ALFA
ARCHITECTURAL PHENOLIC PANELS

FABRICATION GUIDE

Ver: 04 (08.2026)

This document provides general guidance for the fabrication of ALFA panels and is intended for informational purposes only. All recommendations should be reviewed in conjunction with applicable testing data, design criteria, and code requirements. It is strongly recommended that customers, project owners, and design professionals consult with a qualified construction expert and/or licensed engineer to ensure proper application and full compliance with project specifications, building codes, regulations, and performance standards. For safe and proper use, always refer to local code requirements and follow all applicable workplace safety regulations, including those outlined by OSHA.

General Machining

Panel machining should be performed only by qualified fabrication or construction professionals using proper equipment.

ALFA panels feature a dense, balanced construction that allows for precision machining on both faces and across the surface—similar to working with high-grade hardwood. However, due to their rigidity and surface durability, they place greater demands on tooling than softwood or MDF-based materials.

For optimal results, use diamond-tipped or carbide-tipped tools, especially when cutting large quantities. These tools ensure clean edges, dimensional accuracy, and extended tool life. A compatible router bit for chamfering or edge beveling can also be purchased separately for finishing applications.

Health and Safety

Working with power tools and carpentry machinery presents inherent risks. To reduce the potential for injury, it is critical to follow the operating instructions provided by equipment manufacturers and to comply with all applicable safety regulations and labor standards. Proper training, use of personal protective equipment (PPE), and adherence to OSHA and other relevant guidelines are essential at all times.

Transport and Handling

To prevent surface damage, ALFA panels should always be lifted—not dragged—during transport, staging, and installation. Protective films or packaging elements should remain in place throughout machining and should only be removed immediately prior to installation.

Whenever possible, use CNC or computer-controlled equipment for fabrication to ensure precision and minimize handling errors. For labeling or coding, avoid marking directly on the panel or its protective film—use removable adhesive stickers instead.

Routing *(recommended)*

- Routing is the ideal method for fabricating ALFA panels due to its precision and clean edge finish.
- Use CNC routers or stationary routers equipped with carbide or diamond-tipped bits for best results.
- Maintain clean, sharp tooling to prevent delamination or edge fray.
- Beveling or chamfering panel edges (e.g., for corner details or exposed edges) is best achieved with a 45° chamfer bit.
- Custom tooling, optimized router bits for ALFA panels, can be purchased through Elevate Architectural Products (EAP)

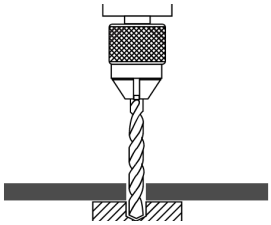
Manually operated routing cutter or spindle moulder:

Diameter		# of Revolutions	Speed		Feed	
mm	inch		m/s	ft/s	m/min	ft/min
20 - 25	≈ 1	≈ 18,000 - 24,000 / min	20 - 30	≈ 65 - 100	5	≈ 16
125	≈ 5	≈ 6,000 - 9,000 / min	40 - 60	≈ 130 - 200	5 - 15	≈ 16 - 50

Drilling

- Use carbide-tipped or diamond-tipped drill bits.
- Drill from the exposed face to minimize chipping.
- For interior cut-outs, drill a starter hole (Ø 8–10 mm or 5/16"–3/8") in each corner before cutting.
- Maintain a minimum 10mm (3/8") distance from panel edges to avoid stress cracking.
- Countersinking for exposed fasteners should be done with a 45° chamfer bit. Do not exceed 2mm depth.
- Beveling edges for design or safety purposes can also be done using a chamfer bit or router tool.
- Custom drill bits optimized for ALFA panels are available for purchase through Elevate Architectural Products (EAP)





Diameter		# of Revolutions	Feed	
mm	inch		mm/min	inch/min
5	≈ ¼	≈ 3,000 / min	60 - 120	≈ 2 - 5
8	≈ 5⁄16	≈ 2,000 / min	40 - 80	≈ 1 ½ - 3
10	≈ ⅜	≈ 1,500 / min	30 - 60	≈ 1 - 2

Jig Saw *(not recommended)*

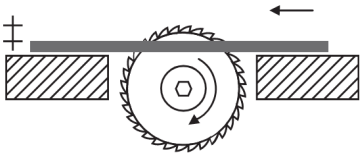
The use of jig saws is not recommended for cutting ALFA panels due to the potential for surface chipping, edge fraying, and lack of cut precision. For best results, use stationary or CNC-controlled saws with carbide or diamond-tipped blades. Always drill corner holes first for interior cut-outs.

If proceeding with a jig saw, use a carbide-tipped blade, and initiate drilling for interior corners of cut-outs first using a hole diameter of 8 - 10 mm (≈ 5/16 - 3/8 in). Consider the use of a dedicated jig saw blade for decorative surfaces.

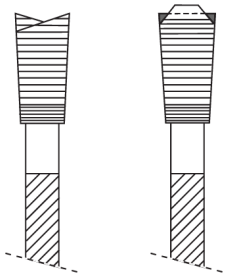
Sawing

The following general guidelines are applicable to the sawing of ALFA Panels

- Feed: 7 - 22 m/min (≈ 23 - 72 ft/min).
- Tooth: Alternate tooth or trapezoid flat tooth.
- Positioning: Always enter the tooth at the exposed face of the ALFA Panel.
- Cutting edges: Optimal results are achieved with stationary machines. Any sharp edges can be eliminated using sandpaper or a router.
- Rake angle: A rake angle of 45° yields the best performance.
- When working with double-sided panels or if the machine lacks a moving work top, use insert templates covered with rubber mats to prevent the ALFA Panels from sliding.



Saw-blading height setting



Alternate tooth

Trapezoid flat tooth

Stationary Circular Saw *(preferred)*

Ensure the exposed face is positioned facing upwards during sawing, drilling, and routing of ALFA Panels. If there is a need to slide the exposed face over the machine's work top during machining, it is advisable to place a protective panel, such as one made of hardwood, on the work top.

Diameter		Teeth	# of Revolutions	Saw Blade Thickness		Saw Blade Height Setting	
mm	inch			mm	inch	mm	inch
300	≈ 12	72	≈ 6,000 / min	3,4	≈ ⅛	30	≈ 1 ¼
350	≈ 14	84	≈ 5,000 / min	4,0	≈ 3⁄16	35	≈ 1 ⅜
400	≈ 16	96	≈ 4,000 / min	4,8	≈ 3⁄16	40	≈ 1 ⅝

Portable Circular Saw *(with care)*

When using a portable circular saw, the unexposed face should face upwards.

Diameter		Teeth	# of Revolutions	Saw Blade Thickness		Saw Blade Height Setting	
mm	inch			mm	inch	mm	inch
150	≈ 6	36	≈ 4,000 / min	2,5	≈ ⅛	15	≈ ⅝
200	≈ 8	46	≈ 4,000 / min	3,0	≈ ⅛	20	≈ ¾