TECHSEAL POLYSULPHIDE SEALANT

RDL 940 (Gun Grade)
RDL 941 (Pour Grade)

CHOKSEY™
An ISO 9001-2000 Company

DESCRIPTION

TECHSEAL RDL 940/941 are two component sealant based on 'THIOKOL' – Polysulphide liquid elastomer. It consists of a 'Base' compound and 'accelerator' (Curing Agent). When the two components are mixed together prior to application, a chemical reaction is initiated which cures instant to a firm, flexible rubber like seal with excellent adhesion to concrete, masonry, wood, glass, acrylic and PVC plastics. It is capable of withstanding repeated extension, compression & Cyclic movements without loss of adhesion and resists deterioration by weathering, sunlight, ozone, water, salt, oils and fuels. It is far superior to all the conventional joint sealing material like bitumen, mastics, metallic channels and expansion sheets.

RDL-940 (Gun Grade) is a non-sag material used for sealing of horizontal, vertical & ceiling joints
RDL-941 (Pour Grade) is a pourable & self leveling material used for sealing of horizontal joints only

FEATURES / ADVANTAGES

- Cures at ambient temperatures to a tough, elastic and flexible rubber like material.
- Bonds strongly to most of the building materials with the use of recommended primers.
- Durable, remains unaffected by UV rays, ozone and weathering conditions.
- Resistant to water, salt water, 10% dil. acids except nitric acids, alkalies, most of the common chemicals, vegetable, lubricating oils and fuels.
- Performs well in a temperature ranging from -20^0C to 80^0C.
- Slip resistant (sag) can be applied in a horizontal joints.
- Movement capability – Provides satisfactory hermetic sealing of the joint subjected to expansion, contraction, vibration and cyclic movement within the following limits. - Movement joints upto + 25% of the width.
- Slip resistant (non-sag) can be applied in vertical & ceiling g joints.
- Self leveling, after pouring in horizontal joint levels itself.
- Resilient recovers the original width after expansion & contraction without the loosing the surface bond.
- Excellent repairability property.
- It can be overcoated by waterproofing compounds.
- Non-toxic.
- Sealant will not cause staining to concrete masonry or stones.

TYPICAL APPLICATION

- Sealing of expansion, contraction & construction joints in building structure such as, Basements, subways, retaining walls, floors, external walls and claddings of high-rise buildings, roof terraces & ceilings especially structural expansion joint running through the ceiling.
- Sealing of dynamic structural cracks
- Glazing joints of window, door frame and curtain walls.
- Joints & 'J' bolts of asbestos sheet roofing.

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- Sealing of water retaining structure joints such as, Water tank, reservoir, dams, aquaducts, canals, culverts and water treatment plant.
- Sealing of joints in traffic areas such as, Bridges, roads and car parking areas.

TYPICAL CHARACTERISTCS

- Nature : Two Component
- Mixing Ratio : Base : Accelerator
  92 : 8 parts by weight
- Consistency after mixing, RDL 940 : Thick, non-sag paste
  RDL 941 : Thick, flowing paste
- Application time (pot life) at 30^0 C : 2 - 3 hours
- Initial setting time at 30^0 C : 24 hours
- Complete curing time, At 5^0 C : 8 weeks
  At 15^0 C : 4 weeks
  At 25^0C : 2 weeks
  At 30^0C to 35^0C : 1 week
- Colour-Base compound : Off, White
- Accelerator (curing compound) : Dark brown to black
- Mix compound : Grey
- Sump (sag) resistance : No Sagging

JOINT DESIGN

In building structures various (different) types of joints are designed such as Butt joints, Lap joints, Fillets Joints, Expansion joints, Control joints and Glazing joints. As the joint expand, contract or experience a shear movement, cyclic movements, sealant changes the shape accordingly, but the volume of sealant remains same. Hence, in designing the joints, it is vital that the proper width-to-depth ratio is specified so that the width of the joint is consistent with the capability of sealant to endure daily and seasonal cycles for prolonged periods. The amount of movement in a joint is dependent on the length (span), the coefficient of linear expansion of a panel section and the temperature differential of the substrate. To achieve the long-tem, effective performance the established width-to-depth ratios are determined and are given below:-

Joint Width	Depth of sealant in joint	
	Concrete & Masonry	Metal & Glass
¼" to ½" (6.4mm to 12.5mm)	¼" minimum (6.4mm)	¼" minimum (6.4 mm)
½" to 1" (12.5mm to 25.4mm)	Width / 2	Width / 2

Over 1” (25.4mm & above)	½” maximum (12.5 mm)	½” maximum (12.5 mm)

SURFACE PREPARATION

1. Surface preparation is the most important step before application of sealant to get best results and to avoid failure.
2. The Joint surface must be dry, free from dust, coatings, bituminous mastics, concrete curing agents, mould release agents, oils, greases and loose particles.
3. Clean the joint surface by wire brush and sanding with emery paper.
4. Remove dust by compressed air or paint brush.
5. Wipe out oil and grease by solvent soaked cloth (such as Xylene, Toluene or Acetone.)

BACK UP MATERIALS

Insert compressible polyethylene, polyurethane, neoprene, polyethylene butyl rod as backup material to control depth of sealant in the joint and to provide support for tooling of the sealant.

PRIMING

Select a primer suitable to the substrate and apply two coats by brush on the sides of the joints surface at an interval of 30 minutes.

- Primer RDL 942 : For porous substrate such as concentrate, wood etc.
- Primer RDL 947 : For non-porous substrate such as metals, glass etc.
- Primer RDL 952 : For acrylic glass
- Primer RDL 948 : For PVC plastic & rubber

BOND BREAKER

Fix bond breaker tape such as self adhesive polyethylene tape on back-up material to avoid adhesion of sealant to the third surface.

MASKING TAPE

Apply masking tape such as self-adhesive polyethylene, cellophane or cloth tape on both edges of the joint. It is used to improve the neatness of the finished seal by protecting the face edges of the joint. It may be removed immediately after tooling of the sealant.

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MIXING

The base and accelerator compounds supplied are packed in pre-weighed quantity as per the mixing ratio. After the application of primer, mix the material of individual container. Transfer entire quantity of accelerator to the base compound tin and mix it thoroughly to a uniform, homogenous black colour. Mixing can be done manually with spatula, palette knife or special flat stirrer attached to a low speed electric mixer less than 500 r.p.m.

APPLICATION

Apply the mixed Gun grade compound by means of a spatula or by filling into a plastic cartridge which is then placed into the hand held caulking gun into the joint.

TOOLING AND FINISHING

It is desirable that a smooth surface is obtained. Tool the sealant by pressing the puffy knife or flat tool against the sealant surface, moving along the length of the joint. Tooling breaks air bubbles and exposes any air pockets present. Tooling compresses the sealant, thus promoting adhesion to the joint sides. After tooling the masking tape should be removed immediately. Soap solution can be used to smoothen the sealant surface.

COVERAGE

Sealant : To estimate the no. of running meter work done is 1 kg. of TECHSEAL required to seal the join can be very easily estimated by using the following formula :-

i) RDL-940-L = $\frac{650}{(W \times D)}$

ii) RDL-941-L = $\frac{625}{(W \times D)}$

Where, L = Length of the joint in linear running meter
W= Width of the joint in mm.
D = Depth of the joint in mm.

Primer : 1 lit. of primer is required per 15kgs. of sealant.

CLEANING OF TOOLS & EQUIPMENT

Tools and equipment can be easily cleaned with solvent such as xylene, toluene, methyl, ethyl, Ketone and acetone.

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STORAGE AND SHELF LIFE

Store the material at cool and dry place (at 25^{0}C temp. & 50% RH)
Shelf life is one year in unopened containers.

PACKING

Techseal : 1 kg, 4 kg
Primer : 250 ml, ½ liter, 1 liter

SPECIFICATION COMPLIES :

- BS 4254-1983 : British Standard Specification
- C-920-87 : American Society for Testing & materials (ASTM)
- DIN-18549 : German Standard Specification.

PRECAUTIONS

- Some people are sensitive to resins, hardeners, solvent and its vapours so it is advisable to use hand gloves and goggles.
- Avoid application below 10°C temperatures.
- Avoid application and damp or moist substrate.
- Storage – store at cool & dry place.
- Ensure that two coats of primer are applied on the jointing surfaces V.