

Granites Deluxe Routing, Engraving, and Cutting Recommendations

New for rotary engraving and routing, Rowmark presents the Granites Deluxe product line.

The features of this unique product include:

- the prestigious appearance of true granite in an engravable acrylic material
- excellent for interior and exterior signage
- 2-ply construction available in 15 classic color combinations
- polished or matte finishes
- substantial overall thickness of 1/8" (3 mm) for rigid sign making
- modified acrylic construction
- suitable for routed pieces to be adhered to a sturdy substrate



The Granites Deluxe line has been designed to provide a cost effective solution for engravers and sign makers who currently use other solid surface materials for signage. Most solid surface materials used in sign making require a secondary paint filling operation. This extra process adds labor, lengthens delivery times, and often requires a messy clean up. Rowmark has solved this problem by producing a 2-ply product that can be engraved or routed in one step with no secondary operation required. Very few 2-ply products exist that offer this unique appearance and ease of use.

General Product Specifications

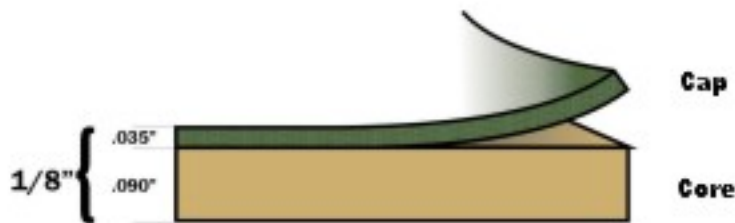
Material:	2-ply Modified Acrylic cap & core
Overall Thickness:	1/8" (.125" or 3 mm) +/- .005"
Sheet Size:	24" X 48 3/4" (610 mm X 1238 mm)
Cap Layer:	.035" +.002" / -.003" (or .89 mm +.05 mm / -.08 mm) Cap layer designed for increased durability

Scratch Resistant
UV Stable
Outdoor Weatherable
Available in Matte or Polished (gloss) Finish

Due to the opacity of the cap layer, colors will vary according to the cap/core combination.

Granites Deluxe Construction

Unlike other co-extruded or foil based engraving materials, the Granites Deluxe material offers an attractive but rugged surface layer. The drawing below shows the relative thickness of the cap (top) layer of the material.



Granites Deluxe Engraving & Cutting Recommendations

Engraving Granites Deluxe can prove to be a challenge for many first-time engravers who may not be familiar with depth control cutting techniques. For those sign makers accustomed to methods of deep cutting acrylics (such as the use of large format engravers or conventional routers), this process will be similar to other routed materials.

Rotary engraving or routing is the preferred method for engraving. To achieve the finished size, the material may first be cut with a safety saw to a square or rectangular size. The material cannot be sheared using a conventional hand shear due to the high density of the acrylic material. Hand shears do not provide adequate leverage to cut cleanly through thick acrylic materials. Pneumatic shears may be used to rough-cut the material but may yield a fractured edge to a depth of about 1/16" from the material's edge.

Custom cutting of sign blanks may be accomplished by rotary methods using parallel or bevel cutters. Engravers with "light duty" equipment should consider taking multiple passes to avoid cutter breakage or stressing their engraving system motors. Typical engraving equipment and commercial routers will have no problem cutting the material in a single or double pass. A secondary pass is always recommended if the material edge will be seen in the application. The material can easily be held down with vacuum systems or double-sided tape due to the smooth

reverse surface.

For large signage, butt joints are possible due to the random pattern of the granite finish, permitting the creation of signage greater in size than 24" X 48" (610 mm X1219 mm).

Laser Cutouts

The Granites Deluxe material may also easily be cut into shapes with a conventional CO2 laser engraving system. Tests have proven that the cut is clean with little or no burning at the material's edge. Lasers of 25-watts or less will probably take two to three passes. Those laser systems in the range of 50-watts will cleanly cut through the material with only two passes. A one pass cut may be made; however the excessive heat build up may cause a small amount of melting of the material's edge leaving a slight burr.

Engraving Depth

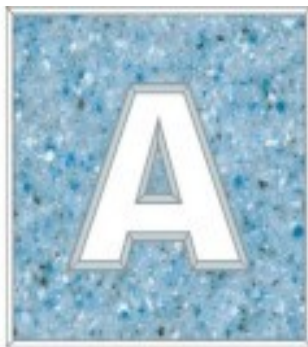
The recommended engraving depth for logos and text is .040" using a minimum .020" tip size cutter. This is considerably deeper than what is normally required for hot-stamped or laminated engraving stock. Larger cutter sizes may be used but consideration should be given to the detail of any font chosen. Engraving may be accomplished in one pass using "carbide" or "carbide tipped" engraving bits rated FLX or ACR. It is recommended that the engraving system be set with a slightly delayed plunge, and that the X & Y speeds be reduced. A vacuum system eliminates the need for chip removal, and no clean up pass is necessary to achieve a clean cut. As always, two passes will yield the cleanest cut and the results will be striking.

Character Spacing Recommendations

This material does not lend itself to personal identification applications such as name badges or jobs requiring character heights smaller than .250" (6.35mm). Small text quality may be difficult to achieve due to the cutter size required at a .040" (1.02mm) depth; however, tip sizes under .020" (.51mm) are possible with care. The pictures below illustrate adequate character height.

Recommended

Characters with a height of .250" or greater allow enough space to provide adequate detail.



Not Recommended

Characters with a height of less than .250" will not allow adequate space for detail. Notice how the center of the 'A' has disappeared due to the architecture of the cutter.



Engraving Settings

The engraving set-up is normal in all respects; however, if you are engraving using a light duty engraving system, you may want to consider taking two passes to limit the chance of cutter breakage. Smaller tip sizes will be prone to breakage if cuts deeper than .025" (.64mm) are required.

SPECIAL NOTE: When Cutting Granites Deluxe With A Gold Core

Due to the uniqueness of the material and the manufacturing process, Rowmark has been able to achieve a product with a look unsurpassed in other solid surface materials. When engraving or routing to a depth of .038" (.97mm) to approximately .045" (1.14mm) deep, you will see a beautiful "gold leaf" pattern in the core material. This look can enhance the appearance



of the sign and reflect light, creating the appearance of gold leafing in the finished product. If this look is not required for your application, you may engrave beyond this depth and you will pass through this fine layer. It's recommended that you experiment with the material so that you can achieve consistent results.