



# Flexane<sup>®</sup> 94 Liquid

- Description:** A low-viscosity, castable, non-shrinking urethane compound.
- Intended Use:** Industrial Use: Reproduce low- to medium-volume or discontinued rubber parts; form flexible molds and non-scratching holding fixtures/linings; encapsulate wire and electronics subject to impact, vibration, expansion, and contraction.
- Features:** **Room temperature curing urethane/no heat required, Mixes and pours easily, 5-hour demolding time**
- Limitations:** Suitability of product is determined by the end user for their application and process.

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 (24°C)**

	<b>Typical Values</b>
Abrasion Resistance	330 mg loss per 1,000 revol.
Cured Shrinkage	0.0014 in.in (cm/cm)
Demolding Time	5 hrs.
Dielectric Strength	350 volts/mil (14 kV/mm)
Hardness	97 Shore A
Maximum Elongation	500%
Maximum Operating Temperature	Dry: 180°F (82°C) ; Wet: 120°F (49°C)
Percent Solids by Volume	100
Tear Resistance	415 pli. (73 N/mm)
Tensile Strength	2,800 psi (19.3 MPa)

**Standard Tests**

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

**Uncured Properties @ 72°F (23°C)**

Color	Black
Coverage (1/4" / 6.35mm)	106 in <sup>2</sup> /lb (1508 cm <sup>2</sup> /Kg)
Functional Cure	16 hours
Mix Ratio	69 resin : 31 curing agent by weight
Mixed Viscosity	6,000 cP
Pot Life	10 min. @ 75°F (24°C)
Specific Volume	26.5 in <sup>3</sup> /lb (0.957 cm <sup>3</sup> /g)

**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 5-15 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-10 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 (18-29°C)

**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. NOTE: Flexane putties will thicken rapidly during these first two minutes of mixing, but this DOES NOT mean that the polymer is curing.
3. Transfer the mixed material to the plastic container (included in kit).
4. Wipe spatula clean, and stir again for two more minutes.
5. Continue to mix until a uniform, streak-free consistency is obtained.

**FOR 400ML CARTRIDGES:**

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

**FOR 10 LB. UNITS:**

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

Mix until color is uniform and consistent (approx. 4-6 min.), while continuously scraping material away from sides and bottom of container.

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 (21°C).

**ADDITIONAL INFORMATION**

Flex-Add Flexibilizer is used with Flexane 80 Liquid to produce a urethane with a durometer below 80A. This allows for custom mixing of urethanes for specific applications requirements. The chart below displays various Flex-Add amounts used with 1 lb. of Flexane and the resulting durometers. (See Flex-Add TDS for further information)

Flexane Accelerator is used to increase Flexane's cure speed at temperatures as low as 32°F (0°C). 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 in a cool, dry place.

**Compliances:** None

**Chemical Resistance:** Chemical resistance is calculated with a 7-day, room temp. cure (30 days immersion) @ 75°F (24°C)

1,1,1-Trichloroethane	Poor	Phosphoric 10%	Very good
Aluminum Sulfate 10%	Very good	Potassium Hydroxide 40%	Very good
Cutting Oil	Fair	Sodium Hydroxide 50%	Very good
Gasoline (Unleaded)	Poor	Sodium Hypochlorite	Very good
Hydrochloric 10%	Very good	Xylene	Poor
Hydrochloric 36%	Very good	Methyl Ethyl Ketone	Poor
Isopropanol	Poor		

**Precautions:** **FOR INDUSTRIAL USE ONLY:** Please refer to the appropriate Safety Data Sheet prior to using this product.

**Warranty:** ITW Performance Polymers 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.

**Order Information:**

<u>Item No.</u>	<u>Package Size</u>
15250	1 lb. kit
15260	10 lb.

**Contacts:** [www.itwpp.com](http://www.itwpp.com)

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