

## Material Information Sheet

### Material Description: UltraGrave™

Specifications	
Material:	Polymer-surfaced Impact Modified Acrylic
Finish:	Matte   Satin
Sheet Size:	24.125" x 49" (613 x 1219 mm)
Thickness: 2-Ply	.010" (.25 mm)   .020" (0.5 mm)   1/16" (1.6 mm)
Usage:	Interior, Exterior Signage   Personal Identification   Awards & Recognition
Engraving Method:	Laser   Rotary
Cutting Depth:	.003" (.08mm)

Physical Properties	Typical Values	ASTM Method
<b><u>IZOD Impact Strength</u></b>		
Notched at 73°F (22.78°C)	1.10ft lbs/in	D-256
<b><u>Tensile Strength</u></b>		
To break	5,500 psi	D-638
Elongation before break	50%	D-638
<b><u>Flexural Strength</u></b>		
Load to stretch outer surface 5%	10,300 psi	D-790
<b><u>Specific Gravity</u></b>	1.15	D-792
<b><u>Rockwell Hardness</u></b>	M45	D-785
<b><u>Deflection Temperature</u></b>		
Temperature at which material deflects .010" (.254mm) at 264 psi	175°F (79.44°C)	D-648
<b><u>Vicat Softening Point</u></b>		
Temperature for needle to penetrate 1mm (90°F/hr, 2.2 lbs)	208°F (97.78°C)	D-1525

**UltraGrave™** material softens sufficiently at about 180°F (82.22°C), which enables bending, should that be desired. It can also be drilled, saw cut, sheared, and bonded to itself or other materials. Electrically non-conductive, Insulative, Non-flammable. Meets 10<sup>12</sup> Ohms/square meter or higher in electrical resistivity, RoHS compliant (halogen-free), PVC-free, Formaldehyde and Phenol free and UL 94 HB rated. Material was judged as not contributing to the combustion of the base material.

**Restriction of Hazardous Substances (RoHS)/Halogenated Materials** Rowmark has investigated the Restriction of Hazardous Substances (RoHS 3) directive issued by the European Union (directive 2015/863/EU) through our on-line research. This RoHS directive prohibits the distribution of products after June 2015, which contain the following materials; lead, mercury, cadmium, hexavalent chromium, poly-brominated biphenyls and poly-brominated diphenyl ethers. The directive appears to apply to all products that operate on electrical power and contain electronic components. Rowmark complies with the use and disclosure of all halogenated materials and does not incorporate poly-brominated biphenyls or poly-brominated diphenyl ethers in any of its products. Based on our audit, Rowmark plastic sheet products are in compliance with this directive and do not contain any of the elements noted above or in the candidate list in accordance with the referenced directive. Our related MSDS documents may be found in the Rowmark website (<http://www.rowmark.com/MARK/MSDS.asp>) and can be referenced for further information.

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