**MAKROLOH HYGARD® BR1250**

Laminate is a four-ply MAKROLOH polycarbonate sheet for use in security applications that require UL Listed Level III bullet-resisting glazing. MAKROLOH HYGARD BR1250 laminate is hard coated with abrasion and UV resistant surfaces for extended service life in harsh environments.

**APPLICATIONS**

MAKROLOH HYGARD BR1250 laminate is used as containment and bullet-resistant glazing in a wide variety of higher level security applications. Installations include 24-hour convenience stores, specialty retailers, banks, governmental and detention facilities, as well as other cash transaction areas.

### Typical Physical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gauge/Tolerance</td>
<td>1.30 ± 5%</td>
</tr>
<tr>
<td>Weight</td>
<td>8.1 lbs./s.f.</td>
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<tr>
<td>Shading Coefficient</td>
<td>.81</td>
</tr>
<tr>
<td>% Light Transmittance</td>
<td>67% (clear)</td>
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<tr>
<td>Colors</td>
<td>Standard: Clear</td>
</tr>
<tr>
<td>Sheet Sizes</td>
<td>Standard: 36 x 96 in, 48 x 60 in, 48 x 72 in, 60 x 96 in, Custom Sizes on request</td>
</tr>
</tbody>
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**FORCED ENTRY, BALLISTICS RATINGS**

- H.P. WHITE TP0500.01 Level V
- H.P. WHITE TP0500.01 Level C Ballistics (.44 magnum)
- ASTM F 1233 Class V Step 38 Ballistics (.44 magnum)
- UL752 Level III SPSA .44 Magnum
GLAZING INFORMATION

- Use of structural security framing systems with equal or greater forced entry and/or ballistics ratings as the selected MAKROLON HYGARD laminate is recommended.
- Size MAKROLON HYGARD laminates to allow for a minimum of 1” edge engagement in the frame, with sufficient rabbet depth for material expansion (approx. 1/16”/ft.).
- Use wet or dry sealants/gaskets that are compatible with polycarbonate.
- Remove protective masking after glazing operations are completed and before prolonged exposure to direct sunlight, moisture, or high temperature.

CLEANING INSTRUCTIONS

- Rinse with clean water to remove abrasive dust and dirt.
- Wash with soap or mild detergent using a sponge or soft cloth. Do not scrub.
- Rinse once more. Dry with a soft cloth or chamois to prevent water spots.
- To remove labels, stickers, or grease, rub gently with a cloth wetted thoroughly in VM & P naptha or isopropyl alcohol. Wash and rinse. Do not use razor blades, scrapers, or squeegees.

Product Specification

MAKROLON HYGARD® BR1250 laminate:

Four-ply, clear MAKROLON polycarbonate sheet constructed as follows:

- 1/8” MAKROLON polycarbonate sheet with high AR abrasion-resistant surface
- Polyurethane bonding interlayer
- 1/2” MAKROLON polycarbonate sheet
- Polyurethane bonding interlayer
- 1/2” MAKROLON polycarbonate sheet
- Polyurethane bonding interlayer
- 1/8” MAKROLON polycarbonate sheet with high AR abrasion-resistant surface

Material shall have a flexural strength of at least 13,500 psi per ASTM D-790; and shall have AR (high performance abrasion-resistant) surfaces for enhanced service life and resistance to marring. Material shall exhibit a self ignition temperature of 1077°F and a flash ignition temperature of 872°F (ASTM D-1929), and conform with ICBO & BOCA Model Building Codes as a CC-1 rated Approved Light Transmitting Plastic.