



## PLASTIC WELDER

## PRODUCT BULLETIN

### Product Description

A toughened structural adhesive formulated for bonding dissimilar substrates as well as unprepared metals, ceramics, wood and standard thermoset plastics. The final adhesive bond is designed to be load bearing and resistant to weathering, humidity and wide variations in temperature.

### Features and benefits

- 1:1 mix ratio
- Room temperature curing
- Rapid fixturing in thin set
- Minimal surface preparation required
- Highly resistant to hydrocarbon based fuels
- Thixotropic / non sagging
- Bonds dissimilar plastics in combinations

### Recommended Applications

- Applications where outdoor weathering or solvent exposure is anticipated
- Bonding poorly prepared surfaces
- Bonds PVC, fibreglass, vinyls, ABS, steel, stainless steel, acrylics, phenolic, polycarbonate, polystyrene, PET, PETE, wood and ceramic

#### Typical Physical Properties: (uncured)

Viscosity	Adhesive	45000 cps
	Activator	40000 cps
Colour		Off White
Weight kg/ltr	Adhesive	1
	Activator	0.97
Mixed density (kg/ltr)		1
Flash point		10.5°C
Mixed viscosity		Non sagging gel
Open time		3 minutes @ 22°C
Assembly time		6 minutes @ 22°C
Fixture time		12 minutes @ 22°C
Functional cure		1 hour @ 22°C
Full cure		4 hours @ 22°C
Solvents		None
Coverage based on 25ml		980cm <sup>2</sup> @ 0.25mm

#### Performance Characteristics (cured)

Bond strength tensile shear ASTM D1002		
Polycarbonate alloy		9.6 MPa (stock failure)
ABS		8.9 MPa (stock failure)
Grit blasted steel		20.6 MPa
Peel strength ASTM D1876 Aluminium		6 kg/cm
Impact resistance ASTM D950-611 grit blasted steel		1.2 kg/m/cm
Shore hardness		78D
Gap filling		6.35 mm
Minimum elongation		75%
Operating temperature change		-20°C to +120°C

### Note:

- Copper, brass, aluminium not recommended
- Intermittent exposure to temperatures above 120°C (as experienced during normal paint bake cycles) will not reduce the performance characteristics of the methacrylate adhesive.

NOTE: This bulletin was prepared in good faith from the best information available at the time of issue. However, users should confirm that the product is acceptable for their intended purposes.

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## Surface Preparation

For optimum performance, surfaces should be solvent wiped free of heavy deposits of grease, oil or other contaminants, or cleaned with industrial cleaning equipment such as vapour phase degreasers or hot aqueous baths. Abrading or roughing the surface of metals will increase the microscopic bond area significantly and optimise the bond strength.

## Application

Apply mixed adhesive directly to one surface to be bonded. To assure maximum bond strength, surfaces must be mated within the specified time. All adhesive application, part positioning and fixturing should occur before the assembly time of the mix has expired. Allow parts to set for 7-10 minutes to fixture before handling.

## Dispensing

Plastic Welder may be applied manually or with automated equipment. Premeasured cartridges are available, as well as hand held guns with which to dispense. Automated application may be accomplished with a variety of 1:1 meter mix equipment delivering both components to a static mixer.

## Storage and Shelf Life

Adhesives should be stored in a cool, dry place when not used for a long period of time. Plastic Welder has a shelf life of 1 years or more when stored at room temperature, 22°C in it's original container. Shelf life may be extended by refrigeration.

1. Open Time: The maximum allowable time after application of adhesive to ensure surface wetting. Longer open times can adversely affect ability of adhesives to properly wet out.
2. Assembly Time: The time you have to mate and position parts prior to commencement of cure. After this time interval parts must not be disturbed.
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.

## PRECAUTION

Plastic Welder adhesives (part A and part B) are flammable. Contents include Methacrylate Ester. Keep containers closed after use. 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.

Note: Because of the rapid curing features of this product, large amounts of heat are generated when large masses of materials are fixed at one time (film thickness cures in excess of 3mm should be avoided wherever possible). The heat generated by the exotherm resulting from the mixing or large masses of adhesive can result in the release of entrapped air and volatile components as evidenced by gassing. 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 3mm.

For complete safety and handling information, please refer to the appropriate Material Safety Data Sheet prior to using this product.

## ORDERING INFORMATION

Stock No.	Unit Size
S-220	25ml Dev tube

## Warranty

Devcon will replace any material found to be defective. Because the storage, handling and application of this material is beyond our control, we can no liability for the results obtained.

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