



A brand of ITW Polymers Adhesives North America

## Technical Data Sheet

4/17/2012

# Flexane® 80 Liquid

<b>Description:</b>	A medium-viscosity castable, nonshrinking urethane compound.
<b>Intended Use:</b>	Reproduce low- to medium-volume or discontinued rubber parts; form flexible molds and nonscratching holding fixtures/linings; encapsulate wire and electronics subject to impact, vibration, expansion, and contraction.
<b>Product features:</b>	<b>10-hour demolding time</b> <b>Room temperature curing urethane/no heat required</b> <b>Mixes and pours easily</b>
<b>Limitations:</b>	None

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

**Typical Physical Properties:**

**Cured 7 days @ 75° F**

<b>Color</b>	<b>Black</b>
<b>Coverage/lb</b>	<b>106 sq.in./lb. @ 1/4"</b>
<b>Cured Hardness</b>	<b>87A</b>
<b>Cured Shrinkage</b>	<b>0.0018 in./in.</b>
<b>Demolding Time</b>	<b>10 hrs.</b>
<b>Dielectric Strength</b>	<b>350 volts/mils</b>
<b>Functional Cure</b>	<b>16 hours</b>
<b>Maximum Elongation</b>	<b>650%</b>
<b>Maximum Operating Temperature</b>	<b>Dry: 180°F; Wet: 120°F</b>
<b>Mix Ratio</b>	<b>77resin:23curing agent / wt.</b>
<b>Mixed Viscosity</b>	<b>10,000 cps</b>
<b>Percent Solids by Volume</b>	<b>100</b>
<b>Pot Life</b>	<b>30 min. @ 75°F</b>
<b>Specific Volume</b>	<b>26.5 in.(3)/lb.</b>
<b>Taber Abrasion (H-18, dry)</b>	<b>0.273 cc (1000g, 1000revs)</b>
<b>Tear Resistance</b>	<b>350 pli</b>
<b>Tensile Strength</b>	<b>2,100 psi</b>

**TESTS CONDUCTED**

Dielectric Strength, volts/mil ASTM D 149  
 Tensile Strength (Urethanes) ASTM D 412  
 Cured Hardness Shore D ASTM D 2240  
 Cure Shrinkage ASTM D 2566  
 Tear Resistance ASTM D 624  
 Maximum Elongation ASTM D 412

**Surface Preparation:**

For METAL SURFACES, thoroughly clean area to be repaired, rebuilt, or lined with Devcon® Cleaner Blend 300. Remove any oil, grease, or dirt. Roughen surface by grinding with a coarse wheel or an abrasive disc pad. To prime this surface, apply a coat of Devcon FL-10 Primer and allow to dry tack-free for 15 minutes. If the metal surface requires maximum tear resistance or is exposed to moisture, or if submerged in water, use Devcon® FL-10 and Devcon® FL-20 Primer.

For RUBBER SURFACES, thoroughly clean area with an abrasive pad and Devcon® Cleaner Blend 300. Surface can also be roughened with a grinding wheel so that it is coarse and free from oil and dirt that may clog the "pores" of the rubber. Wipe or roughen surface with Cleaner Blend 300 until the cloth no longer picks up the color of the rubber. The rubber should appear new or deeper in color. To prime this surface, apply a coat of Devcon® FL-20 Primer and allow to dry tack-free for 15-20 minutes. Use Devcon® FL-40 Primer on "hard-to-bond" rubber surfaces as this gives ultimate peel resistance. Multiple coats may be necessary for porous rubber surfaces.

For MAXIMUM ADHESION, sandblast the surface with an angular abrasive until a minimum depth profile of 2-3 mils is met. Blast to near-white finish specification SSPC-SP5 (Steel Structure Painting Council). Prime surface immediately after sandblasting to prevent oxidation.

**Mixing Instructions:**

---- To ensure proper cure speeds and hardness, mix Flexane at a temperature between 65°F-85°F. ----

**FOR 1 LB. UNITS**

1. Add hardener to resin.
2. Vigorously mix with screwdriver or spatula for two minutes, while continuously scraping material away from sides and bottom of container.
3. Transfer the mixed material to the plastic container (included in kit).
4. Wipe spatula clean, and stir again for two more minutes.

**FOR 400ML CARTRIDGES:**

1. Attach mix nozzle to cartridge
2. Follow application instructions; no mixing is required.

**FOR 10LB. UNITS:**

Use a propeller-type Jiffy Mixer Model ES on an electric drill.

Mix until color is uniform and consistent (approx 4-6 min.).

**NOTE:** Completely submerge propeller, otherwise large amounts of air will be added resulting in air bubbles on the finished product's surface.

**Application Instructions:**

---- FOR MAXIMUM ADHESION, apply a suitable Devcon primer to all substrates prior to application. ----

Metals	FL-10 Primer
Rubber	FL-20 Primer
Wood	FL-20 Primer
Fiberglass	FL-20 Primer
Concrete	FL-20 Primer
Rigid Plastics	FL-20 Primer (2 coats)

1. Brush a thin coat of Flexane over the substrate, then pour from one side of the mold to the other side, so as to evacuate any air as the Flexane fills the area.
2. Gently blow hot air over the finished surface to ensure a perfect mold with no blow holes or air entrapment. Use a hot air gun and gently wave over the surface to break all the air bubbles.
3. Allow to cure ten (10) hours before returning equipment to light service. The repair may then be ground flush using a 24 or 36 grit sanding disc. Do not overheat the work surface. Full cure takes seven (7) days @ 70 °F.

**ADDITIONAL INFORMATION**

Flex-Add Flexibilizer is used with Flexane 80 Liquid to produce a urethane with a durometer below 87A. This allows for custom mixing of urethanes for specific applications requirements. (See Flex-Add TDS for further information)

Flexane Accelerator is used to increase Flexane's cure speed at temperatures as low as 32 °F. One-half tsp. (2 gms) of Accelerator reduces the cure time of 1 lb. of Flexane by 50%. Use 2 tsp. or less of Accelerator for each 1 lb. of Flexane. See Flexane Accelerator TDS for further information.

**Storage:**

Store at room temperature, 70 °F.

**Compliances:**

None

**Chemical Resistance:**

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

1,1,1-Trichloroethane	Poor
Aluminum Sulfate 10%	Very good
Cutting Oil	Fair
Gasoline (Unleaded)	Poor
Hydrochloric 10%	Very good
Hydrochloric 36%	Very good
Isopropanol	Poor
Methyl Ethyl Ketone	Poor

Phosphoric 10%	Very good
Potassium Hydroxide 40%	Very good
Sodium Hydroxide 50%	Very good
Sodium Hypochlorite	Very good
Xylene	Poor

**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:**

**15800 1 lb. kit**  
**15810 10 lb.**