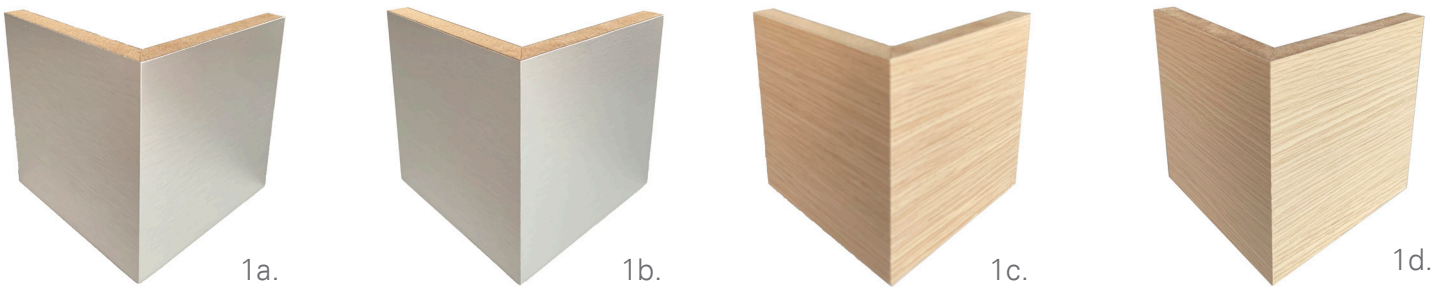
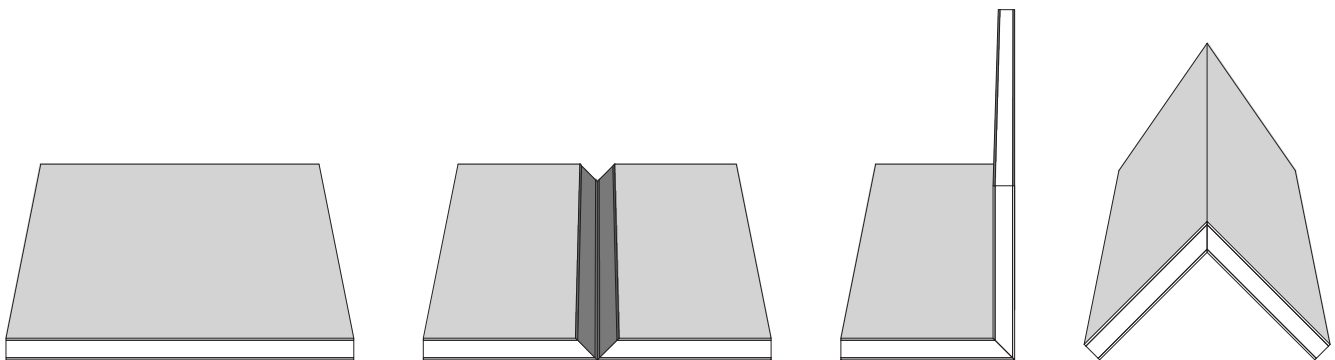


Application:

This document outlines millwork techniques, such as V-Grooving and Miter Folding, that enable fabrication of smooth and crisp edges, without the unsightly dark seams produced by most laminates. Design professionals are encouraged to reference this document in their drawings and specifications, as it will serve as a useful guide to the fabricator and ensure a seamless result.



1a. Chemetal #902 Brushed Aluminum, Metal Only
 1b. Chemetal #702 Brushed Aluminum, HPL (note: HPL product may cause a hairline seam)
 1c. Treefrog #60219 White Oak Groove w/ Laminate Backer
 1d. Interior Arts #6060-MOD White Oak Mode HPL

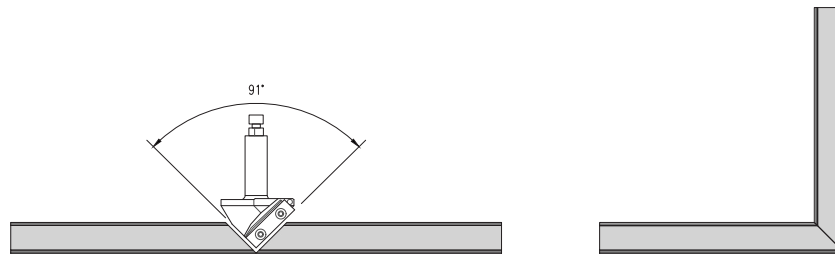


2. V-Groove and Miter Folding Example

V-Groove Techniques:

V-Grooving is primarily used to facilitate the bending or folding of various materials. The V-Groove presents a cost & time saving alternative to the conventional method of 90 degree or other angled corners. The alternative to a v-groove/miter fold is cutting individual pieces and connecting them via the use of dowels or butt joint for a built up front edge.

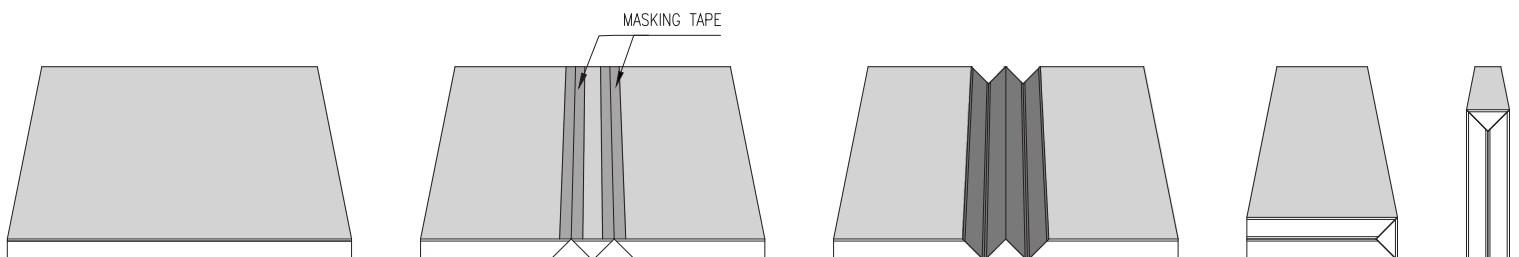
V-Grooving machines are available in many different models, each with varying capabilities depending on the specific millwork application. Some machines may also be CNC controlled. The V-groove machine's cutting tool comprises a set of tilted blades, some of which may have carbide or diamond tipped cutter heads. As the balanced laminated panels advance through the cutting section of the machine, the tip of the cutter head cuts into the material but does not penetrate its entire thickness, therefore creating a precise V-shaped groove on the surface of the panel.



3. V-Groove Bit, utilizing a "V-Groove" Machine, a CNC, or a Router

Miter Folding:

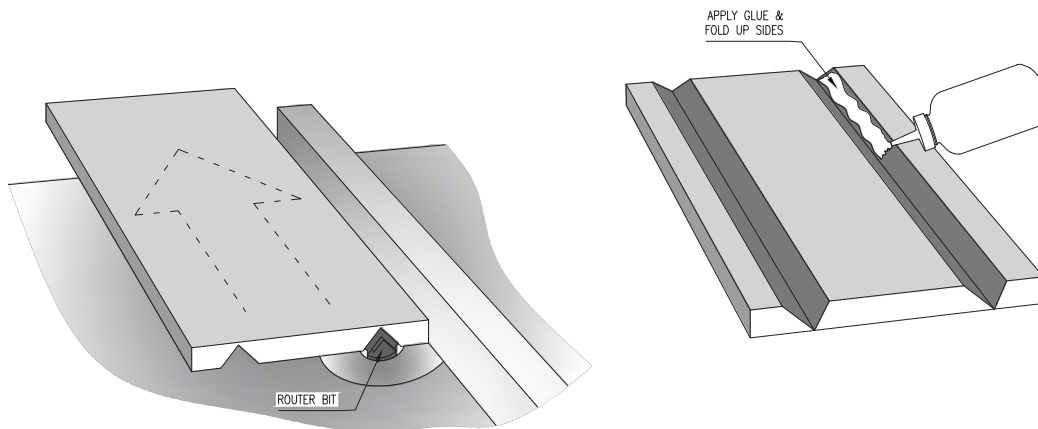
Miter folding is a technique used to generate edges without a visible seam, giving the appearance of a solid material. This technique can be used with Chemetal, Treefrog Veneer and InteriorArts laminates. The laminate is first adhered to a suitable substrate; MDF (medium density fiberboard) or particle board. A V-Groove is routed along the back side of the substrate. Masking tape can be applied to the finished side, ensuring a proper alignment of the miter folds.



4. Double Edge V-Groove

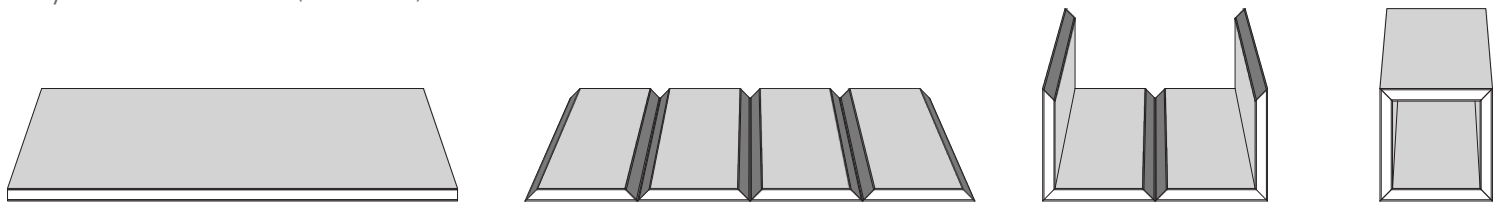
Multiple Edge V-Groove & Miter Folds (ex. Table Legs):

The same technique can be expanded to form a multiple edge folded volume. A typical example of this would be a table leg. Instead of one groove, multiple V-grooves are routed prior to folding. Once the V-grooves are routed into the substrate, the interior faces of the cuts are coated with adhesive.



5. Fabrication Process Example

The substrate is then folded to its desired angle, creating a seamless edge as the veneer maintains continuity across the two (or more) surfaces.



6. Multiple Edge V-Groove & Miter Folds

A tapered leg profile can also be accomplished, mitering grooves at divergent angles prior to folding. Both straight and tapered fabrication techniques improve the part alignment and component strength while enhancing appearance; the seamless edges give the leg a solid, elegant appearance. This folding technique also reduces fabrication costs when compared to the alternatives, solid legs or laminated legs with more traditional joints. Through this process, a millwork joint with improved alignment and structural integrity is achieved.

Summary:

V-Grooving and Miter Folding offer practical solutions to simple or even complicated millwork applications. These techniques offer increased structural integrity at reduced labor costs, and can be applied to Chemetal, Treefrog veneers and InteriorArts laminates. The flexibility of these applications provides architects and designers with greater freedom in their design projects.