

Metal Welder™

Description: Fast curing 10:1 methacrylate adhesive designed for structural bonding of metals without primers. The system requires little to no surface preparation or primers.

Intended Use: Structural bonding of aluminum, steel, and stainless steel, along with bonding thermoplastic and composite assemblies.

Product features:
Excellent environmental resistance
Low odor technology
Bonds dissimilar substrates
Excellent impact, peel, and shear resistance
Beads in activator for proper bond line thickness

Limitations:

Typical Physical Properties: *Technical data should be considered representative or typical only and should not be used for specification purposes.*

Cured 7 days @ 75° F

Adhesive Tensile Lap Shear(ABS)	1,250 psi
Adhesive Tensile Lap Shear(AL)	2,552 psi
Adhesive Tensile Lap Shear(composite)	1,400 psi
Adhesive Tensile Lap Shear(SS)	2,610 psi
Adhesive Tensile Lap Shear[GBS]	2,450 psi
Gap Fill	0..375 in.
Impact Resistance	>20 ft.lb./in.(2)
Impact Resistance[AL@-40F]	15 ft.-lbs./in[2]
Shore Hardness	75 Shore D
Tensile Elongation	30-60%
Tensile Lap Shear [14day salt fog AL]	2,200 psi
Tpeel	30-40 pli

TESTS CONDUCTED

Impact Resistance ASTM D 950
 Adhesive Tensile Shear ASTM D 1002
 T-Peel Strength ASTM D 1876
 Cured Hardness Shore D ASTM D 2240

Uncured

Color	Grey
Fixture Time	15-25 min. @ 72°F, 22°C
Flashpoint	51 °F
Full Cure	24 hrs. @ 72°F
Functional Cure	1-2 hrs.
Mix Ratio by Volume	10:1
Mix Ratio by Weight	8.7 :1
Mixed Density	8.17 lbs./gal. / 0.98 gm/cc
Mixed Viscosity	90,000 cps
Service Temperature	-67°F to 200°F
Viscosity	Adh:90-120,000cps; Activ:50-80,000cps
Weight	Adhesive:8.06 lbs./gal.; Activator:9.25 lbs./gal.
Working Time	4-6 min. @ 72°F, 22°C

Surface Preparation: Clean surface by solvent-wiping any deposits of heavy grease, oil, dirt, or other contaminants. Surface can also be cleaned with industrial cleaning equipment such as vapor phase degreasers or hot aqueous baths. If working with metal, abrade or roughen the surface to significantly increase the microscopic bond area and optimize the bond strength.

Mixing Instructions: ---- Proper homogenous mixing of resin and hardener is essential for the curing and development of stated strengths. ----

- 25 ML DEV-TUBE
1. Squeeze material into a small container the size of an ashtray.
 2. Using mixing stick included on Dev-tube handle, vigorously mix components for one (1) minute.
 3. Immediately apply to substrate.

35ML/50 ML/250 ML/380 ML/400 ML CARTRIDGES

1. Attach cartridge to Mark V™ [50ml], 380ml, 250ml [15:1 caulk gun], or 400ml dispensing systems [manual or pneumatic].
2. Open tip.
3. Burp cartridge by squeezing out some material until both sides are uniform (ensures no air bubbles are present during mixing).
4. Attach mix nozzle to end of cartridge.
5. Apply to substrate.

Application Instructions:

1. Apply mixed product directly to one surface in an even film or as a bead.
2. Assemble with mating part within recommended working time.
3. Apply firm pressure between mating parts to minimize any gap and ensure good contact (a small fillet of product should flow out the edges to display adequate gap fill.)
4. Bond line thickness of mixed adhesive should be @ .012" for optimum adhesion.

For very large gaps:

1. Apply product to both surfaces
2. Spread to cover entire area OR make a bead pattern to allow flow throughout the joint

Let bonded assemblies stand for recommended functional cure time prior to handling.

CAPABILITIES:

Can withstand processing forces
Do not drop, shock load, or heavily load

Storage:

Store between 55°F and 75°F. Continuous storage above 75°F reduces the shelf life of the materials. Prolonged exposure above 100°F quickly diminishes the product's reactivity, and should be avoided. Shelf life can be extended by refrigeration between 45°F and 55°F. **DO NOT FREEZE.**

Compliances:

Meets UL 746C Polymeric Adhesive Systems, Electrical Equipment-Component

Chemical Resistance:

Chemical resistance is calculated with a 7 day, room temp. cure (30 days immersion) @ 75°F

Acetic (Dilute) 10%	Very good	Sodium Hydroxide 10%	Very good
Ammonia	Very good		
Cutting Oil	Excellent		
Gasoline (Unleaded)	Poor		
Glycols/Antifreeze	Excellent		
Hydrochloric 10%	Very good		
Mineral Spirits	Fair		
Motor Oil	Fair		

Precautions:

Please refer to the appropriate material safety data sheet (MSDS) prior to using this product.

For technical assistance, please call 1-800-933-8266

FOR INDUSTRIAL USE ONLY

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 accept no liability for the results obtained.

Disclaimer:

All information on this data sheet is based on laboratory testing and is not intended for design purposes. ITW Devcon makes no representations or warranties of any kind concerning this data.

Order Information:

14367 380 ml Co-axial cartridge
14366 35 ml cartridge