

technical data sheet

SEAL 'N' FLEX IMMERSIBLE

Two Component Polyurethane Joint Sealant

PRODUCT

Seal 'N' Flex immersible is a high performance two component, gun grade joint sealant for water retaining structures.

DESCRIPTION

Two component gun grade elastomeric polyurethane joint sealant with high performance for use in submerged conditions where chemical resistant and joint movement is paramount.

RECOMMENDED USES

- Suitable for use in joints subject to total immersion such as sewage plants, water treatment plants and marine installations
- Sealing constructions expansion joints.
- For horizontal and vertical applications.
- Sealing gaps between faced and cladding panels to various building materials (horizontal applications).
- Sealing expansion, control and perimeter joints in parking pavements, driveways and factory floor.

FEATURES & BENEFITS

- Resistant to bacteriological attack.
- Abrasion resistant
- Excellent resistance to sewage and sea water
- Excellent adhesion to primed substrates
- High movement accommodation factor
- Paintable
- Australian made
- Excellent resistance to weathering
- Chemical cure provided faster cure in wide joints.
- Potable water approval to AS 4020

PERFORMANCE PROPERTIES

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

Appearance	Gun grade uniform thixotropic paste
Stain & Colour Changes	None
Chemical Type	Two component polyurethane
Chemical Resistance	Excellent
Shore A Hardness	36 Approx
Tensile Strength (Elongation Modulus 100%)	103 N/ cm ²
Service Temperature	-40°C to 70°C
Application Temperature	+5°C to +35°C
Tool Working Time	Approx. 120 min at 20°C
Max. Joint Movement	±25% (Total 50%)
Max. Joint Width	50mm
Elongation Modulus at (100%)	131 N/cm ²
Adhesion to Peel	126 N/cm ²
Colour	Grey
Full Cure	7 days at 25°C
Chemical Resistance	Resistant to dilute acids and alkalis, and some solvents.
Conforms to AS 1527, ASTM D412, ASTM C719, ASTM C793, ASTM D2240, ASTM D 4124, AS 4020	

PACKAGING

Seal 'N' Flex Immersible is available in 6 litre kit

COVERAGE

The approximate linear metre sealant consumption per 6 litre unit can be estimated from the following recommended joint depth/width ratio table. (Metal container containing Part A and Part B)

Joint Depth (mm)	Joint Width (mm)						
	6	10	12	15	20	25	30
6	166	100	83				
10		60	50	40	30		
12			42	33	25	20	
15				26	20	16	14

Calculation formula $\frac{W \times D \times L}{1000} = \text{Litres}$

W = Width(mm) D = Depth(mm) L = Length(metres)

APPLICATION INSTRUCTIONS

Joint width should be wide enough to accommodate expansion/contraction requirements. The joint depth must allow a sealant depth, after installation of bond breaker/backing rod material, of a minimum of 6mm. Lap shear joints should have a bead width equal to, or greater than twice the anticipated movement. A conservative design practice, which uses a portion of the sealant's movement capability as a safety factor is recommended. Sealants are subject to cohesive failure when the actual movement is greater than their rated capability. For all applications requiring a high degree of dynamic movement the designed joint width should be at least four times the total anticipated joint movement.

JOINT PREPARATION

Ensure that joint dimensions are as specified and that anticipated joint movement is within the capability of the movement accommodation Factor of Seal 'N' Flex Immersible. Concrete should have been allowed to cure at least 28 days.

Remove all dirt, dust, laitence and loose materials by vigorous wire brushing. Remove all rust scale and protective coating from metal surfaces and clean off any oil or grease using Bostik Solvent cleaner 9907. Joint faces must be sound, flat and free of surface irregularities and completely dry, clean and frost free. Any joint faces which do not meet these requirements may require forming of a fresh joint surface by saw cutting or refacing with a suitable epoxy or cementitious mortar. For a particularly neat finish, cover the face edges of the joint with masking tape before priming. Prime joint as detailed below, inserting bond breaker or Bostik Backer Rod material when appropriate. This prevents undesirable three sided adhesion.

PRIMING

Primer must be used with Bostik Seal 'N' Flex Immersible. Bostik N49 primer for masonry or porous substrates such as masonry or Bostik Moisture Seal for damp substrates. Bostik N40 for aluminium, steel and non porous building materials. Joints must be thoroughly dry before applying primer and sealant. If sealant is to be applied to a material with specially treated surfaces or particularly unusual surface characteristics, consult Bostik for primer recommendations.

Prior to any use, however it is always recommended that a bead of sealant be applied on the surface to test adhesion. See Pretested Adhesion to Substrate Program. Allow Bostik N40 and N49 Primers a minimum of 30 minutes to dry prior to the application of sealant. Primed areas not sealed within 8 hours should be re-prepared and re-primed.

MIXING

To facilitate proper mixing in cold water, it is recommended that Seal 'N' Flex Immersible be stored for at least 12 hours at approximately 20°C prior to mixing. Thorough even mixing is essential to ensure proper cure. Mix only entire units to ensure correct proportions. During mixing ensure entire contents are fully mixed. Paying particular attention to the sides and bottom of the tin. Avoid air entrapment caused by fringing the blade too close to the surface. Remove part B sachet and gloves from plastic bag covering Part A component inside can. After putting on gloves the plastic bag can be easily removed by pinching the bottom of the bag and turning it inside out. Hold part B sachet upright and cut off a corner with scissors. Empty all contents into the centre of the Part A component. This is best achieved by squeezing out the majority of the Part B by hand. Then fold the sachet leaving the cut section at the top free to allow the remaining contents to be forced out by trapping the bottom of the sachet between the hand and edge of the can. Pull the sachet through under firm pressure by the hand to force the remaining contents into the can. Using a low speed drill (300-500rpm) fitted with a flat, horizontal bladed mixing paddle (Bostik item No: 149802) mix the contents for 5 minutes whilst holding the tin firmly and paying particular attention to the sides and bottom of the can. Scrape the sides of the can during mixing to avoid leaving unmixed part A on the sides of the can. Avoid mixing air into the sealant by not fringing the paddle blade too close to the surface. Do not overmix or undermix, time the mixing procedure accurately. Avoiding mixing air into sealant. DO NOT OVER MIX.

PLACING

Loading Barrel Caulking-Gun (after mixing)

Ensure that the surface of the sealant is reasonably concave to prevent air pockets. Place the Bostik Follower Plate (item no. 150878) on top of the sealant in the tin and load by direct filling of a Bostik Bulk Barrel Gun (item no. 186376)

Install backer rod into the joints. Apply Seal 'N' Flex Immersible sealant in continuous operation using a positive pressure adequate to properly fill and seal the joint. Tool Seal 'N' Flex Immersible sealant with adequate pressure to spread the sealant against the back-up material onto the joint surfaces. A tool with a convex profile is recommended to keep the sealant within the joint.

Excess sealant should be dry-wiped from all surfaces while still uncured, following with Bostik solvent (cleaner 9907). Cured excess

sealant can be removed by abrasive or mechanical means.

CURED SEALANT IS USUALLY VERY DIFFICULT TO REMOVE WITHOUT ALTERING OR DAMAGING THE SURFACE TO WHICH THE SEALANT HAS BEEN INCORRECTLY APPLIED.

On completion of application of Seal 'N' Flex Immersible in joint, remove masking tape before initial set, generally as soon as possible after final tooling.

PRECAUTION

- May be used for joints subject to occasional Immersion provided Seal 'N' Flex Immersible has achieved full cure (7days at 20°C) prior to immersion.
- Bostik priming is recommended on all surfaces prior to application of Seal 'N' Flex Immersible. (Refer to primer selection chart)
- Do not apply Seal 'N' Flex Immersible to any material containing bitumen. Do not allow bitumen to contact Seal 'N' Flex Immersible
- On marble/natural stone or surfaces with special protective or cosmetic coating without prior testing or consultation with Bostik Technical Services, as priming requirements may cause staining.
- In totally confined or air free spaces.
- Cure rate of sealant will be inhibited when air or substrate surface temperature is below 5°C
- Bostik Seal 'N' Flex Immersible sealant should not be applied with wet tooling techniques; using solvents, water or detergent/soap solutions is not recommended.
- Bostik Seal 'N' Flex Immersible sealant should not be applied to surfaces with special protective or cosmetic coatings without prior consultation with the manufacturer. Such surfaces include, but are not limited to, mirrors, reflective glass, or surfaces coated with Teflon polyurethane or polypropylene.
- Bostik Seal 'N' Flex Immersible cures by chemical means. The activator system used can be affected by water before or during cure. The sealant should not be stored, applied or cure in areas where unusually high humidity or free water are present during the application or initial cure.
- Bostik Seal 'N' Flex Immersible sealant should not be used in highly chlorinated areas such as swimming pools, spas etc. without prior consultation with Bostik Technical Services.
- Bostik Seal 'N' Flex Immersible sealant should be allowed to fully cure prior to subjecting to an intermittent or continuous head of water.
- For moist/damp substrates Bostik Moisture Seal should be used prior to application of Seal 'N' Flex Immersible.

PAINTABILITY

Bostik Seal 'N' Flex can be painted after fully curing by most conventional coating systems including epoxy resins. Coatings containing high solvent contents such as gloss enamels or high oil based undercoats may cause the surface of the sealant to react creating a tacky surface to develop. A field test is recommended to ensure compatibility. To obtain best appearance and performance the paint must approximate the elongation capabilities of the sealant. Thin or watered down coatings will surface craze very quickly upon sealants movement. High build coatings with some elastomeric ability such as quality acrylic emulsions have the capability to absorb low movement without significant distortion of the paint film. Please contact Bostik Findley Technical Department if unsure of any paint system.

P.A.T.S (Pretested Adhesion To Substrate) Programme

Bostik offer a service in which a program has been established to eliminate potential field problems by pre-testing Bostik adhesives with samples of building materials to which the adhesive will be applied. This service is available on large projects where pre-application testing will aid in determining the proper surface preparation method to achieve optimum adhesion. Consult a Bostik representative for further information.

HEALTH AND SAFETY

- On contact, uncured sealant causes irritation. Gloves and protective goggles must be worn during application and use.
- Avoid contact with skin, eyes and avoid breathing in vapour.
- Wear protective gloves when mixing or using
- If poisoning occurs, contact a doctor or Poisons Information Centre.
- If swallowed, do not induce vomiting. Give a glass of water.
- If skin contact occurs, remove contaminated clothing and wash skin thoroughly for a minimum of 15 minutes and see a doctor.
- For more detailed information refer to Material Safety Data Sheet.

CLEAN-UP

Clean up uncured material and equipment immediately after using Bostik 9907 solvent. Do not use solvents on skin. For removal on skin, uncured sealant can be removed with Bostik Handi-Clean Towels. Cured Seal 'N' Flex Immersible is difficult to remove via chemical means and mechanical means may be necessary.

STORAGE

Store between 5°C and 30°C. Shelf life is twelve months in original unopened container.

FIRE

Seal 'N' Flex Immersible is non flammable

ITEM NO	STOCK SIZE	COLOUR
BOSTIK SEAL'N'FLEX IMMERSIBLE		
214450	6 litre kit Gun Grade	Grey
BOSTIK N40 PRIMER		
231436	Bostik 40 Primer 1L	Clear
BOSTIK N49 PRIMER		
151203	Bostik N49 Primer 1L	Clear
159565	Bostik N49 Primer 4L	Clear
BOSTIK BOND FLEX PRIMER		
229504	Bostik Bond Flex Primer 500ml	Clear
BOSTIK 5077 CLEANER		
227935	Bostik 5077 Cleaner 1L	Clear
MOISTURE SEAL		
263362	8 litre kit (10.25 kgs)	Grey
263370	20 litre kit (25.6 kgs)	Grey
HANDI-CLEAN TOWELS		
257753	72 Towels per pack/6 packs per carton	
MIXING PADDLE		
149802	Mixing Paddle	
FOLLOWER PLATE		
150878	Follower Plate for 6 litre tin	
37cm BARREL GUN		
222143	37cm Dispensing Gun	

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The representations and recommendations regarding the products are based on tests which we believe to be reliable. However, no guarantee of their accuracy can be made because of the great range of field conditions and variations encountered in raw materials, manufacturing equipment and methods. Thus, the products are sold with a limited warranty only, and on the condition that purchasers will make their own tests to determine the suitability of the product for their particular purposes. Under no circumstances will Bostik Findley Australia be liable to anyone except for replacement of the products or refund of the purchase price.

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