



## FLEXANE URETHANES

## PRODUCT BULLETIN

### Product Description

Flexane polyurethanes are tough rubber-like compounds used for a broad range of repairs, tooling and moulding applications.

### Features and benefits

- Two part compound mixes easily
- Putty trowels on smoothly
- Liquid pours evenly and self-levels
- Cures medium-hard
- Low shrinkage
- Bonds to metal, concrete, rubber, wood and fibreglass with primers

### Recommended Applications

- Repairs and rebuilds conveyors belts
- Lines process equipment to dampen noise
- Concrete control joints
- Casting flexible moulds, fixtures and parts
- Potting and encapsulating compounds

Typical Physical Properties @ 24°C	Flexane 80 Putty	Flexane 80 Liquid	Flexane 94 Liquid
Colour	Black	Black	Black
Mix ratio (resin: curing agents, % by weight)	72:28	77:23	69:31
Coverage (cm <sup>2</sup> /kg @ 5mm thick)	1,696	1,914	1,914
Viscosity with hardener (cps)	Putty	10,000	6,000
Work Time of 450gm (minutes at 24°C)	20	30	10
Demoulding time (hours at 24°C)	10	10	5
Operating temperatures, minimum (°C)	dry 82, wet 50	dry 82, wet 50	dry 82, wet 50
Cured hardness, Shore A	87	87	97
Tensile strength ASTM D412 (MPa)	23.6	14.5	27.6
Cure shrinkage ASTM D2566 (cm/cm)	0.0007	0.0007	0.0004
Dielectric strength ASTM D149 (volts/mm)	13,800	13,800	13,400
Tear resistance ASTM D624 (kg/cm)	44	53	73

### Preparation

**Metal** – Thoroughly clean the area that is to be repaired, rebuilt or lined, by using Cleaner Blend 300 (stock no. 19515). All oil, grease and dirt must be removed before applying Flexane material. All surfaces must be roughened by grinding with a coarse wheel or an abrasive disc pad.

**Rubber** – Thoroughly clean the rubber area with an abrasive pad and Cleaner Blend 300. A grinding wheel may be used to roughen the rubber surface. The rubber surface must be coarse and free from oil and dirt clogged in the “pores”. Using Cleaner Blend 300 wipe or roughen surface until the colour of the rubber substrate no longer appears on cloth. The rubber should look new or a deeper black in colour.

**Priming surfaces** – For metal surfaces apply a coat of FL10 Primer and allow to dry tack free for 15 minutes. For surfaces that require the maximum tear resistance and are being used in a submersible application or wet environment, use FL10 followed by FL20 primer. For rubber surfaces apply a coat of FL20 primer and allow to dry tack free for 15-20 minutes. Use this primer on all types of rubber and urethane surfaces. For porous rubber surfaces, it may be necessary to do multiple coats.

**Maximum adhesion** – Sandblast the surface using an angular abrasive to achieve minimum depth profile of 50-75 microns. Blast to near white finish specification SSPC-SP5 (Steel Structure Painting Council). After sandblasting, application surface should be primed immediately to prevent oxidation.

Mixing – Add curing agent to the Flexane resin and stir vigorously for 2 minutes. Be sure to mix along the bottom and side of the container. Transfer material to the plastic container, wipe the spatula clean and stir again for 2 minutes.

For Flexane quantities larger than 450gm, use an electric drill and Jiffy Mixer to mix the Flexane material. Make sure the mixer attachment is completely submerged and operating at a low speed during the process. If not, you will be mixing in large amounts of air and this will cause bubbles in the finished product.

### Application

Liquids – First brush a thin coat of Flexane over the substrate. Then pour from one side of the mould to the other, evacuating the air as the Flexane fills the area. Gently blow hot air over the finished surface to ensure a perfect mould with no blow holes.

Putty – Trowel the Flexane putty into the area. Use a spatula to compress the urethane onto the surface. This helps “wet out” the surface and stop any blow holes or air pockets which can interfere with adhesion.

Cure – Allow the Flexanes to cure for 6 hours before returning equipment to light service. Once cured, the repair may be ground flush using a 24 or 36 grit open coat sanding disc. Be careful to keep the grinder moving and do not overheat the work surface. Allow Flexane 94 Liquid or Flexane 80 Liquid to cure 24 hours before running moulds in operation. Demould Flexane Liquids approximately 5-10 hours. Full cure takes 7 days @ 24°C.

Flexane Accelerator (15990) is used for speeding up the cure of Flexane at temperatures as low as 0°C. Two grams (1/2 teaspoon) of Accelerator will reduce the cure time of 450gm of Flexane by 50%. Do not use more than 2gm (1/2 teaspoon) of Accelerator with each 450gm of Flexane.

Flex-Add (15940) Flexibilizer is used with Flexane 80L to produce a urethane of any desired durometer below 80. Allows custom mixing of urethane for specific application requirements. Use the following chart to determine the amount of Flex-Add to use with 450gm of Flexane 80L to obtain the desired durometer.

Flex-Add	55 ml	110 ml	170 ml	220 ml	280 ml	340 ml	390 ml	450 ml
Durometer	74	70	66	62	58	54	50	46

Primers – Primers are required for bonding Flexane to most substrates. FL-10 primer provides excellent adhesion to all metals, use with all Flexanes. Use with FL-20 for applications on metal surfaces that are exposed to water immersion, or for applications on metal requiring adhesion greater than 9 kg/cm. FL-20 primer provides excellent adhesion to rubber, wood, fibreglass and concrete, use with all Flexanes.

### Primer Selection

Substrates	FL-10	FL-20
Metal, dry (adhesion 4.5kg/cm)	X	--
Metal, dry (adhesion >9kg/cm)	X	X
Metal (water immersion)	X	X
Concrete		X
Rubber		X
Cured Flexane		X
Wood		X
Fibreglass		X

### PRECAUTION

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

Skin contact – wipe off, flush with soap and water.

Eye contact – Flush with water for 15 minutes and get prompt medical attention.

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.

### ORDERING INFORMATION

<b>Flexane 80 Putty</b>		<b>Flexane 80 Liquid</b>		<b>Flexane 94 Liquid</b>	
Stock No.	Unit Size	Stock No.	Unit Size	Stock No.	Unit Size
15820	450gm	15800	450gm	15250	450gm
15830	4.5kg	15810	4.5kg	15260	4.5kg

<b>Flex-Add</b>		<b>Flexane Accelerator</b>		<b>Flexane Primer</b>	
Stock No.	Unit Size	Stock No.	Unit Size	Stock No.	Unit Size
15940	250ml	15990	360ml	FL-10 15980	120ml
				FL-20 15985	120ml

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