



ECONOMY ♦ EXCELLENCE ♦ ETHICS



MERINO METALAM LAMINATES
TECHNICAL GUIDE



Contents

1	Introduction	3
2	Pre-Fabrication.....	3
2.1	Transport, Storage & Handling.....	3
2.2	Preconditioning & The Environment.....	4
2.3	Substrates & Adhesives Guidance.....	4
3	Fabrication.....	5
3.1	Cutting.....	5
3.2	Bonding and Trimming Advice	5
3.3	Cut-outs & Fasteners.....	6
3.4	Drilling	6
3.5	Edge Profiling & Finishing.....	6
4	Post Fabrication.....	7
5	Maintenance & Care	7

1 INTRODUCTION

Merino Metalam Laminates are decorative laminates (HPL) intended for application in areas with premium aesthetics. By using a metal foil as the decorative layer, Metalam laminates allow the fabricator to recreate the sheen and style of any metal, without having to deal with its bulk and fabrication challenges.

Metalam laminates are classified as MTS grade under EN438 standards, and are recommended in any vertical application area where a premium look is desired.

2 PRE-FABRICATION

Prior to fabrication, ensure that Metalam laminates are not exposed to moisture at any point of time. Follow these guidelines closely-

2.1 TRANSPORT, STORAGE & HANDLING

All transport, storage and handling guidelines for Merino's HGS-grade decorative laminates are also applicable to Metalam laminates. Key points to consider-

- **TRANSPORT**

Never roll up Metalam laminates while transporting or storing them. Care must be taken to ensure that the decorative surface is on the inside and well protected. Wooden pallets used for transport must be free of dirt and debris.

- **HANDLING**

While handling Metalam laminates, precautions must be taken to avoid damage to the product. The decorative faces may get damaged on sliding over other surfaces, including other laminate sheets. To avoid any possibility of damage, always lift the sheets while handling them.

Merino recommends the use of 2 workmen to lift the sheet, especially if the sheets are sized over 3.5 feet. Always ensure the workmen walk at a steady pace, holding the sheet with limited slack, as excessive bowing can strain the surface of the laminate.

Never allow the laminates to touch the ground or the walls while they are being carried. If forklifts and similar mechanized vehicles are used to load or unload a vehicle, ensure that the pallets are clean and structurally sound.

- **STORAGE**

Metalam sheets should be gently stacked over each other in a horizontal manner, in a back-to-back configuration. The sheet at the bottom of the stack must have the decorative face downwards, with a flat, protective layer.

A board with similar size may be placed over the topmost sheet of the stack, to maintain a uniform pressure on the underlying sheets and prevent any warpage in bulk stock. In case such a board is not readily available, the topmost sheet may be placed with the sanded side upwards instead.

If space constraints don't allow for horizontal storage, laminates may be stacked at an angle close to the perpendicular. A heavy board should be used on the free end to prevent any slippage and damage.

2.2 PRECONDITIONING & THE ENVIRONMENT

Preconditioning is one of the most important considerations for achieving a quality product installation. Follow the preconditioning guidelines as laid down in the document for standard grade High Pressure Laminates.

The best approach is to make sure both sides of the laminate panel as well as the substrate experience the exact same conditions. In most cases the recommended conditions are storing the entire stock (laminate, liner, backer, adhesives, substrate) at 24C temperature and 55% relative humidity for 48 hours. These numbers may vary slightly depending on general environment conditions in the geographical area.

Stored stock of laminate should be rotated such that older sheets are used first. The place of storage should be well ventilated and protected from moisture. Laminates should never be in direct contact with the floor or outside walls.

All preconditioning should be performed at the fabrication site.

2.3 SUBSTRATES & ADHESIVES GUIDANCE

Recommended substrates for use with Metalam laminates are-

- MDF
- High grade Particleboard

MDF is preferred owing to minimized chances of telegraphing after fabrication.

Adhesives that can be used to bond Metalam laminates to the substrate include- resorcinol, contact and PVA based. Always follow the adhesive manufacturer's guidelines and documentation.

3 FABRICATION

Proper fabrication of Metalam laminates for applications is essential to maintain its premium look and aesthetics. Metalam laminates use a metallic foil as the decorative surface, so follow the technical guide for details on fabrication and handling.

NOTE- Wear all protective equipment while fabricating Metalam laminates. Metal foil edges are sharp and can cause cuts and burns during processing.

3.1 CUTTING

Merino Metalam laminates can be cut with cutting tools recommended for Merino's HGS grade laminates.

Some guidelines to get best results and prolong tool life-

- Circular saws are recommended for cutting Metalam sheets. Use sharp, TCT blades with a low or negative hook angle. High tool speeds and low feed speeds are recommended.
- As far as possible, the tools should remain stationary while worktops are allowed to move. In case the worktop is fixed, take care to prevent laminates and substrate from sliding while being processed.
- When cutting the laminate to size using a stationary or table saw, ensure the sheet is flat on the saw table. The decorative face should face up, and the material should be aligned in same running direction. Use exit angles that reduce chances of chipping on the underside, another technique is to reduce the throat of the saw by placing a piece of hardboard below. Using a sacrificial board and adding a guide to serve as a fence helps reduce flutter during movement of the sheet through the saw blade. Always ensure that the blade cuts cleanly through the surface, and that the blade doesn't become too hot.
- The use of a scoring blade in a climb cut configuration can help improve the quality of the cut and reduce the possibility of damage to the laminate. Such a scoring blade is smaller in size than the main blade, cuts to limited depth and rotates in opposite direction (along the direction of the feed) to that of the main blade. Care must be taken to prevent kickback or backlash.

3.2 BONDING AND TRIMMING ADVICE

Before bonding the laminate to the substrate, follow the Prefabrication checklist to ensure the right selection of substrate and adhesives for the project.

Some key points for bonding-

- Use dowels or separators to line up coated surfaces before allowing them to bond together.
- In case plywood is used as a substrate for laminates, check to see if the first coat of adhesives has been mostly absorbed by the plywood. In such a scenario, apply a second coat.
- If using a liquid adhesive, ensure that the adhesive is homogenous. Always apply an even layer of adhesive, using a roller or brush. In case a spray adhesive is used, ensure an even spray all over the surface in a controlled fashion.
- When using contact adhesive, don't allow the coated surfaces to touch until both the surfaces have dried.
- Always lay the laminate onto the substrate with even pressure. Applying too much pressure may damage the surface or the bond.
- Complete the bond by using a J roller to force any air bubbles from between the two surfaces.

If adhesives come in contact with the decorative surface, remove them carefully using adhesive removers or hexane (only for contact adhesive). Use of thinner is not recommended.

Once bonding of the panel assembly is complete, trimming is needed to remove the oversized edges of the assembled panel. Follow the trimming advice of standard, decorative HPL.

Always trim the edges flush with the laminate surface. The tools used for trimming must be sharp and well maintained.

3.3 CUT-OUTS & FASTENERS

For Metalam laminates, cut-outs should be rounded as far as possible. A radius of 3 mm (1/8") or larger in the corners is recommended to minimize stress cracking. For larger sized cuts, the radius must also be increased. All cut-outs should be routed or filed to ensure smooth edges.

The use of non-rigid, elastomeric adhesives such as contact adhesives may cause stress cracking. When contact adhesives are used, the minimum radius for inside corners must be 5mm.

Ensure that only high-quality fasteners and attachments are used.

3.4 DRILLING

Some guidelines for drilling holes into Metalam laminates-

- When it comes to tool selection, an electric drill with HSS bits is the tool of choice for most kinds of drilling applications. Another important selection to be made is the type of bits used in the drill. While TCT bits may prove to be economical due to their long life, Rectified HSS bits are sharper. Longer tool life helps improve reproducibility while sharper blades improve the quality of the cuts.
- In case of non-stationary drills, it is important to ensure the appropriate pressure is applied. Pressure should be scaled up and down in a gradual manner, especially during entering and exiting the laminate. By controlling the feed speed of the drill, the panel is less likely to be damaged.
- At least 1.5mm of material should be left while blind drilling. When drilling into the edge, at least 3mm clearance should remain on all sides of the hole.
- Screws and bolts should be slightly countersunk. Use a lower rotational speed to make countersunk holes. Drill oversize holes (at least 0.5 mm or 0.02" larger in diameter) for screws and bolts. This allows the screw to adjust with the slight dimensional movements of both the laminate and the screw, preventing cracks around the hole.
- When drilling through-holes, ensure a hardwood panel is placed at the exit face. This prevents any splintering or shocks to the material surface when the drill exits the material.
- Edges of the hole should be smooth and cleaned after drilling. Otherwise stress cracking may occur.

3.5 EDGE PROFILING & FINISHING

Since Metalam laminates have a real metal foil, a sharp edge can lead to scrapes and cuts. Unfinished edges may also lead to chipping in the laminate and edge damage. Therefore, the edges should be filed smooth using a hand file or sandpaper. This prevents stress cracks and reduced chances of chips.

Always file towards the substrate, removing any burrs.

4 POST FABRICATION

Once the fabrication of Metalam laminates is completed, it is safe to remove the protective film. Please ensure the film doesn't stay on the surface beyond a few months as it may leave a residue on the surface that can become hard to remove with time.

5 MAINTENANCE & CARE

Merino Metalam laminates use high quality metal foils as the decorative surface, and require special care. Please keep the following guidelines in mind-

- Care
If using Metalam laminates in horizontal surfaces, it is recommended to cover the surface with a sheet of glass.
- Cleaning
For everyday stains, the first cleaning step should be wiping the surface using a damp, clean cloth.

In case the stain persists, follow a two-step wiping process. First wipe using a soft cloth moistened with warm soapy water or mild household detergent solution. Next wipe off any residue of the detergent with a clean, damp cloth.

In case of stubborn strains or stains from Group 2, cleaning with solvent cleaners may be attempted. Always try such a cleaning step on a smaller area to prevent any damage to the decorative surface.

Avoid using any abrasive cleaners or scourers on Merino Metalam laminates.