

Polyseal CR

2 part chemical resistant polysulphide joint sealant

Chemical, fuel & effluents resistant joint sealant with higher flexibility.

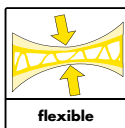


CHARACTERISTICS

- ▶ High resistance against industrial chemicals, hydrocarbon fuels and effluents
- ▶ Highly resilient with excellent recovery characteristics
- ▶ Provides permanent and uniform watertight seal
- ▶ Can be used in submerged conditions. Resists up to 50m Hydrostatic pressure
- ▶ Excellent adhesion to most common building substrates
- ▶ Excellent resistance to fatigue and stays flexible throughout its service life—won't become brittle, caulk or crack due to ultra violet exposure
- ▶ Good resistance to ageing. Retains joint soundness once cured
- ▶ Prevents uncontrolled cracking by allowing expansion and contractions during temperature changes
- ▶ Non-toxic. Can be used in potable water reservoirs and swimming pools



adhesion



flexible



non toxic

DESCRIPTION

Polyseal CR is a two component, chemical resistant polysulphide joint sealant. Polyseal CR is specifically designed to be used as a watertight seal for moderate movement and control joints in areas subjected to industrial chemicals, hydrocarbon fuels and effluents. It is based on a liquid polysulphide polymer which when mixed with the hardener, cures to form a tough, flexible and non staining rubber like seal. Polyseal CR has excellent adhesion to concrete, stone, metals and other common building substrates. The cured sealant has good resistance to deterioration on prolonged exposure to UV. Polyseal CR is available in two different grades. Polyseal CR black is resistant to chemical and sewage effluents. Polyseal CR grey is resistant to hydrocarbon fuels. The sealant has a movement accommodation factor (MAF) of $\pm 25\%$.

FIELDS OF APPLICATION

- Sealing of movement and control joints in:
- chemicals spillage areas & storage tanks
 - fuel spillage areas and storage tanks
 - sea walls & marine structures



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- waste water effluent treatment structures
- bridge decks and highway pavements
- airport runways and apron pavements
- industrial floors

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, grit 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.

Priming

Primer shall be applied to a clean and dry surface prior to the installation of backer rod or bond breaking tape. Polyprime PS* is recommended to be applied on porous substrates. For nonporous substrates such as steel or glass Polyprime NP* 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.

Back-up material

A bond breaking backing rod (Polyrod)* shall be inserted into all movement joints to avoid a three sided adhesion. For static and joints where the depth is not sufficient for the use of the backing rod, a polyethylene bond breaking tape may be applied to prevent three sided adhesion.

MIXING & APPLICATION

Gun grade: Polyseal CR gun grade is available in a ready to mix container, with all the components packed in a single tin

Pouring grade: Polyseal CR pouring grade is supplied in preweighed two parts pack, which requires on site mixing by pouring the hardener (Part B) into the base (part a) pail. Mix the material thoroughly with a slow speed drill (300-400 rpm) fitted with a flat bladed paddle for 1-3 minutes till a uniform colour and consistency is achieved.

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 gun grade sealant immediately into the barrel gun by a heavy duty follower plate. 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. The pouring grade material can be poured directly into the joint from the pail. 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.

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 CR is not recommended for:

- joints greater than 30mm width for gun grade and 50mm width for pouring grade
- overhead joints
- movement joints having MAF >25%
- damp and contaminated surfaces
- asphalt pavements
- over painting (paint compatibility with sealant shall be checked prior to painting)

JOINT DESIGNS

Joints with cyclic movement should have a width to depth ratio of 2:1 for butt joints and 1:1 for floor, 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)
- ▶ 30 mm (maximum)

Joint depth

- ▶ 6 mm
- ▶ 20mm for heavily trafficked floor joints and areas exposed to hydrostatic pressure.

COVERAGE

Length of joints in meters filled per 1 l of Polyseal CR

Depth [mm]	Width [mm]							
	6	10	15	20	25	30	40	50
6	27.5	16.5						
10		10	6.5	5				
15			4.4	3.3	2.6	2.2		
20				2.5	2.0	1.6		
25					1.6	1.3	1	0.8
30						1.1	0.83	0.67

Actual material consumption at site will vary depending on the wastage.

MAINTENANCE

If the sealant is damaged but the bond is intact, cut out the damaged area and recaulk. If the bond has been affected, remove the sealant completely. Clean and prepare the joint in accordance with instructions under "Joint preparation" and recaulk.

STANDARDS

Polyseal CR complies with the requirements of: BS EN ISO 11600:2003 + A1:2011 (formerly BS 4254), BS 5212; part 1 ASTM C 920 [Type M, Grade P & NS, Class 25%, USE T]

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.

DISPOSAL

Mix separate product components in ratio and as supplied in suitable metal containers. Allow the mix to cure completely. Dispose as hazardous waste. It is recommended to use licensed waste disposal contractors and consult the local authority regarding the regulations.

HEALTH & SAFETY

As with all construction chemical products caution should be exercised. Contains manganese dioxide. Which is corrosive and may cause burns to skin if handled without proper protection. Refer the product MSDS for full details. Protective clothing such as 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.

CHEMICAL RESISTANCE

Chemical	Black	Grey
Alcohol, 100%	+	+
Ammonia solution, 10%	+	+
Acetic acid, 10%	0	-
Aviation fuel	+	0
Battery acid	0	-
Brake fluid	+	+
Citric acid, 5%	+	-
Caustic soda, 50%	+	+
Chlorine	+	+
Diesel	+	+
Glycerin	+	+
Hydrochloric acid, 20%	0	-
Kerosene	+	+
Lactic acid, 5%	+	-
Nitric acid, 5%	0	-
Petrol	+	+
Sulphuric acid, 10%	+	-
Vegetable oil	+	+
White spirit	+	+
Toluene	+	+

+ = resistance, 0 = limited resistance,

- = not resistant

SUPPLY

Polyseal CR	
Gun grade	2.5L
Pouring grade	4L
Polyprime PS	1L pail
Polyprime NP	1L pail
Polysolvent	5L & 20L pails
Ancillaries/equipments	Polyrod, barrel gun, follower plate

TECHNICAL SPECIFICATION

PROPERTIES	VALUES	TEST STANDARDS
Color	Grey (black on request)	-
Density, [g/cc], gun grade pouring grade	1.55±0.05 1.30±0.05	ASTM D 1475
Application life, [minutes]	≥90	BS 4254
Shore 'A' Hardness Gun grade Pouring grade	35-50 15-35	ASTM D 2240
UV resistance @300 hours	No deterioration	ASTM G 154
Adhesion to concrete, [N]	>25	BS 4254
Chemical resistance	pH 2.5 to 11.5, Hydrocarbon fuels, aviation fuel, Hydraulic fluid, sea water.	ASTM D 543
Initial cure @standard condition, [hours]	24	-
Full cure @standard condition, [days]	7	-
Application temperature, [°C]	+5 to +40	-
Service temperature, [°C]	-20 to +80	-

All values given are subject to 5-10% tolerance

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 at laboratory conditions 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.



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