

# Flex Welder™

**Description:** A toughened, highly-filled structural adhesive that stays super flexible and able to bond flexible plastics with outstanding peel.

**Intended Use:** Recommended for bonding modified polyesters, epoxy composites, and plastics (flexible or semi-flexible).

**Product features:**  
**Non-sagging formula**  
**Low shrinkage/No print through**  
**Room temperature cure**  
**Excellent impact, peel, and shear resistance**  
**Bonds dissimilar substrates**  
**Low exotherm**

**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**

<b>T-peel</b>	<b>20-27 pli</b>
<b>Impact Resistance</b>	<b>20 ft.lb./in.[2]</b>
<b>Tensile Elongation</b>	<b>120%</b>
<b>Shore Hardness</b>	<b>70 Shore D</b>
<b>Gap-Fill</b>	<b>0.375 in.</b>
<b>% Solids by Volume</b>	<b>100</b>
<b>Adhesive Tensile Lap Shear(ABS)</b>	<b>904 psi [stock failure]</b>
<b>Adhesive Tensile Lap Shear[ AL]</b>	<b>2,167 psi</b>
<b>Adhesive Tensile Lap Shear[GBS]</b>	<b>2,563 psi</b>
<b>Specific Volume</b>	<b>28.40 in[3]/lb.</b>

**TESTS CONDUCTED**

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

**Uncured**

<b>Color</b>	<b>Off-white</b>
<b>Viscosity</b>	<b>Adhesive: 62,000 cps; Activator: 40,000 cps</b>
<b>Weight</b>	<b>Adhesive: 8.18 lbs./gal.; Activator: 8.1 lbs./gal.</b>
<b>Mixed Viscosity</b>	<b>52,000 cps</b>
<b>Mix Ratio by Volume</b>	<b>1:1</b>
<b>Mix Ratio by Weight</b>	<b>1:1</b>
<b>Mixed Density</b>	<b>8.14 lbs./gal.</b>
<b>Flashpoint</b>	<b>51°F</b>
<b>Working Time</b>	<b>9-12 min. @ 72°F, 22°C</b>
<b>Fixture Time</b>	<b>40-45 min. @ 72°F, 22°C</b>
<b>Functional Cure</b>	<b>2-4 hrs.</b>
<b>Full Cure</b>	<b>24 hrs.</b>
<b>Service Temperature</b>	<b>-67°F - 250°F</b>

**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 @ .015"-.030" 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.

**ADDITIONAL PRODUCT INFORMATION:**

- Can withstand processing forces
- Do not drop, shock load, or heavily load
- Intermittent exposure to temperatures above 250°F do not reduce performance characteristics

**STAINLESS STEEL AND ALUMINUM APPLICATIONS:**

Apply Devcon Metal Prep 90 to prime and condition aluminum and stainless steel surfaces prior to using Flex Welder. Metal Prep 90 is fast drying at ambient temperatures. Flex Welder can be applied within minutes of its use. Overlap shear strength will improve 30-40% if Metal Prep 90 is used..

**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:**

None

**Chemical Resistance:**

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

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

**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:**

**14345 47 ml Dev-Pak**