Devcon®



# TECHNICAL DATA SHEET – DEVCON R-FLEX®

Revised: 05/2018

## ORDERING INFORMATION

**STOCK NO.:** 15565
**PACKAGE SIZE:** 1.5 lb

**STOCK NO.:** 15550
**PACKAGE SIZE:** 4 lb

## PRODUCT INFORMATION

### DESCRIPTION

Self-levelling liquid urethane that in minutes turns into a non-sag putty for repairing gouges, tears, and holes and coats clips for heavy weight SBR conveyor belt.

### INTENDED USE:

- Repair holes, gouges, and tears in SBR conveyor belt
- Coats hinged or solid plate fastener systems to protect them from cleaner damage
- Rebuild worn rubber top ply of SBR belts protecting surface from abrasion and impact from aggregate

### PRODUCT FEATURES

High adhesion to SBR belts with Surface Conditioner. Self-leveling liquid that develops into a non-sagging putty. Belt back into service in 1 1/2 hours.

## PRODUCT DATA

### TYPICAL PHYSICAL PROPERTIES - CURED 7 DAYS @ 75 OF (24°C)

| | |
|---|---|
| % SOLIDS BY VOLUME | 94% |
| ABRASION RESISTANCE | 270 mg loss per 1,000 rev |
| ADHESION @ 24 HRS | 65 pli (11.3 N/mm) rubber surface failure |
| ADHESION @ 7 DAYS | 108 pli (19.0 N/mm) rubber surface failure |
| COLOUR | Black |
| COVERAGE | 110 $in^2$/lb @ ¼" (0.156 $m^2$ kg @ 6.5 mm) |
| CURE HARDNESS | 87 Shore A |
| DIELECTRIC STRENGTH | 350 volts/mil (13.8 kV/mm) |
| FUNCTIONAL CURE | 1½ hours |
| MAXIMUM ELONGATION | 420% |
| MAXIMUM OPERATING TEMPERATURE | Dry: 180°F (80°C); Wet: 120°F (50°C) |
| MIX RATIO | 88 resin: 12 Curing agent |
| SPECIFIC VOLUME | 27.4 $in^3$/lb (1L/kg) |
| TEAR RESISTANCE | 375 pli (65.7 N/mm) |
| TENSILE STRENGTH | 1,460 pli (255.7 N/mm) |

All testing performed to appropriate ASTM standards.

### UNCURED

| | |
|---|---|
| POT LIFE @ 70°F (21°C) | 1-4 min (liquid), 4-10 min non-sag gel |
| POT LIFE @ 100°F (45°C) | 1-3 min (liquid), 3-5 min non-sag gel |

*Chemical resistance is referenced after a 7 day, room temperature cure followed by a 30 days immersion @ 75°F (24°C) in the specific chemical*

| | POOR | FAIR | VERY GOOD |
|---|---|---|---|
| 1.1.1 TRICHLOROETHANE | • | | |
| AMMONIA | | | • |
| CUTTING OIL | | • | |
| GASOLINE (UNLEADED) | | • | |
| HYDROCHLORIC ACID (10%) | | | • |
| HYDROCHLORIC ACID (36%) | | | • |
| ISOPROPANOL (IPA) | • | | |
| METHYL ETHYL KETONE (MEK) | • | | |
| PHOSPHORIC ACID (10%) | | • | |
| POTASSIUM HYDROXIDE (40%) | | | • |
| SODIUM HYDROXIDE (50%) | | | • |
| SODIUM HYPOCHLORITE | | | • |
| XYLENE | • | | |

## APPLICATION INFORMATION

### SURFACE PREPARATION

**Surface Prep: Abrading/Cleaning**

1. Clean the belt with a suitable solvent such as isopropanol (IPA) by applying ONLY to a rag and then cleaning the area. DO NOT POUR directly onto the belt!
2. Attach abrasive wheel to a 4" (10 cm) grinder [minimum 10,000 RPM]. Roughen belt releasing contaminants and grit.
3. Using grinder, roughen belt until dull bluish-grey colour. Ensure top layer of belt is roughened, leaving a fine dusting of residue, brush off residue with a dry rag.
   **NOTE:** Be sure not to grind down to the belt's woven carcass as this will weaken the belt.
4. Take a dry rag and wipe off any ground particles making the repair dust free.
   **NOTE:** DO NOT apply any solvent cleaners to the belt as this will close the pores of the SBR Belt an affect adhesion.
5. Ideal application temperature is above 50°F (13°C).

### MIXING INSTRUCTIONS

**Surface Conditioner Mixing Instructions**

1. Open bag, remove Surface Conditioner bottles: Part A and Part B.
2. Unscrew spout cap from Part B bottle and remove aluminium seal. Screw spout cap back on Part B bottle.
3. Take Part A bottle and unscrew dauber top.
4. Flip up the spout cap on Part B bottle to pour liquid into Part A bottle. Screw dauber top onto Part A bottle.
5. Shake bottle for 30 seconds to mix Surface Conditioner.
6. Remove clear cap from dauber top. Turn upside down and press dauber firmly on repair.
7. Thinly spread Surface Conditioner around entire repair area. It will evaporate quickly leaving slight change in colour on the surface.
8. Wait 3 minutes to ensure surface is dry before applying Devcon R-Flex®.

**R-Flex II™ Mix Instructions**

1. Make sure surface is roughened and Devcon® Surface Conditioner was applied and you will need to wait at least 3 minutes before applying Devcon R-Flex®.
2. Remove resin container [4 lb (1.8 kg) kit], or plastic jar [1.5 lb (0.7 kg) kit] and open lid
3. Take Curing Agent out of the container [4 lb (1.8 kg) kit a plastic jar], [1.5 lb (0.7 kg) kit a pouch] and pour contents into the respective resin containers.
   a. For the 4 lb (1.8 kg) Kit pour the curing agent and the contents of the resin into the large white mix bucket. Be sure to scrape sides of metal can getting all resin into the bucket.
   b. For the 1 lb (0.7 kg) kit simply pour the curing agent pouch into the plastic container and start mixing.
4. Using wooden paddle, stir contents thoroughly for 1.5 minutes- scraping sides and bottom of the containers to activate curing mechanism.
5. Pour mixed R-Flex onto the roughened belt. After 3 minutes R-Flex will be able to be applied to a vertical surface without sagging [@ 1/4" (6.5 mm) thick] as the product is polymerizing quickly.
6. Spread with spatula to desired area R-Flex will continue to "self-level" in seconds, up to 8 minutes after you started mixing. After that time the material will not self-level.

**Metal Surfaces**

1. Thoroughly clean the metal clips to be coated/repaired. Remove any oil, grease or dirt. Roughen the metal by grinding with a coarse wheel. To prime the surface apply a coat of Devcon® FL-10 Metal Primer and allow to dry for 5-15 minutes.

## APPLICATION INSTRUCTIONS

**Holes:**

1. For holes, use duct tape underneath belt to bridge hole. Be sure to prime repair area 6-8" (15-20 cm) back from the hole.
2. Follow surface abrading/cleaning section thoroughly.
3. After mixing Devcon R-Flex® and applying to repair area, make sure you fill void 6-8" (15-20 cm) around the hole to create additional strength.

**Gouges or Tears:**

1. For tears, if the tear is over 8-10" (15-20 cm) take alligator clip and lock the tear on either end of the tear to mechanically stop the belt form continuing to rip.
2. Take an abrasive wheel 4" (10 cm) grinder and at the tear undercut the rubber at an angle in a "V" configuration opening up the tear to expose more surface area for the repair compound to attach to. Place a strip of duct tape underneath the tear sealing off the area so no repair compound leaks through during the repair.
3. If using alligator metal clips, coat the clips with Devcon® FL-10 Primer and allow to dry for 3 minutes.
4. Follow surface abrading/cleaning section thoroughly.
5. After mixing Devcon R-Flex® and applying to repair area, push the material into the "V" opening you created. The material will self-level in that area. Coat the clips with a thin layer of material.

**Coating Hinged or Solid Plate Fasteners:**

1. When coating plated clips, abrade an 8" (20 cm) area from the clip to the belt on both sides of the clip. If clip was skived and below surface only go back 4" (10 cm).
2. Follow surface abrading/cleaning section thoroughly.
3. Coat the solid or pin clips with Devcon® FL-10 Metal Primer and allow to dry for 3 minutes.
4. Spread R-Flex® on clips at a minimum thickness of 1/8" (3 mm) (this helps to bridge the elongation that occurs when belt is subjected to pressure of wiper and traveling across the head pulley).

## STORAGE

Store in a cool dry place.

## SHELF LIFE

18 Months in unopened containers.

## PRECAUTION

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

## WARRANTY

ITW Performance Polymers will replace any material found to be defective. The storage, handling and application of this material is beyond our control, as such 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 Performance Polymers makes no representations or warranties of any kind concerning this data.

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