PRODUCT DATA SHEET

U-SEAL 816 T

Version, Penetron Romania Rev.2

ONE-PART POLYURETHANE LOW MODULUS CONSTRUCTION SEALANT

DESCRIPTION

U-Seal 816 T is a one-component, gun-grade, non-sag polyurethane construction sealant. It cures under the influence of atmospheric moisture to form a high-performance compound with permanent elasticity and resistance to ageing and weathering.

RECOMMENDED FOR

U-Seal 816 T is a versatile and performant construction sealant for:

- Expansion and construction joints in vertical and horizontal applications
- Joints in precast elements
- External walling and cladding joints
- Weatherproofing of joints between brickwork, blockwork, masonry, wood, concrete, metal, window or door frames
- Metal roof and gutter sealing, bridge and balcony parapets
- Joints in water channels and for hydraulic general sealing with contact with water

ADVANTAGES

- Bonds and seals at the same time
- Permanently elastic; accommodates joint movement of ±50%
- Easy to gun with excellent tooling consistency
- Performant adhesion on all construction materials
- Good thixotropy, non-sagging
- Excellent primerless adhesion on all typical construction and industrial materials
- Non-staining on concrete and porous materials
- Good resistance to ageing, weathering and cleansing agents, sea water, lime water
- Over-paintable with many water and solvent based paints (preliminary tests recommended)

TECHNICAL CHARACTERISTICS

Characteristics	Test Result	Test Method
Appearance	Non-sag thixotropic paste	
Chemical nature	Polyurethane	
Color	White, Grey, Black. Other on request	
Curing mechanism	Moisture-curing	
Curing through volume	~2 mm	At 23°C (73,4 °F) and 50% RH for 24h
Shore A hardness	~30	DIN 53505
Density	~1,34 g/cm^3 (83,65lb/ft^3)	At 23 °C (73,4 °F) and RH 50%
Tuck-free time	~120 min	At 23 °C (73,4 °F) and RH 50%
Elastic modulus at 100%	~0,4 N/mm^2	ISO 37 DIN 53504
Tensile strength	~1,5 N/mm^2	ISO 37 DIN 53504
Elongation at break	~750%	ISO 37 DIN 53504
Joint movement capability	±50 % of joint width	ASTM C920
Application temperature	5 to 40 °C (41 to 104 °F)	
Temperature resistance	-40 to 100 °C (-40 to 212 °F)	

Note: All data are average values obtained under laboratory conditions. Impractical use, temperature, humidity and absorption of the substrate may influence the above given values.

DIRECTIONS FOR USE

Surface Preparation: Surfaces must be clean, dry, free of water, oil, grease or rust and of sound quality. Remove all loose particles or residues with a jet of compressed air, sandpaper or hard brush. Glass, metal and other non-porous surfaces must be free of any coatings and wiped clean with solvent. Pre-cast elements, using form-release agents other than polyethylene film, must be sandblasted or mechanically abraded and dust free. Cleaners and/or primers may be required to achieve optimal adhesion. The substrates must be prepared, in accordance with the PENETRON ROMANIA instructions. However, varieties of brick, natural stone, plastics, paints, coatings and other treatments of surfaces often presents a difficult surface to which to adhere. Due to the number of unpredictable natures of these substrates, a preliminary test is recommended. If necessary, apply a coating of primer on the joint walls (U-PRIMER 110 for porous surfaces). Contact PENETRON ROMANIA for further recommendations and guidance, regarding adhesion on specific surfaces.

***For sealing purposes*:** Screw on the plastic nozzle and cut it at an angle, according to the desired bead thickness and profile. Fit the cartridge into a manual or pneumatic air operated gun (provided with telescopic piston) and extrude the U-SEAL 816T carefully, preventing air entrapment. Recommended application temperatures: 15°-25°C (59 – 77 ºF). For easier use or cold weather application we recommend the material to be stored at approximately 25°C (77 ºF) prior to use. In order to guarantee free movement of the sealant in joints, it is imperative that the sealant does not adhere to the bottom of the joint, therefore for correct joint caulking, a closed-cell polyethylene bead (joint backing rod) PENETRON® BACKING ROD of suitable diameter is to be placed at the proper depth. Apply appropriate
primer, if needed, to joint sides and observe the waiting time, to avoid that any trapped solvent can form bubbles in the uncured sealant, due to rising temperatures. Firmly extrude U-SEAL 816T and apply in the joint, making sure that it is in full contact with the sides of the joint and with the backing rod at the bottom. Keep the nozzle in the U-SEAL 816T, continue on with a steady flow of sealant preceding the nozzle to avoid air entrapment. Avoid overlapping of sealant to eliminate entrapment of air.

NOTE: Masking tape should be used, where sharp exact joint lines or exceptionally neat lines are required. Remove the tape while the sealant is still soft.

Finishing indications and limitations: U-SEAL 816T should be tooled to a smooth finish, ensuring a full contact to the sides and back up material into the joint, this will also contribute in breaking the air bubbles, which may be formed inside the sealant.

Coverage 6 linear meters of 1x1 cm joint per 600 mL cartridge.

SPECIAL CONSIDERATIONS

U-SEAL 816T may be painted. However, some coatings may crack if movement occurs, preliminary tests recommended.

Avoid exposure to high levels of chlorine (avoid to seal joints in chlorinated swimming pools).

Avoid contact with alcohol and other solvent cleaners, during cure.

DO NOT apply, when moisture or vapour transmission condition exists from the substrate, as this can cause bubbling within the sealant.

Avoid air entrapment, when applying the sealant.
Ensure adequate exposure to air, as the system cures with air moisture.

Once opened, packs should be used up within a relatively short time.

Clean tools with acetone or alcohol immediately after use. Cured material can only be removed mechanically.

Contact PENETRON ROMANIA for further information, regarding your project.

PACKAGING

U-SEAL 816 T can be purchased in Aluminum cartridges of 310 mL (18,9 in^3) and Alu-PE foil bags of 600 mL (37 in^3) (20 bags per box).

STORAGE / SHELF LIFE

U-Seal 816 can be stored for 12 months in its original packaging (unopened container) at 10°C - 25°C (50 ºF - 77 ºF) in a cool, dry place. The storage temperature should not exceed 25°C (77 ºF) for extended periods of time. Keep away from wet areas, direct sunlight and heat sources.

SAFE HANDLING INFORMATION

Avoid skin and eye contact. If in eye, flush immediately with lots of water and seek medical advice. If skin contact occurs, remove immediately and wash with soap and water. KEEP OUT OF REACH OF CHILDREN. For further information please refer to Safety Data Sheet. Each Safety Data Sheet contains health and safety information for the protection of your employees and your customers.

ONE-PART POLYURETHANE LOW MODULUS CONSTRUCTION SEALANT

CERTIFICATION

Certified according to:
EN 15651-1/4 TYPE F INT/EXT CC/ PW INT/EXT CC

Compliant to:
ISO 11600 Type F Class 25 sub-class LM
ASTM C920 Type S Grade NS Class 50 Use T2, M, A, O, L.
LEED iEQc 4.1; SCAQMD Rule 1168; BAAQMD Reg 8 Rule 51

CE

2538
EN 15651-1
EN 15651-4
NPT srl
Via G.Rossa 2
Loc. Crespellano – 40053 Valsamoggia (BO)
Italy
14
U-SEAL 816T

One component polyurethane

for the application in facades and for pedestrian walkways

Type F EXT-INT CC / PW EXT-INT CC

Conditioning: Method A

Substrate: mortar M1

Pre-treatment with U-Primer 110 (mortar)
Reaction to fire: Class E
Release of chemicals dangerous to the environment and health: NPD

Water tightness and air tightness
a) Resistance to flow: ≤ 3 mm
b) Loss of volume: ≤ 10%
c) Tensile properties at maintained extension after water immersion: Not failure
d) Tensile properties at maintained extension: Not failure
e) Tensile properties at maintained extension at -30°C: Not failure
f) Tensile properties (secant modulus) at 23°C: ≤ 0,4 N/mm^2
g) Tensile properties (secant modulus) at -20°C: ≤ 0,6 N/mm^2
h) Tensile properties (secant modulus) at -30°C: ≤ 0,9 N/mm^2
i) Adhesion/cohesion properties at maintained extension after 28days water immersion: Not failure
j) Adhesion/cohesion properties at maintained extension after 28days salt water immersion: Not failure
k) Tear resistance: Not failure
l) Durability: Pass

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