Devcon®

TECHNICAL DATA

FLEXANE 80 LIQUID

Castable Non-shrinking Urethane Compound

Description

Flexane 80 Liquid is a medium viscosity castable, non-shrinking urethane compound that can be used for a broad range of repairs, tooling and moulding application requiring tough rubber-like material.

Areas of application

- Reproduce low to medium volume or discontinued rubber parts
- Form flexible moulds and non-scratching holding fixtures/linings
- Concrete control joints
- Encapsulate wire and electronics subject to impact, vibration, expansion and contraction

Features

- Two part compound mixes easily
- Room temperature curing urethane / no heat required
- Liquid pours evenly and self-levels
- 10-hour demoulding time
- Low shrinkage

Chemical Resistance

(Chemical resistance is calculated with a 7 day, room temperature cure (30 days immersion) @ 24℃)

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

Last Modified August 2007

Technical Data

Typical Physical Properties: Cured 7 days @ 24ºC

		Test Method
Colour	Black	
Mix Ratio (Resin to Hardener)	Weight 77: 23	
Mixed Viscosity (cps)	10,000	
Work Time of 450gms minutes @ 24℃	30	
Cure Time	16 hours	
Demoulding Time	10 hours	
% Solids by Volume	100	
Specific Volume	958cm^3/kg	
Cure Shrinkage	0.0018 cm/cm	ASTM D2566
Hardness Shore A	87	ASTM D2240
Tear Resistance (kg/cm)	62.5	ASTM D624
Tensile Strength	14.5 MPa	ASTM D638
Maximum Elongation	650%	ASTM D412
Abrasion Resistance (H18 wheel/1,000 cycles)	285mg loss per 1,000 revolutions	
Dielectric Strength	13,800 volts/mm	ASTM D149
Maximum Operating Temperature	Wet: 49℃, Dry: 82℃	
Coverage (per 450gm Kit)	684 cm^2 @ 6mm	

Directions for use

Surface Preparation

Metal – Thoroughly clean the area that is to be repaired, rebuilt or lined, by using **Devcon® Surface Cleaner**. 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 **Devcon® Surface Cleaner**. 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 **Devcon® Surface Cleaner** 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 **Devcon® FL10 Primer** and allow to dry tack free for 30 minutes. For surfaces that require the maximum tear resistance and are being used in a submersible application or wet environment, use **Devcon® FL10 Primer** followed by **Devcon® FL20 Primer**. For rubber surfaces apply a coat of **Devcon® 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. Abrasive blast clean in accordance with **Australian Standard AS1627:4-2005** to a Class 2 ½ near white metal finish. After sandblasting, application surface should be primed immediately to prevent oxidation.

Mixing

Ideal application temperature is 18ºC - 29ºC.

Mix Ratio – Resin to hardener: Weight 77 : 23

------ It is strongly recommended that full units be mixed, as ratios are pre-measured. -------

1. Add hardener to resin.
2. Mix thoroughly with a spatula or similar tool (continuously scrape material away from sides and bottom of container) for two (2) minutes.
3. Transfer the mixed material to the plastic container (included in kit).
4. Wipe spatula clean, and stir again for two (2) more minutes.

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INTERMEDIATE SIZES (4.5kg Units): Use an electric drill and propeller-type Jiffy Mixer to mix the Flexane material until colour is uniform and consistent (approximately 4 - 6 minutes). 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

------ For MAXIMUM ADHESION, apply a suitable **Devcon® Primer** to all substrates prior to application. -------

Metals	FL-10 Primer	Fibreglass	FL-20 Primer
Rubber	FL-20 Primer	Concrete	FL-20 Primer
Wood	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 mould to the other, evacuating any air as the Flexane fills the area

2. Gently blow hot air over the finished surface to ensure a perfect mould 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 to light service. The repair may be ground flush using a 24 or 36 grit sanding disc. Be careful to keep the grinder moving and do not overheat the work surface. Allow Flexane 80 Liquid to cure 24 hours before running moulds in operation. Full cure takes 7 days @ 24℃.

Additional Information

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

Devcon® Flexane Accelerator is used for speeding up the cure of Flexane at temperatures as low as 0℃. Two grams (½ teaspoon) of Accelerator will reduce the cure time of 450gm of Flexane by 50%. Do not use more than 8gm (2 teaspoons) of Accelerator with each 450gm of Flexane.

Storage and Shelf Life

Store in dry conditions between 10℃ and 40℃, away from sources of heat and naked flames. Protect from frost. When stored in original sealed containers, the minimum shelf life is two (2) years.

Packaging

Flexane 80 Liquid is available in 450gm and 4.5 kg kits.

Ordering Information:

450 gm Kit	#D15800
4.5 Kg Kit	#D15810

Health & Safety Information

The product is hazardous. A Material Safety Data Sheet is available from the ITW Polymers & Fluids Technical Department upon request or available on our website www.itw-devcon.com.au .

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