**Description**

Plexus® MA300 is a two-part methacrylate adhesive designed for structural bonding of thermoplastic, metal, and composite assemblies. Combined at a 1:1 ratio, MA300 has a working time of 3 to 6 minutes and reaches approximately 500 psi in 12 minutes and 1000 psi in 15 minutes at 74°F (23°C). This product offers a combination of high strength and stiffness as well as the ability to bond a wide range of materials. MA300 is supplied in ready-to-use 50-ml and 400-ml cartridges, 5-gallon (20-liter) pails, or 50-gallon (200-liter) drums to be dispensed as a non-sagging gel.

### Characteristics

<table>
<thead>
<tr>
<th>Room Temperature Cure</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Working Time</td>
<td>3 – 6 minutes</td>
</tr>
<tr>
<td>Fixture Time</td>
<td>12 – 15 minutes</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-67°F – 250°F (-55°C – 121°C)</td>
</tr>
<tr>
<td>Gap Filling</td>
<td>0.012 in. – 0.125 in. (0.30 mm – 3.2 mm)</td>
</tr>
<tr>
<td>Mixed Density</td>
<td>8.10 lbs/gal (0.97 g/cc)</td>
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<tr>
<td>Flash Point</td>
<td>51°F (11°C)</td>
</tr>
</tbody>
</table>

### Chemical Resistance

**Excellent resistance to:**
- Hydrocarbons
- Acids and Bases (pH 3-10)
- Salt Solutions

**Susceptible to:**
- Polar Solvents
- Strong Acids and Bases

### Typical Physical Properties

**Uncured – Room Temperature**

- Viscosity, cP: 40,000 – 70,000
- Color: Beige
- Density, lbs/gal (g/cc): 8.3 (1.0)
- Mix Ratio by Volume: 1.0
- Mix Ratio by Weight: 1.0
- Mixer Recommendation: Cartridge (50-ml): 50-ml 1:1 static mixer
  Cartridge (400-ml): 30 Element 0.34-in. (8.6-mm) square mixer
  Bulk: See back & refer to ITW PP

**Cured Room Temperature**

- Adhesive: 3,000 – 4,000 (20.7 – 27.6)
- Activator: 135,000 – 165,000 (931 – 1137)
- Strain to Failure (%): 5 – 15
- Cohesive Strength, psi (MPa): 3,000 – 3,800 (20.7 – 26.2) at 0.012 in. gap (0.30 mm)

### Typical Mechanical Properties

**Tensile (ASTM D638)**

- Strength, psi (MPa): 3,000 – 4,000 (20.7 – 27.6)
- Modulus, psi (MPa): 135,000 – 165,000 (931 – 1137)
- Strain to Failure (%): 5 – 15

**Lap Shear (ASTM D1002)**

- Cohesive Strength, psi (MPa): 3,000 – 3,800 (20.7 – 26.2) at 0.012 in. gap (0.30 mm)

### Recommended for:

- ABS
- Acrylics
- FRP
- Gelcoats
- Steel, Carbon
- PVC
- Polymers (including DCPD modified)
- Aluminum
- Steel, Stainless
- Styrenics
- Urethanes (general)
- Vinyl Esters
- *Plexus Primer Suggested*

### VOC’s

<table>
<thead>
<tr>
<th>% (g/L)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>During Cure (see back page)</td>
<td>&lt;1 (&lt;10)</td>
</tr>
</tbody>
</table>

### Shelf Life

<table>
<thead>
<tr>
<th>Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adhesive (A Side)</td>
</tr>
<tr>
<td>Activator (B Side)</td>
</tr>
<tr>
<td>B Side Black</td>
</tr>
<tr>
<td>Standard Color in Cartridges</td>
</tr>
<tr>
<td>Black in Cartridges</td>
</tr>
</tbody>
</table>

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**Typical Exotherm Curve for MA300 (10g mass) at 74°F (23°C)**

- Exotherm temp (°C)
- Exotherm time (min)
SAFETY & HANDLING: Plexus® adhesive (Part A) and activator (Part B) are flammable. Contents include methacrylate esters. Keep containers closed after use. Wear gloves and safety glasses to avoid skin and eye contact. Wash with soap and water after skin contact. In case of eye contact, flush with water for 15 minutes and get medical attention. Harmful if swallowed. Keep out of reach of children. Keep away from heat, sparks, and open flames. For more complete heath and safety information, contact ITW PP for a Material Safety Data Sheet (MSDS).

NOTE: Because of the rapid curing features of this product, a large amount of heat may be generated when large masses of material are mixed at one time. Further, the heat generated by the exotherm resulting from the mixing of large masses of this system can result in the release of entrapped air, steam, and volatile gases. To prevent this, dispense only enough material as needed for the application and for use within the working time of the product and confine gap thickness to no more than its maximum gap fill capability. Questions relative to handling and applications should be directed to ITW PP at 855-489-7262.

DISPENSING ADHESIVE AND APPLICATION: Plexus Adhesives may be applied manually or with all stainless steel bulk dispensing equipment. Automated applications may be accomplished with a variety of 1-to-1 meter mix equipment delivering both components to a static mixer. Avoid contact with copper or copper-containing alloys in all fittings, pumps, etc. Seals and gaskets should be made of Teflon, Teflon-coated PVC foam, ethylene/propylene, or polyethylene. Avoid the use of Viton, BUNA-N, Neoprene, or other elastomers for seals and gaskets. For more information, contact ITW PP. To assure maximum bond strength, surfaces must be mated within the specified working time. Use sufficient material to ensure the joint is completely filled when adhesive (Part A) and activator (Part B) are flammable. Contents include N-methyl pyrrolidone (NMP) containing cleaners, degreasers, and soap and water can be used for best results. If the adhesive is already cured, careful scraping, followed by a wiping with a cleaning agent, may be the most effective method of clean up.

EFFECT OF TEMPERATURE: Application of adhesive at temperatures between 65°F (18°C) and 85°F (30°C) will ensure proper cure. Temperatures below 65°F (18°C) or above 85°F (30°C) will slow down or increase cure rate significantly. Temperature affects viscosities of Parts A and B of this adhesive. To ensure consistent dispensing in meter-mix equipment, adhesive and activator temperatures should be held reasonably constant throughout the year. Adhesive in cured state behaves differently at elevated and low temperatures. See ITW PP for specific values.

STORAGE AND SHELF LIFE: Shelf life is based on continuous storage between 54°F (12°C) and 74°F (23°C). Long-term exposure above 74°F (23°C) will reduce the shelf life of these materials. Prolonged exposure above 98°F (37°C) quickly diminishes the reactivity of the product and should be avoided. These products should never be frozen.

PRODUCT USE: Many factors beyond ITW PP control and uniquely within user’s knowledge and control can affect the use and performance of an ITW PP product in a particular application. Given the variety of factors that can affect the use and performance of an ITW PP product, the end user is solely responsible for evaluating any ITW PP product and determining whether it is fit for a particular purpose and suitable for user’s design, production, and final application.

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