Talrakseal® PU

Single part polyurethane sealant for expansion joints in concrete and masonry of width upto 40mm

The Construction Alchemists

Description

Talrakseal® PU is a single part adhesive sealant based on modified Polyurethanes. It is a self-curing sealant that cures by a chemical reaction with the humidity present in the air. It has excellent adhesion with most of the substrates such as, steel, concrete, ceramics, galvalume sheets, iron, wood, painted surfaces and plastics without primer with a good tear resistance. Available in White, Grey and Black colours.

Features & Benefits

- Single part system
- Bonds to wide range of materials
- Resistant to weathering and aging
- No primer required
- Non-corrosive
- Paintable after curing
- Can be used for interior and exterior surfaces
- UV resistant material
- Low modulus
- Thixotropic consistency

Primary Application

Talrakseal® PU is suitable for achieving permanent seal with high adhesive strength on variety of substrates such as steel aluminum, lacquered metals, concrete, wood, ceramics, plastics, glass, stones etc. Other surfaces shall be tested before use.

Technical Properties

Uncured material

Density at 20°C, (kg/l)	Black - 1.15 ± 0.02 Others - 1.16 ± 0.02
Flow, sag or slump at 20°C (ISO 7390)	Non sag
Paint compatibility, ATM-R370	Generally compatible. However, to be checked at site for the paint being used.

Curing Performance

Talrakseal® PU will cure when exposed to moisture in the air by developing a skin and becoming tack free. After the skin is developed the curing process shall continue inwards from the surface of the skin.

Curing at 25 ± 2°C, 50RH

Skin formation Time	70 minutes
Depth cure	3mm/day
Full cure	7 days

Note : The above mention curing time is subject to relative humidity, temperature of the environment, thickness of the sealant and depth of the joint.

Operational Properties

Application temperature	+5 to + 40°C
In service temperature	-40 to + 70°C
Short exposure (up to 1 h)	120°C

Cured Material Properties

E100 Modules @ 23°C (ISO 8339)	0.30 - 0.40 N/mm^2
Elongation at break (ISO 37)	≥ 400%
Shore A Hardness @ 28 days (ISO 868)	40 ± 5
Tear Resistance (ISO 34)	~10 N/mm^2
Movement accommodation factor	± 25%
Tensile Strength (ISO 37)	2 to 2.5 N/mm^2

Chemical Resistance

Talrakseal® PU is resistant to fresh and sea water, lime water, sewage effluents, diluted acids, motor oil, isopropanol, salt fog (95%RH). Temporarily resistant to fuels, mineral oils, vegetable and animal fats and oils. Non-resistance to organic acids alcohol, concentrated mineral acids and caustic solutions or solvents. For resistance to other chemicals, testing is recommended before application.

Design criteria

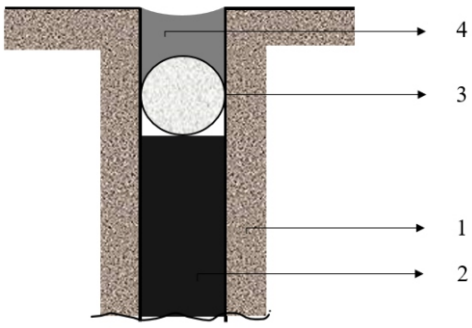
Talrakseal® PU can be applied to joints upto 40 mm width. Joints that may witness cyclic movements should be designed to an optimum width:depth ratio of 2:1, subject to the overriding recommended minimum sealant depths set out below:

- 5mm for metals, glass and other non-porous surfaces
- 10mm for all porous surfaces
- 20mm for trafficked joints and those subject to hydrostatic pressures

To ensure that the sealant remains within its stated movement capacity (25% MAF), sealing slot widths should be designed in accordance with the recommendations of BS 6093. The use of a surface primer is always required on porous surfaces. On non-porous surfaces a primer is not normally required except Where glass or glazed surfaces are to be permanently immersed in water.

Talrakseal® PU

The Construction Alchemists



1. RC member
2. Filler board
3. Backer rod/Bond breaking tape
4. Talrakseal® PU

Talrakseal® PU is recommended for the joints in the atmospherically exposed environment & also subjected to general chemical exposures.

Application Instruction

Joint Preparation

The joint surfaces must be thoroughly dry, clean and frost free. Remove all dust and laitance by rigorous wire brushing, grinding or grit blasting. Remove any oil or grease. Any expansion joint filler must be checked to ensure it is tightly packed and no gaps or voids exist at the base of the sealing slot before positioning a bond breaker.

Application

The product can be applied manually or by pneumatic gun. Use of a putty blade is recommended to smoothen the joint after application. Soap water may be used as lubricant for smoothening the applied surface. The minimum application temperate shall be +5°C. In cold weather the material should be pre-stored at +20°C.
If the material is to be used from a sausage packing, it shall be loaded into the application gun after cutting off the closer clip. Keep the sausage tightly closed when not in use. A plug of cured material may form in the tip of the sausage which will not affect the remaining content. If the product is to be used from a cartridge, cut off the tip of the nozzle to suit the size of the seam and apply the sealant in the joint.

Working time

Moisture curing begins immediately after the product is exposed to the atmosphere, any tooling should be completed before the skin forms using a spatula or putty knife, occasionally moistened with a soap solution. To ensure integrity of bond/seal between mating parts, parts to be assembled before the sealant skins over. Higher humidity will accelerate this cure time. Excess uncured material can be easily wiped away with a suitable non-polar solvent. If cured, the material can be removed mechanically. The bond/seal should be allowed to cure fully before subjecting to heavy service loads.

Over painting

The sealant can be over painted with most conventional paint systems after skin forming. Best results are obtained if the sealant is allowed to cure fully before painting. The paint must be tested for compatibility by carrying out preliminary site trials with different types of industrial paints. The over painted product should not be exposed to baking temperatures until it has attained full cure. It should be noted that the hardness and film thickness of paint may impair the elasticity of the sealant and lead to cracking of the paint film. Care should be taken when non flexible paint systems are used which may impair the elasticity of the adhesive, impair joint movement and lead to cracking of paint PVC based paints and paints that dry by oxidation(oil or alkyd resin based) are generally not suitable for application over the sealant.

Limitations

- Do not apply at temperatures below +5°C or above +40°C.
- Once opened the product should be used within a relatively short time.
- Do not use for applications where the product will be in constant contact with gasoline, synthetic fuels or solvents.
- Does not use in totally confined applications as sealant must have exposure to moisture from atmosphere to cure.
- This product is not recommended for use in pure oxygen or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.

Coverage

Joint Size mm (w:d)	Consumption (Liters/rm)	Coverage/pack (in running Meters)
5 X 2.5	0.01	48
10 X 5	0.05	12
15 X 7.5	0.11	5.3
20 X 10	0.2	3.0
25 X 12.5	0.31	1.92
30 X 15	0.45	1.3
40 X 20	0.80	0.75

Consumption may vary depending on surface conditions

Talrakseal® PU

The Construction Alchemists

Estimating
Packaging

Talrakseal® PU is supplied in 600ml sausage, with aluminum foil wrap.

Storage

Talrakseal® PU has a shelf life of 12 months if kept in dry store in original, unopened containers at +10°C to +30°C If stored at temperature and/or high humidity conditions beyond the above range the shelf life may be reduced and the properties are affected.

Precautions
Health & Safety Instructions

Talrakseal® PU should not come in contact with skin and eyes or be swallowed. Wear impervious rubber or PVC gloves and eye protection. In the case of eye contact seek medical attention immediately. Cured sealant should not be burned off due to the generation of toxic fumes. Empty containers must be collected for careful disposal and not left lying about.

Talrak Construction Chemicals Pvt. Ltd.

An ISO 9001:2015 Certified Company

Works:
Plot No. 115-A, 1st Phase. Harohalli Industrial Area,
Kanakapura Taluka - 562 112. Ramanagar Dist.
www.talrak.in