

Plexus[®] Surfacing Adhesive

Benefits

UV Stable
Fast Cure
100% Reactive
Sandable
Minimal Surface Preparation

Characteristics

Room Temperature Cure

Application Temperature²

60°F to 90°F (15°C - 33°C)

Working Time³

8 - 14 minutes

Fixture Time⁴

18 - 25 minutes

Mixed Density

8.90 lbs/gal (1.07 g/cc)

Environmental Resistance⁵

Excellent Resistance to:

- Water
- Impact
- Scuffing
- High Temperatures
- Ultra-violet light (UV)

Recommended for:

- Acrylic sheet
- Polyester sheet
- Thermoplastics
- Gelcoats
- FRP / Composites

PLEXUS[®] SURFACING ADHESIVE is a two-part methacrylate adhesive designed for solid surface seaming and assembly¹. PLEXUS SURFACING ADHESIVE is UV stable and non-yellowing. It offers excellent adhesion to a variety of solid surface sheet materials including cast acrylic and cast/densified polyester. It exhibits high resistance to water, impact, wear, scuffing, boiling water, high temperature and UV light. Combined with PLEXUS SURFACING ADHESIVE activator at a 10:1 ratio, it has a working time of approx. 8 to 14 minutes and achieves handling strength in approx. 18 to 25 minutes. Nearly all Plexus Surfacing Adhesives colors are available in both 50ml and 250ml dispensing cartridges.

Physical Properties (Uncured) -Room Temperature

	Adhesive	Activator
Viscosity, cP x 1000	16 – 22	20 - 30
Color	Multiple	Off-White
Density, lbs/gal (g/cc)	8.90 (1.07)	8.86 (1.08)
Mix Ratio by Volume	10.0	1.0
Mix Ratio by Weight	10.1	1.0

Recommended Mix Nozzle⁶: MFX 08-18 (250 ml) MDX 5.4-16 (50 ml)
Optimal Gap Size⁷: Between 0.01 to 0.125 in.
(0.254 to 3.2 mm)

Mechanical Properties (Cured) -Room Temperature

Butt Joint Tensile

Strength, psi 3000 – 3500

Flexural Strength (ASTM D790)

Strength, psi 5200 – 5600

Tensile Strength (ASTM D638)

Strength, psi 4000 – 4400

Hardness-Barcol (ASTM D2583)

Hardness 30 - 35

Plexus[®] Surfacing Adhesive

HANDLING AND APPLICATION

Plexus[®] adhesive (Part A) and activator (Part B) are flammable. Contents include Methacrylate Ester. 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. Reference the Material Safety Data Sheet for more complete safety information.

Note: Because of the rapid curing features of this product, large amounts of heat are generated when large masses of material are mixed at one time. The heat generated by the exotherm resulting from the mixing of large masses of adhesive can result in the release of entrapped air, steam, and volatile gases. To prevent this, use only enough material as needed for use within the working time for the product and confine gap thickness to no more than 0.125 in. (3.2mm). Questions relative to handling and applications should be directed to ITW Plexus at 800-851-6692.

DISPENSING ADHESIVE

Plexus Surfacing Adhesive may be applied manually. Static mixer selection is critical to the proper mixing and performance of Plexus adhesives. Pre-measured (250mL and 50mL) cartridges are available, as well as the hand-held guns with which to dispense the adhesive. 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 parts are mated and clamped. All adhesive application, part positioning, and fixturing should occur *before* the working time of the mix has expired. After indicated working time, parts must remain undisturbed until the fixture time is reached. If the adhesive is already cured, careful scraping, or abrasion followed by a solvent wipe may be the most effective method of clean up.

EFFECT OF TEMPERATURE

Application of adhesive at temperatures between 65°F (18°C) and 80°F (26°C) will ensure proper cure. Temperatures below 65°F (18°C) will slow cure speed; above 80°F (26°C) will increase cure speed. The viscosities of Parts A and B of this adhesive are affected by temperature. To ensure consistent dispensing in meter-mix equipment, adhesive and activator temperatures should be held reasonably constant throughout the year.

STORAGE AND SHELF LIFE

Shelf life of Plexus Surfacing Adhesive (Part A) is 18 months. Shelf life of activator (Part B), including cartridges that contain activators, is 18 months. 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 of activators, including cartridges that contain activators, above 98°F (37°C) quickly diminishes the reactivity of the product and should be avoided. These products should never be frozen.

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Notes

1. Application Testing: ITW Plexus strongly recommends that all substrates be tested with the selected adhesive in the anticipated service conditions to determine suitability.

2. Application Temperature: Do not to apply adhesive above 90F or below 60F.

3. Working Time: The time elapsed between the moment Parts A and B of the adhesive system are combined and thoroughly mixed and the time when the adhesive is no longer useable or gel in nature. Times presented were tested at 74°F (23°C).

4. Fixture Time: The interval of time after which surface being joined will support a 1 kg dead weight on a 0.50 in. (12mm) overlap joint 1.00 in. (25mm) wide, without movement. Times presented were tested at 74°F (23°C).

5. Environmental Resistance: to chemical exposure varies greatly based on several parameters including: temperature, concentration, bondline thickness, and duration of exposure. The chemical resistance guidelines listed assume long term exposures at ambient conditions.

6. Mix Nozzle: Plexus recommends mix nozzles MFX 08-18 for the 250 ml cartg. and MDX 5.4-16 for the 50 ml.

7. Optimal Bond Gaps: Between 0.01 to 0.125 in. (0.254 to 3.2 mm) is recommended. Outside these values consult with an ITW Plexus representative.

NOTE: All information on this data sheet is based on laboratory testing and is not intended for design purposes. ITW Plexus makes no representations or warranties of any kind concerning this data. Due to variance of storage, handling and application of these materials, ITW Plexus cannot accept liability for results obtained.