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ULTRA ALUMINUM

TECHNICAL GUIDE



GENERAL

ULTRA ALUMINUM is a lightweight structural panel consisting of a rigid polystyrene foam core faced on one side with anodized aluminum or white painted aluminum and one side with litho grade high impact polystyrene. The foam and facers are permanently bonded together. The anodized aluminum panel can be used to create decorative letters and logos at a fraction of the cost of solid metal letters. White Aluminum panels are an excellent choice for exterior and interior signage.

EXTERIOR USAGE

ULTRA ALUMINUM panels are a strong, moisture resistant material. When exposed to long periods of very moist conditions, there is little change in either the face or the core. The aluminum faces do not yellow, oxidize, crack or degrade when exposed to exterior conditions. Ultra violet radiation degrades unprotected foam. Therefore, any exposed foam should be protected with a good quality, pigmented water base coating or other U.V. barrier.

WARPING

ULTRA ALUMINUM panels are manufactured and packaged flat. However, they may tend to bow under certain conditions given that the aluminum facers are available on one or both sides. Potential for bowing is much greater in one-sided 4 ft. x 8 ft. unsupported panels.

FACING SURFACES

ULTRA ALUMINUM panels have 0.016" anodized aluminum or 0.020" white aluminum facers. Anodized facers available are brushed gold, polished gold, brushed chrome and polished chrome. The facers have peel coat release liners to protect against scratching.

PACKAGING

ULTRA ALUMINUM panels are supplied from the factory trimmed to 4 ft. x 8 ft. and boxed in quantities shown:

<u>Panel Thickness</u>	<u>Pcs. / Carton</u>
3/16"	8
1/2"	6
3/4"	4
1"	6
1 1/2"	4
2"	3
3"	2

CUTTING

CIRCULAR SAWS:

ULTRA ALUMINUM may be cut with standard table saws. For best results, use a blade designed for cutting ULTRA ALUMINUM. The specifications are:

- a. Top grind inverted "V"
- b. Face grind hollow
- c. Tooth pitch 0.375" to 0.750"
- d. Side clearance 0.015" to 0.020"
- e. Clearance angle 2°
- f. Blade rpm 3500 to 4500
- g. Feed rate 40 to 60 fpm

Or, you can purchase an ULTRA ALUMINUM saw blade from Arkansas Carbide Saw and Tool, (918) 626-3837. Let them know arbor and blade diameter.

ROUTERS:

Routing Ultra Aluminum works well for creating letters, logos, and irregular shapes. We recommend bits available from Onsrud Cutter, Inc. (847) 362-1560 and Vanguard Tool Corp. (540) 673-3496. Use Onsrud Cutter series 52-000 or Vanguard Tool part number VSC-102. Router bits should be double fluted carbide, upward chip removal, with a 1/4" shank diameter and a 3/16" cutting diameter. For best results run at 18,000 rpm and 85 inches/minute. Feed rate may be varied to compensate for larger bit diameter and different rpm. For special and long router bits for CNC routers, we recommend contacting Hartlauer Bits (541) 343-0390.

LAMINATING / GLUING:

GENERAL:

No special surface preparation is required when gluing to the face of ULTRA ALUMINUM. The surface should be kept clean and free of any oil contaminates as with any other surface to be glued. Great care should be taken in choosing an adhesive. Some solvent-based adhesives will attack the styrene facer causing a small hole to develop thus allowing the adhesive to deteriorate the bond between the core material and the facer. This reaction could take up to several days to develop. Any adhesive should be thoroughly tested to evaluate its suitability. We recommend using Latex Liquid Nails for Foamboard, part number LN901. This adhesive is available from most hardware stores.

PAINTING

GENERAL:

ULTRA ALUMINUM needs no special preparation before priming or painting. For best results the surface should be clean and free of any oil contaminates. This can be accomplished by cleaning the panel with glass cleaner or isopropyl alcohol just prior to coating.

Caution should be taken when using oil base or solvent base systems, not to allow paint to make contact with the polystyrene core. These types of paints are likely to attack and deteriorate the foam core.

In cases where the foam edges might be subjected to exterior exposure, it will be necessary to protect the edges from deterioration by the high intensity ultra violet light of the sun. A good coating of water-base paint or similar U.V. barrier should be sufficient to provide this protection.

Caution should be taken with any paint, especially when intended for outdoor use. Always test paint on ULTRA ALUMINUM prior to production run and follow all of the paint manufactures instructions.

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