

TechnoSeal[®] PU-2K

High Performance Two Component Polyurethane Movement Joint Sealant.

Description:

TechnoSeal[®] PU -2K is a two component Polyurethane based, tough flexible durable with strong adhesive sealant specifically designed to be used as a watertight seal for moderate movement and control joints in concrete and pavements. It consists of a 'Base' compound and 'accelerator' (Curing Agent). When the two components are mixed together prior to application, it forms a tough, flexible seal and bond capable of cyclic, expansion and compression movement.

TechnoSeal[®] PU-2K is virtually unaffected by normal weathering conditions such as rain, sunlight, snow, sleet, ultra-violet radiation, ozone, atmospheric contamination and pollution. Its excellent weatherability enables it to retain its original properties after years of exposure. Its physical properties remain relatively unchanged over a wide temperature range (-20°C to 70°C). TechnoSeal[®] PU -2K Available in two types:

- TechnoSeal[®] PU -2K V- for vertical joints.
- TechnoSeal[®] PU -2K H - for horizontal joints.

Typical applications include

TechnoSeal[®] PU -2K is used for following applications

- Vertical & Overhead expansion joints in Industrial, commercial or residential buildings
- Joints in water retaining structures like water tank, swimming pool, aqueducts, dams, canals & reservoirs.
- Joints in concrete roads bridges, subways, flyovers & airport runway.
- Concrete cracks repairs in slab.
- Atomic nuclear power station reactor domes.
- Joints between pipe lines.
- Elastic sealing of joints in building construction civil engineering, pre-cast construction and assembly construction.
- Floor joints in industrial buildings, workshops and multi-storey parking.
- Connecting- and movement-joints on balconies and terraces.

Features and Benefits

- Good Chemical and water Resistance – Suitable for use in High chemical exposed areas.
- Wear & Weather Resistance – can be used in trafficable areas.
- Solvent Free & Non-Tainting – Hygienic and Safe to use in Food Industries.
- Resistant to fungal attack. Also suitable for potable water.
- High movement accommodation ($\pm 25\%$) ASTM C719

Primer

10 % of the Sealant quantity (May vary depending upon the porosity of the substrate)

Packaging

TechnoSeal[®] PU -2K is supplied in 4 kg Container packed 16 kg carton.

Application Procedure

Joint preparation:

The joint edges must be clean, dry and free from oil, loose particles, cement laitance and other contaminants which may affect the adhesion. A thorough wire brushing, grinding, sand blasting or solvent cleaning may be required to expose a clean and sound substrate. The compressible joint filler shall be cut back to expose a uniform joint depth and should be tightly packed and no gaps or voids exist at the base of the sealing slot before positioning a bond breaker.

Joint Size:

TechnoSeal[®] PU -2K can be used for joints of width ranging from 5 to 50mm. Joints with cyclical movements should have an optimum width: depth ratio of 2:1. The recommended minimum joint depths for corresponding surfaces are:-

Metals, glass and other non-porous surfaces	5 mm
Porous surfaces like masonry and concrete	10 mm
For trafficked joints and joints subject to hydraulic pressures	20 mm

Priming Primer shall be applied to a clean and dry surface prior to the installation of backer rod or bond breaking tape. TechnoSeal[®] PS prime is recommended to be applied on porous substrates. For non-porous substrates such as steel or glass TechnoSeal[®] PrimePlus is recommended for optimum adhesion. The primer shall be applied by a brush in a thin coat application and shall be allowed to become tack free prior to the application of the sealant. The joint edges shall be re-primed if the sealant installation is not carried out within 3 hours of application of the primer. For obtaining a clean and neat finish, masking tape shall be applied on both the edges of the joint before applying the primer.

Joint Backing

Sterling TechnoFix[®] Cellrod -Closed cell or reticulated polyethylene backer rod is recommended as joint backing to control sealant depth and to ensure intimate contact of sealant with joint walls when tooling. Where depth of joint will prevent the use of Sterling TechnoFix[®] Cellrod backer rod, Sterling TechnoFix[®]BBT- an adhesive backed polyethylene tape (bond breaker tape) should be used to prevent three-sided adhesion. Ensure that all backing should be dry at time of sealant application. Fix a masking tape on both sides of joint surface to get neat & clean appearance of joints after application of sealant.

Storage

The product should be stored in its original package, in a cool and dry place protected from frost. For short term storage, maximum 3 palettes should be placed on top of each other and the shipment should be made on a 'first come, first go' basis. Palettes should not be placed on top of each other during long term storage. Keep away from any fire hazards or ignition sources

Shelf Life

The shelf life is 12 months from the date of production under suitable storage conditions. Opened packages should be stored under suitable storage conditions and used within 1 week.

Typical Properties after seven days cure at 25°C and 50% RH

Physical State	Part-A & B Paste consistency
Colour	Grey / White
Type of cure	Forced chemical cure
Pot Life, 25°C	1-2 Hrs
Elongation at break	>500%
Type	2 Component
Shore A hardness	20-30 approx.
Application Temp, °C	10°C to 55°C
Initial Cure	40-50 min
Full cure	Up to 7 days in tropical conditions
Service Temperature	-20°C to +70°C
Shore A Hardness	22 ± 3

Health and Safety instructions

It is dangerous to approach the application sites with fire. Fresh air should be circulated in the storage and the application sites. During the application, a protective apparel, protective gloves, goggles and masks which comply with the Occupational Health and Safety Precautions Rules should be used.

Due to the irritation effect of the uncured materials, the mixture should not come into contact with skin and eyes; in case of a contact, the affected area should be washed with plenty of water and soap; in case of swallowing, a physician should be consulted immediately. No food or beverages should be brought to the application area. Store all materials and equipment safely and out of reach of children and animals.

Observe container labels, SDS, applicable laws and regulations and all instructions before using the product and equipment. In case one of the

Mixing & Application

TechnoSeal® PU -2K is supplied in a single pack containing both base and curing agent. The base and hardener 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 color. Mixing can be done manually with Spatula, palette knife or special flat stirrer attached to a low speed electric mixer not more than 300 r.p.m.

DO NOT PART MIX

Since the base and the curing agent ratio controls the ultimate physical properties like adhesion, durability and strength, one complete kit has to be mixed at a time. The side and base of the container shall be periodically scrapped with a scrapper to ensure that the curing agent is properly dispersed and blended into the mix. Load the sealant immediately into the barrel gun by a heavy duty follower plate. Remove the cap and nozzle from the gun and ensure that the plunger is pushed all the way forward. The follower plate shall be placed on the flat surface on top of the pail. Place the barrel gun over the lip of the follower plate and depress the release plate and draw the material into the barrel by pulling back the plunger slowly.

Fix the nozzle and start extruding into the joint firmly by maintaining an even pressure on the trigger of the gun. On vertical joints, sealant extrusion shall start from the bottom of the joint and continued to the top. For deep vertical joints, the sealant shall be filled in 2 to 3 applications in order to avoid air entrapment and sagging. Once the sealant has been installed a suitable rounded tool soaked in a soapy water solution can be used to achieve a smooth hour glass profile. Any masking tape applied should be removed immediately after the sealant is installed.

Clean Up

Excess sealant and smears adjacent to the joint interface can be carefully removed with TechnoFix® CleenzolPlus before the sealant cures. Used tools and equipment must be cleaned carefully with TechnoFix® CleenzolPlus. TechnoSeal® PU -2K, once cured, residual material can only be removed mechanically.

Coverage

$$Q = 1.6 \times L \times W \times D = \text{Volume of material required} \\ 1000$$

(Wastage is not considered) Volume of material required.

Where, L = Length of the joint in linear meter

W = width of the joint in mm

D = depth of the joint in mm

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components comes in contact with the skin, wash thoroughly with soap and water. Provide adequate ventilation in volume and pattern in working area.

Cautions & Important Watch Points

Over-painting of sealants is not recommended because of the inability of paint films to accept movement. However, if definitely required, trials should be carried out to determine compatibility. TechnoSeal® PU -2K should not be used in direct contact with materials containing pitch or bitumen.

Additional information

Techno Builders Solutions® By Sterling Technotrade India Pvt.Ltd -The Specialist Construction Chemicals Company® range of associated products includes high performance concrete Admixtures, Adhesives, Protective Coatings, Concrete Repairs, Industrial Flooring, Grouts & Anchors, Joint Sealants, Surface Treatments, curing compounds, repair mortars, release agents, Grinding Aids & Waterproofing.

*Separate datasheet are available on these products.

DISCLAIMER: The product information & application details given by the company & its agents has been provided in good faith & meant to serve only as a general guideline during usage. Users are advised to carry out tests & take trials to ensure on the suitability of products meeting their requirement prior to full scale usage of our products. Since the correct identification of the problems, quality of other materials used and the on-site workmanship are factors beyond our control, there are no expressed or implied guarantee / warranty as to the results obtained. The company does not assume any liability or consequential damage for unsatisfactory results, arising from the use of our products.

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Please note that this datasheet supersedes all previous versions.