buring may occur on the new edge. This can be removed by careful use of a fine file.

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INNOVATIONS®

Laminex® Innovations® Brushed Stainless Steel

Laminex® Innovations® Brushed Stainless Steel is a high-pressure laminate manufactured with genuine stainless steel metallic foils. It is resistant to solvents, chemicals and household reagents and has an extremely hard wearing surface. Laminex® Innovations® Brushed Stainless Steel laminate is also post formable. Special fabrication conditions apply as a consequence of the physical properties of stainless steel foils.

APPLICATIONS

Laminex Innovations Brushed Stainless Steel laminate is suitable for both vertical and horizontal applications such as feature panelling, benches, table tops, bar tops, doors, exhibition stands, shopfitting or any area where a decorative metal look is required. They are not suitable for exterior applications.

WALL PANELS

When using Laminex HPL in a wall panel application, it is recommended that the laminate is bonded to a high quality substrate, such as Lakepine MDF and balanced by bonding laminate of the same thickness to the rear of the panel to minimise bowing.

Product Characteristics	
Sizes	2440 x 1020mm
Thickness	0.8mm
Weight	1.7kg/m^2 approx.

FIRE PERFORMANCE

The group number classifications are generated from tests carried out and data recorded in accordance with the test procedure described in ISO 5660 2002 - Reaction to Fire Test - Part 1: Heat Release and Part 2: Smoke Production Rate, for the purposes of determination of the Group Classification in accordance with the New Zealand Building Code Verification Method C/VM2 Appendix A.

Laminex Innovation Brushed Stainless Steel

Group Number Classification 3

WHEN SPECIFYING

Materials shall be Laminex Innovations Brushed Stainless Steel laminate as supplied by Laminex New Zealand.

CARE & MAINTENANCE

Although Laminex Innovations Brushed Stainless Steel laminate is resistant to most common household chemicals and solvents, it is good practice to always clean up spills as they occur. Avoid the use of abrasive cleaners for routine maintenance, even those in liquid form.

Laminex Innovations Brushed Stainless Steel laminate should only be cleaned with a soft, moist cloth or moist chamois leather and then dried with a soft, dry cloth. For more persistent marks, use a blue window cleaner such as Mr Muscle™ glass cleaner or methylated spirits. Proprietary stainless steel cleaner can also be used if necessary.

Do not place hot objects on stainless steel laminate benchtop surfaces – always use insulating mats. Laminex Innovations Brushed Stainless Steel laminate should not be exposed to temperatures in excess of 80°C.

Just as for solid stainless steel sheeting, Laminex Innovations Stainless Steel laminate will scratch under certain conditions.

Never cut on the surface and use protective mats in high traffic areas to minimise the likelihood of scratching. Always lift objects on or off the surface, do not slide or drag.

Keep strong chemicals away from the surface – even stainless steel can corrode if exposed to the wrong reagents. Apart from the cleaning recommendations given above, a good rule of thumb is that if the substance in question doesn't go into food, then it should not come into contact with the laminate surface.

SITE WORK NOTES

Special machining requirements are necessary for fabricating Laminex Innovations Brushed Stainless Steel laminates (see information contained within the following pages) therefore it is not practical to carry out on-site fabrication. It is critical that the design for any particular application relies on shop machining, with only minimal on site finishing to be employed.

Laminex Innovations Brushed Stainless Steel laminate is supplied with a protective film on the surface. This should be left intact during transport, handling and fabrication. The protective coating can be left on during post forming.

Warning: Do not expose the stainless steel laminate with protective film to prolonged periods of direct UV exposure, as this will cause the film adhesive to harden, making removal difficult. If for any reason the film becomes firmly adhered to the laminate surface, removal may be facilitated by the gentle application of hot air to soften the adhesive. It is only necessary to heat the laminate so that it feels warm at the back – care must be taken not to heat the laminate above 80°C.

Residual adhesive may be removed using acetone or petroleum based solvents.

FABRICATION

Laminex Innovations Brushed Stainless Steel laminate can be bonded to a range of suitable substrates such as MDF, particleboard or plywood using conventional adhesives such as cross linking PVA, contact or epoxy adhesives.

Note: Urea-formaldehyde adhesives are not suitable. Laminex Innovations Brushed Stainless Steel laminate should be fully supported when glued. Do not bond directly to plaster, plasterboard or concrete.

MACHINING

The tools, cutters and methods that are normally used to process high pressure laminates are not designed to be used with such a hard surface as stainless steel, and if applied to stainless steel laminate will result in damaged equipment, burring of the edges of the stainless steel foil, and delamination of the stainless steel foil from the phenolic impregnated kraft backing. Machining of stainless steel laminates can be carried out using point-to-point or similar routering equipment and cutters designed for use with stainless steel.

Required parts:

300 x 300 Z96 Saw Blade
Leitz Part No. 68800
16mm Spiral roughing cutter
Leitz Part No. 42507
18mm Up and down spiral cutter
Leitz Part. No. 42538
or Leitz equivalent part.

Notes:

1. The cutters detailed above are designed for the trimming function only. All components must first be cut to a dimension no greater than 4 mm oversize to the finished dimensions. It is recommended that a waste board be clamped to the laminate surface prior to saw cutting to obviate saw "chatter" that might lead to delamination of the foil surface. Use a feed speed of 7m/min. and a blade speed of 3000 RPM.
2. Where the product is to be fabricated into a post formed component with a Mason's Mitre joint, then this joint section must be machined to an undersize dimension before applying the stainless steel laminate, once again ensuring a dimension of 4mm is left on for final machining.
3. The stainless steel laminate is to be cut to the same dimensions as the oversize board blanks, ensuring that any excess laminate is removed from the area of the Mason's Mitre joint location.
4. Fabricate stainless steel laminate to substrate in the normal manner.

MACHINING CRITERIA

For use with point-to-point or similar routers.

1. Programme the head in the Z direction to enable the cutter to continually and gradually pass vertically through the panel during each machining leg, from say 1mm to 10mm, depending on the panel thickness and the cutter length. This action considerably increases cutter life.
2. Cutter speed 2500 RPM (Twist direction of the tool so that the cutting edge always presses the stainless steel laminate against the substrate).
3. Feed speed 2 lineal metres per minute.
4. Initial cutting by 16mm spiral roughing cutter to remove 2-3 mm of waste.
5. Final machining of 1 mm (maximum) with 18mm up and down spiral-finishing cutter.

POST FORMING

Laminex Innovations Brushed Stainless Steel laminate can be post formed down to a 10mm radius, in both longitudinal and cross direction, using conventional post forming equipment
It is important to be aware that the bending temperature for stainless steel laminate is much lower than conventional laminates.

THE BENDING TEMPERATURE FOR LAMINEX® BRUSHED STAINLESS STEEL LAMINATE IS BETWEEN 110 AND 120 DEGREES CENTIGRADE.

Higher temperatures will result in delamination of the surface foil from the kraft backing. The use of 114°C temperature indicating crayon, such as Tempilaq available from The Laminex Group, is recommended.

Note: Due to the lower forming temperatures for *this product, bonding failure may be experienced when forming on continuous post forming machines where cross linking PVA adhesives are used. It may therefore be necessary to consider her adhesive forms, such as sprayable contact adhesive.*

COLD FORMING

Stainless steel laminates with non-embossed surfaces and a thickness of 1mm or less, can be cold formed to the following radii:

- Convex bend, lengthwise or cross direction 80mm minimum.
- Concave bend lengthwise or cross direction 130mm minimum.

These figures are based on test material strips 50mm in width, and represent radii which can be achieved under normal conditions, where constant pressure is distributed uniformly over the entire surface. Factors such as the degree of moisture in the laminate, temperature, method of bending, and uneven pressure or substrate profile can all have an effect on these results.

EDGING

It is possible to produce edge laminate strips from off-cut product, but it is important to ensure that chattering of the laminate does not occur as the laminate passes through the saw blade. If chattering occurs then minor delamination of the stainless steel foil may result.

It is preferable that any edging be produced using a guillotine. Small tools such as the Virutex hand guillotine can be used for this function. Care should be taken in determining the dimensions of the laminate to be guillotined due to the extremely hard nature of the stainless steel foil, therefore it is suggested that minimal over trim be used, to enable a fast and clean finishing off of the laminate edge to both faces of the panel. Slight burring may be removed by careful use of a fine file, only applying pressure on the downward stroke in the direction of the laminate surface to prevent delamination.

COLOUR CONSISTENCY

By their nature, the metal foils used in the production of Laminex Innovations Brushed Stainless Steel laminate may vary slightly in colour from batch to batch.

Where colour consistency between adjacent panels is important, it is critical that manufacture dates or batch numbers (printed on the back of the laminate) are checked to ensure that they are the same. This will avoid the need to remove protective film to check