

# PLEXUS MA890

**Description** Plexus™ MA890 is a two-part methacrylate adhesive designed for structural bonding of thermoplastic, metal and composite assemblies<sup>1</sup>. Combined at a 10:1 ratio, it has a working time of 10 minutes and achieves its handling strength in 20 minutes.. Plexus MA890 is supplied in beige/pink colour in ready-to-use cartridges, 20 litre pails, or 200 litre drums and can be dispensed as a non-sagging gel using standard meter-mix equipment.

Characteristics	Room Temperature Cure
	<ul style="list-style-type: none"> <li>▪ Working Time<sup>2</sup> 10 minutes</li> <li>▪ Fixture Time<sup>3</sup> 20 minutes</li> <li>▪ Gap Filling<sup>7</sup> 1mm to 4mm</li> <li>▪ Mixed Density 1.1 g/cc</li> </ul>

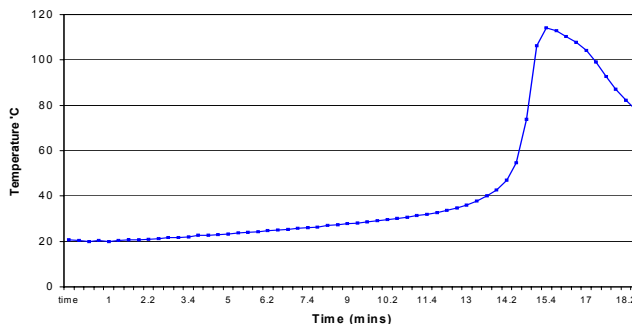
Chemical Resistance <sup>4</sup>	Excellent resistance to:	Susceptible to:
	<ul style="list-style-type: none"> <li>▪ Hydrocarbons</li> <li>▪ Acids</li> <li>▪ Water</li> <li>▪ Oils</li> </ul>	<ul style="list-style-type: none"> <li>▪ Polar Solvents</li> <li>▪ Strong Acids and Bases</li> </ul>

Physical Properties (uncured) – Room Temperature	Adhesive	Activator
Viscosity, cP	70,000	Soft paste
Colour	Beige/brown	Red
Density, g/cc	1.1	1
Mix Ratio by Volume	10	1
Mix Ratio by Weight	10	1
Mixer Recommendation:	Cartridge: Bulk	Refer to ITW Plexus:

Mechanical Properties (Cured) Room Temperature	Tensile (ASTM D638)
	<ul style="list-style-type: none"> <li>▪ Strength, MPa 10</li> <li>▪ Modulus, MPa 850</li> <li>▪ Strain to Failure (%) 32</li> </ul>

Recommended for:	Aluminium	PVC	Styrenics
	<ul style="list-style-type: none"> <li>▪ Steel</li> <li>▪ Stainless Steel</li> <li>▪ Galvanised Steel</li> <li>▪ Copper</li> <li>▪ Brass</li> </ul>	<ul style="list-style-type: none"> <li>▪ Polyesters (including DCPD modified)</li> <li>▪ Perspex</li> <li>▪ ABS</li> <li>▪ Acrylics</li> </ul>	<ul style="list-style-type: none"> <li>▪ Urethanes (general)</li> <li>▪ Vinyl Esters</li> <li>▪ FRP</li> <li>▪ Gelcoats<sup>6</sup></li> </ul>

Lap Shear (ASTM D1002)	Cohesive Strength MPa
	10 - 13



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## HANDLING AND APPLICATION

Plexus® MA890 adhesive (Part A) is 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 4mm. Questions relative to handling and applications should be directed to ITW Plexus at +44 (0)870 458 758

## DISPENSING ADHESIVE

MA890 may be applied manually or with automated equipment. Automated application may be accomplished with a variety of 10 to 1 meter mix equipment delivering both components to a static mixer. For information concerning meter-mix equipment, contact ITW Plexus Sales Representatives. Pre-measured cartridges are also available, as well as the hand-held guns with which to dispense the adhesive. For more information, contact ITW Plexus at 0870 458 7588. 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. Automated equipment should be constructed of stainless steel or aluminum. 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. Clean-up is easiest *before* the adhesive has cured. Citrus terpene or N-methyl pyrrolidone (NMP) containing cleaners and degreasers can be used for best results. If the adhesive is already cured, careful scraping, followed by a solvent wipe may be the most effective method of clean-up.

## STORAGE AND SHELF LIFE

MA890 adhesives and activators may be stored for up to 36 months at 2-8°C provided the components are stored in sealed containers. When stored at 23°C the shelf life is a maximum of 6 months.

## Notes

1. ITW Plexus strongly recommends that all substrates be tested with the selected adhesive in the anticipated service conditions to determine suitability.
2. 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. Times presented were tested at 23°C.
3. Fixture Time: The interval of time after which surface being joined will support a 1 kg dead weight on a 12.7 mm overlap joint 25.4 mm wide without movement. Times presented were tested at 23°C.
4. 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.
5. In a typical bond line, exotherm temperatures will be lower than the temperatures shown.
6. Urethane-modified super-weathering gelcoats may require an alternate adhesive. As with all substrates, these gelcoats should be tested with the selected adhesive to determine suitability.
7. For bond gaps below the minimum quoted please contact ITW Plexus.

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.

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