

# POLYSEAL 1PU

## One part polyurethane joint sealant

POLYSEAL 1PU is a one part low modulus high performance polyurethane sealant, which cures on absorption of atmospheric moisture to form a firm and flexible rubber watertight seal for moderate movement and control joints. POLYSEAL 1PU can be used in both horizontal and vertical applications. The sealant has a Movement Accomodation Factor (MAF) of  $\pm 25\%$ .

### CHARACTERISTICS

- ▶ Highly resilient with excellent recovery characteristics
- ▶ Provides permanent and uniform watertight seal
- ▶ Excellent adhesion to most building substrates. Can be used without the use of primer in new substrates
- ▶ Non-toxic. Can be used in potable water reservoirs and swimming pools
- ▶ Easy to apply, one component sealant. No mixing required
- ▶ Overpainting can be done (Rigid paints may crack)

### FIELDS OF APPLICATION

- ▶ Concrete expansion joints
- ▶ Precast concrete cladding
- ▶ Brick cladding
- ▶ Perimeter caulking (windows, doors, aluminium frames)
- ▶ Expansion and constructions joints in water retaining structures
- ▶ Curtain wall joints
- ▶ Parapet walls

### APPLICATION INSTRUCTIONS

#### 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. When applied on glazed surfaces like ceramic or terrazzo tiles or porcelain enamel joint surfaces, the glaze should be removed by abrading with sandpaper or wire brush.

#### Priming

On new substrates, the sealant can be applied without Primer. However, for old and very porous

substrates apply POLYPRIME PS\*. When applying on aluminium and metal surfaces, ensure the surface is cleaned of all lacquer or protective coatings. Galvanized, copper and stainless steel surfaces shall be primed with POLYPRIME NP\*.

#### Back-Up Material

A bond breaking backing rod (POLYROD)\* shall be inserted into all movement joints to avoid a three sided adhesion. A bond breaking tape may be applied to joints where the depth does not allow the application of the backing rod.

### APPLICATION

POLYSEAL 1PU is available in a ready to use self contained sausage which can be loaded onto a barrel gun. Start extruding the sealant 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. Once the sealant has been installed a suitable rounded tool can be used to achieve a smooth hour glass profile.

**DO NOT USE SOAPY WATER SOLUTION.** Any masking tape applied should be removed immediately after the sealant is installed.

### CLEANING

Remove all excess sealant with a scraper. Any spillage can be cleaned using POLYSOLVENT\*. Clean all tools and equipments using similar solvent immediately after the tooling. Hardened materials can be removed mechanically only.

### LIMITATIONS

POLYSEAL 1PU is not recommended for:

- ▶ Movement joints having MAF  $> 25\%$
- ▶ Damp and contaminated surfaces
- ▶ Asphalt pavements
- ▶ When overpainting check paint compatibility with sealant
- ▶ External application with white / off white colour will result in yellowing on exposure to UV.
- ▶ Joints width  $> 25\text{mm}$

## JOINT DESIGNS

The width of the joint should be a minimum of 4 times the anticipated movement. Joints with cyclic movement should have a width to depth ratio of 2:1 for butt joints and 1:1 for static and lap joints. The joint depth shall not exceed the width.

The joint width and depth should be maintained as recommended:

### Joint Width

- ▶ 6 mm (Minimum)
- ▶ 25 mm (Maximum)

### Joint Depth

- ▶ 6 mm (Minimum)
- ▶ 15 mm (Maximum)

## COVERAGE

Length of joints in meters filled per 600 ml sausage of Polyseal 1PU

Depth [mm]	Width [mm]				
	6	10	15	20	25
6	16.6	10	6.7		
10		6	4	3	
15			2.7	2	1.6
20				1.5	1.2
25					1

# Calculation based on theoretical coverage. Actual material consumption at site will vary depending on the wastage.

## STANDARDS

Polyseal 1PU complies with the requirements of: BS 5212: Part 1

ASTM C 920, Type S, Grade NS, Class 25

Federal Specification TT-S-00230C, Type II, Class A

## STORAGE & SHELF LIFE

Store in a cool, dry place and keep away from all sources of heat and sunlight. In tropical climates, store in air condition rooms. The shelf life is up to 12 months in un-opened conditions and if stored as per recommendations. Excessive exposure to sunlight, humidity and UV will result in the deterioration of the quality of the product and reduce its shelf life.

## HEALTH & SAFETY

As with all construction chemical products caution should be exercised. Adequate ventilation should be provided at the place of work. Refer the product MSDS for full details. Protective clothing such as impervious gloves and goggles should be worn. Treat any splashes to the skin or eyes with fresh water immediately. Should any of the products be accidentally swallowed, do not induce vomiting, but call for medical assistance immediately.

## TECHNICAL SPECIFICATION

PROPERTIES	VALUES
Color	White/Offwhite /Beige (Other colors on request)
Density, [g/cc]	1.3±0.05
Viscosity	Thixotropic paste
Shrinkage, [%]	< 5
Shore 'A' Hardness	20-35
Adhesion to Concrete, [N]	>25
Elongation, [%]	>250
Chemical resistance	pH 2.5 to 11.5, sea water
Skimming time @standard condition [hrs]	24
Curing rate	1 mm per day
Application temp, [°C]	+5 to +45
Service temp, [°C]	-20 to +80

All values given are subject to 5-10% tolerance

## SUPPLY

POLYSEAL 1PU	600 ml (12 sausages/carton)
POLYPRIME PS	1 lt pail
POLYPRIME NP	1 lt pail
POLYSOLVENT	5 lt & 20 lt pails
Ancillaries/Equipments	POLYROD Barrel Gun

\* Refer to website for TDS

Apart from the information given here it is also important to observe the relevant guidelines and regulations of various organisations and trade associations as well as the respective standards. The aforementioned characteristics are based on practical experience and applied testing. Warranted properties and possible uses which go beyond those warranted in this information sheet require our written confirmation. All data given was obtained at an ambient and material temperature of +23°C and 50% relative air humidity unless specified otherwise. Please note that under other climatic conditions hardening can be accelerated or delayed.

The information contained herein, particularly recommendations for the handling and use of our products, is based on our professional experience. As materials and conditions may vary with each intended application, and thus are beyond our sphere of influence, we strongly recommend that in each case sufficient tests are conducted to check the suitability of our products for their intended use. Legal liability cannot be accepted on the basis of the contents of this data sheet or any verbal advice given, unless there is a case of wilful misconduct or gross negligence on our part. This technical data sheet supersedes all previous editions relevant to this product.

Manufactured in G.C.C.

**Henkel Polybit Industries Ltd.**  
P.O. Box 293, Umm Al Quwain, UAE  
Sales Tel: +971 6 7670777, Fax: +971 6 7670197  
Factory Tel: +971 6 7670777, Fax: +971 6 7671669

**Henkel Polybit Industries Ltd.(Branch)**  
P.O. Box 2230, Al Khobar 31952, K.S.A  
Tel: +9663 8894110, Fax: +9663 8995313

Internet: [www.henkelpolybit.com](http://www.henkelpolybit.com) E-mail: [polybit@henkelpolybit.com](mailto:polybit@henkelpolybit.com)



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