

TechnoSeal® PU 300

One component fast cured polyurethane adhesive Sealant.

Description:

TechnoSeal® PU 300 is a white/grey, fast curing one component moisture-curing polyurethane adhesive sealant which forms a durable, flexible and elastomeric seam on curing. TechnoSeal® PU 300 is designed for movement and connection joints in poured and precast concrete, masonry work, window and door perimeters, and similar types of construction and movement joints. TechnoSeal® PU 300 have excellent adhesion of most of the industrial materials.

Typical applications include

TechnoSeal® PU 300 is used for following applications-

- Sealing of expansion and construction joints as well as joints between different construction materials in high rise buildings, basements, Parking decks and floorings etc.
- Sealing joints in between precast concrete panels.
- Sealing Joints in between tiles, bricks, and marble etc.
- Joining and sealing in the steel construction industry

Note: TechnoSeal® PU 300 is not recommended for use on weak substrates such as the insulating panels used in EIFS, please consult Techno Builders Solutions® Technical Services Department for advice.

Features and Benefits

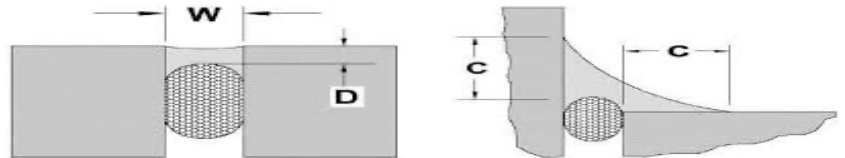
- Ready to use - Single pack, it reduces the failure due to heterogeneity while imperfect mixing.
- Cures by absorption of moisture from air, (no external curing is required) at ambient temperature with humidity.
- Elastic & forms a permanent tough rubber seal.
- Excellent adhesion to concrete, brick work, painted wood, glass, glazed surfaces, aluminum, stainless steel, steel & plastic like polyester & PVC.
- It does not sag or flow down in the joint.
- No staining of cementitious substrates.
- Excellent weather resistance may slightly yellow on long exposure to UV light.
- Accommodates continuous and pronounced cyclic movement and reduces joint failures
- Excellent movement accommodation of $\pm 25\%$ helps maintaining moving joints airtight and watertight
- Meets the requirement of ASTM C 920 class 35.

Application Procedure

Joint Design- For various reasons, different types of joints are provided with width depth ratios in different proportions. Depending on the horizontal or vertical movements, the cured sealant should retain its original shape after the deformation of expansion/contraction. So width depth ratio is very important. TechnoSeal® PU 300 may be used in any vertical or horizontal joint designed in accordance with accepted architectural/engineering practices. Joint width should be 4 times anticipated movement, but not less than 6mm.

Width: Depth Ratio

W = Sealant width, **D** = Sealant depth, **C** = Contact area.



EXPANSION JOINTS - The minimum width and depth of any sealant application should be 6mm x 6mm. The depth (D) of sealant may be equal to the width (W) of joints that are less than 12mm wide. For joints ranging from 13mm to 25mm wide, the sealant depth should be approximately one-half of the joint width.

WINDOW PERIMETERS - For fillet beads, or angle beads around windows and doors, the sealant should exhibit a minimum surface contact area (C) of 6mm onto each substrate.

Surface Preparations:

Surfaces must be sound, clean, and dry. All release agents, existing waterproofing, dust, loose mortar, laitance, paints or other finishes must be removed. This can be accomplished with a thorough wire brushing, grinding or sandblasting, depending on the contamination. If spalled, it should be rectified properly by using TechnoCem™ ERM.

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.

Priming

Where deemed necessary, use TechnoSeal® PrimePlus- PU primer and prime only on two sides of the properly prepared joint surface. Apply by brush and allow it cure for minimum 20 minutes. Apply two coats of TechnoSeal® PrimePlus PU primer at an interval of 30 minutes. After priming is over, TechnoSeal® PU300- Sealant should be filled after minimum 30 minutes and before 90 minutes. If 90 minutes is exceeded a fresh coat of primer should be applied.

Primer

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

Packaging

TechnoSeal® PU 300 is supplied in 600 ml sausage packing.

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.

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 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

- Do not use TechnoSeal® PU 300 on natural stone. Do not use TechnoSeal® PU 300 on bituminous substrates, natural rubber, EPDM rubber or on any building materials which might bleed oils, plasticizers or solvents that could attack the sealant.
- Do not use TechnoSeal® PU 300 to seal joints in and around swimming pools.
- Do not use TechnoSeal® PU 300 for joints under water pressure or for permanent water immersion.

Application

TechnoSeal® PU 300 is easy to apply with conventional caulking equipment. Ensure that the Sterling TechnoFix® Cellrod is friction fitted properly and any primers have been applied. Fill the joint completely with a proper width-to-depth ratio and tool to ensure intimate contact of sealant with joint walls. Apply slightly in excess for tooling & finishing purpose. Dry tooling is always preferred, although TechnoFix® CleenzolPlus – Solvent can be used in limited amounts to slick the spatula if needed.

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 300, once cured, residual material can only be removed mechanically.

Cure Time

TechnoSeal® PU 300 generally cures at a rate of 6 mm depth per day at 32°C. It will skin in 5 hours and be tack free in 30 hours. The cure time will decrease as temperatures and/or humidity increases.

Coverage

$L \times W \times D = \text{Volume of material required}$
1000 (Wastage is not considered)
 $\text{Volume of material required} / 0.6 = \text{Number of cartridges.}$
Where, L = Length of the joint in linear meter,
W = width of the joint in mm and
D = depth of the joint in mm

Typical Properties at 25°C

CHARACTERISTICS	SPECIFIC ACTION	TYPICAL VALUE
Appearance		Homogeneous highly viscous paste
Colour		Grey / White
Density (g/cc)		1.23 ± 0.04
Skinning time, minutes		15 - 20
Tack Free Time, Hrs	ASTM C - 920	30
Service temperature range, C		- 30 to + 80
Slump at 35o angle		Nil
Hardness, Shore A	ASTM C - 920	20 - 25
Staining	ASTM C- 920	No staining
Adhesion & Cohesion under cyclic movement, cm2	ASTM C- 920	less than 5
Movement Accommodation Factor (%)		±25
Modulus at 100% elongation, N/mm2	DIN 53504	0.2
Elongation at break, %	DIN 53504	500 - 600

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- Do not expose uncured TechnoSeal® PU 300 to alcohol containing products as this may interfere with the curing reaction. TechnoSeal® PU 300 can be over-painted with most conventional facade coating paint systems. However, paints must first be tested to ensure compatibility by carrying out preliminary trials (e.g. according to ISO technical paper: Paintability and Paint Compatibility of Sealants). The best overpainting results are obtained when the sealant is allowed to fully cure first.
- Note: non-flexible paint systems may impair the elasticity of the sealant and lead to cracking of the paint film.
- Colour variations may occur due to exposure to chemicals, high temperatures and/or UV-radiation (especially with the colour shade white). However, a change in colour is purely of aesthetic nature and does not adversely influence the technical performance or durability of the product

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.