



Seal 'N' Flex[®] One Plus P590

LOW MODULUS POLYURETHANE JOINT SEALANT

TECHNICAL SHEET 13/07/2023

SMART ADVANTAGES

- Low modulus
- +100%/-50% joint movement
- Extremely elastic, > 1000% elongation at break
- Bubble-free curing
- Applicable on damp or moist substrates
- Unaffected by tooling method
- Hazard label free
- Sag free, easy tooling
- UV Resistant
- Paintable*
- Made in Australia

DESCRIPTION

Bostik Seal 'N' Flex[®] One Plus P590 is a low modulus, universal New Generation (Flex-IQ) polyurethane sealant for construction and expansion joints. When cured it will form a tough, bubble-free, and flexible seal capable of cyclic expansion and compression movement of +100%/-50%.

USES

- Insitu concrete and render
- Precast and tilt up panels
- Aluminium composite materials*
- Brickwork and block work
- Metal cladding*
- Plasterboard face and paper lined recessed edges
- Fibre cement sheet
- Aluminium windows*
- Granite, sandstone, and marble
- GRC, fiberglass and mostly specialty panel systems

*Must conduct P.A.T.S. (Pre-tested Adhesion to Substrate)

CLASSIFICATION STANDARDS

- ASTM C920
- ASTM C1248
- ISO 11600



- F-EXT-INT-CC 25LM : EN 15651-1
- PW-EXT-INT-CC 25LM : EN 15651-4
- AS/NZS 4020:2018 Potable water
- Singapore Green Building Council (SGBC)

PRODUCT CHARACTERISTICS

Appearance	7 colours available
Viscosity	Non-sag, smooth thixotropic past
Cure method	Moisture curing
Coverage	Refer to table
Application temperature	5 to 40°C
VOC	2.8g/L

TYPICAL PERFORMANCE DATA

Temperature resistance	-30 to 80°C
Skin time	90 mins
Cure rate	2.5-3mm/24 hours
Full cure	7 days on porous substrates. Allow > 14 days in joints over 20mm wide in standard conditions

Specific gravity	1.30 g/ml
Shore A hardness	20-25 (DIN 53505) 27-28 (ASTM C661)
Tensile strength	> 1.0 N/mm ²
Elongation at break	At least 1,000%
Total joint movement	+ 100% / -50%
Maximum joint width	Up to 80mm

USING SEAL 'N' FLEX® ONE P590

TOOLS

Bostik Seal 'N' Flex® One Plus P590 should be dispensed from either the cartridge or sausage by means of a caulking gun.

PREPARATION

1. Application temperature + 5°C to + 40°C (applies to environment and substrates)
2. Clean and dry all surfaces by removing foreign matter and contaminants such as laitance oil, dust, grease, frost, water, dirt, old sealants, curing agents and any protective coating.
3. Dust and loose particles should be vacuum cleaned.

PRIMING

Bostik Seal 'N' Flex® One Plus P590 adheres without the use of a primer to standard concrete or mortar, and bare aluminium*. Always conduct P.A.T.S. (Pre-tested Adhesion to Substrate) prior to application.

**Aluminium coated panel has a protective coating (wax or plastic) on the surface of composite or cladding panels; always check the compatibility of sealants beforehand.*

IMPORTANT: For optimum adhesion and in areas of critical, high-performance applications such as high stress joints, extreme weather exposure, or surfaces that are too porous, the use of substrate primer is required.

Porous Substrates:

1. Absorbent or porous substrates will allow a bead of water to easily soak into and wet out the surface of the substrate.
2. For maximum performance on porous surfaces and in all periodically immersed and submerged applications, use **Bostik N49 Primer** (refer to the **Bostik N49 Primer** Technical Data Sheet).
3. Porous substrates not subject to immersion or ponded water e.g., vertical expansion joints in concrete or masonry structures does not require priming if clean, dry, and uncontaminated.

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Non-Porous Substrates:

1. Non-absorbent substrates will cause a bead of water to be retained on the surface of the substrate as a raised droplet. The droplet does not easily soak into the surface of the substrate.
2. **Bostik N40 Primer** is recommended for non-porous plastic and metal substrates e.g., u-PVC outlets and pipe work, brass, copper fittings, stainless steel trays and flashings (refer to the **Bostik N40 Primer** Technical Data Sheet).
3. Prime all plastics and metallic non-porous substrates with **Bostik N40 Primer** using the two-cloth method described in the **Bostik N40 Primer** Technical Data Sheet.

APPLICATION

Cartridge Application:

1. Pierce the membrane at the top of the cartridge and screw on the nozzle.
2. Cut the nozzle to give the required angle and bead size.
3. Place the cartridge in a caulking gun and squeeze the trigger.

Sausage Application:

1. Clip the end of the sausage and place in a barrel gun.
2. Screw the end cap and nozzle onto the barrel gun.
3. Use the trigger to extrude the sealant. To stop; depress the catch plate.

Apply Bostik Seal 'N' Flex® One Plus P590 in a continuous operation using enough pressure to properly fill the joint. Tool off the surface of the sealant with an appropriately sized spatula or trowel. Apply sufficient pressure to leave a smooth, consistent surface and ensure maximum contact with the interface of the joint

JOINT SEALING

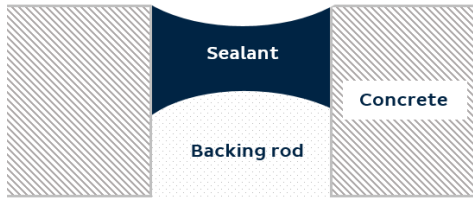
A joint with the correct dimensions can absorb movements between building materials. Always use a backing rod for correct sealant geometry and contact with the substrate.

- Prime after the installation of backing rod
- Ensure maximum adhesion to the bond face
- Minimum allowable joint depth is 5mm
- Maximum allowable joint width is 80mm
- Tool sealant to achieve concave shape

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Width	Depth
Min. 5mm to 10mm	1:1 ratio A 10mm width will require a 10mm depth
> 10mm, up to 80mm	$\text{Depth} = \frac{\text{width (mm)}}{3} + 6$ A 16mm joint width will require a 12mm depth $\text{Depth} = \frac{16}{3} + 6 = 12\text{mm}$

COVERAGE

The estimated lineal metre yield per pack size is recommended in the following table. No allowance has been made for waste or irregular joint geometry.

Joint Size (DxW)	5 x 5 mm	10 x 10 mm	10 x 20 mm	25 x 50 mm
300ml cartridge	12	3	1.5	0.24
600ml sausage	24	6	3	0.48

PRE-TESTED ADHESION TO SUBSTRATE (P.A.T.S.)

Bostik offers a service to eliminate potential field problems by pre-testing Bostik sealants with building materials to which the sealant 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 Bostik Technical Department for further information.

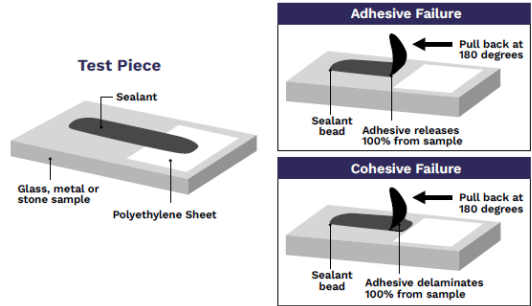
IN-HOUSE P.A.T.S. PROCEDURE

A simple bonding test can be done on a flat test surface e.g., concrete, aluminium etc. A test piece like that shown is recommended.

- Clean the surface following the project-specific recommendations.
- Place a piece of polyethylene sheet or bond breaker tape across the flat test surface.

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- Apply a bead of sealant and tool it to form a strip approximately 200mm long, 25mm wide and 3mm thick. At least 50mm of the sealant should be applied over the polyethylene sheet or bond breaker tape.
- After cure of the sealant, pull the sealant perpendicular to the substrate until failure. Record the mode of failure of the test sealant.



CLEANING

The use of protective goggles, barrier creams and ointments, gloves and protective clothing is recommended. Cured material can be removed by mechanical means only. Clean off uncured material and equipment immediately after use using **Bostik Handy Wipe** towels to remove adhesive from skin.

PAINTABILITY

Bostik **Seal 'N' Flex® One Plus P590** can be painted after a minimum of 7 days. Coatings containing solvents such as enamels, oil based, or other coatings may cause the surface of the sealant to react creating a tacky surface.

Surface coatings may discolour in direct contact with cured **Seal 'N' Flex® One Plus P590**. Surface coatings may crack and craze because of cyclical movement of supporting sealant joint. A field test is recommended to ensure compatibility of any coating with **Seal 'N' Flex® One Plus P590**.

LIMITATIONS

Not recommended for:

- Use in chlorinated water such as swimming pools, spas, etc.
- PE, PP, PC, PMMA, PTFE, soft plastics, neoprene, and bituminous substrates
- Constantly immersed salt water
- Use for glazing applications

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- Application to cement based substrates within 28 days of initial pour or set
- Use in trafficable joints
- Applied in temperatures below 5°C or above 40°C
- Exposure to water and/or alcohol before it has completely cured
- Applied to joints less than 5mm in width and depth
- Applied on joints larger than 80mm

Seal 'N' Flex® One Plus P590 WHITE may yellow on the surface if exposed to strong natural or artificial UV light for prolonged periods of time.

As all substrates and conditions are different, it is strongly recommended that the applicator, or end user conducts their own tests and ensure the product meets their own end use requirements

STORAGE & SHELF LIFE

Store in cool (between 5°C to 25°C) dry, well-ventilated area out of direct sunlight. Shelf life is **15 months** from production date in original unopened packaging and correct storage conditions.

Empty cartridges and foils may be disposed via local landfill. If spilt, absorb with clay, sand or earth. Collect and seal in properly labeled metal container. Dispose of according to local authority regulations. Do not dispose of down drains or into local waterways.

HEALTH & SAFETY

Fire: If material is involved in a fire use water fog (or if unavailable fine water spray), alcohol resistant foam, standard foam, dry agent (carbon dioxide, dry chemical powder).

Spills and leaks: Clear area of all unprotected personnel. Slippery when spilt. Wear protective equipment. Absorb with sand or soil. Collect and seal in properly labeled drums. Dispose of contents/container in accordance with local, regional, national, and international regulations.

If poisoning occurs, contact Poisons Information Centre.

FIRST AID

Swallowed: Do not induce vomiting, give a glass of water, and seek medical advice.

Skin: If skin contact occurs, remove contaminated clothing and wash skin thoroughly. If irritation occurs, seek medical advice

Inhaled: Remove from contaminated area. Apply artificial respiration if not breathing. Seek medical advice.

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Eyes: Hold eyes open and flood with water for at least 15 minutes and see doctor.

For emergency information contact the Poisons Information Centre, phone 131 126 or the Emergency Response Service, phone 1800 033 111.

PRODUCT CODES

White	30619347	300ml
Grey	30619339	300ml
Black	30619336	300ml
White	30619348	600ml
Grey	30619340	600ml
Black	30619337	600ml
Off White	30619342	600ml
Epping Grey	30619338	600ml
Limestone	30619341	600ml
Sandstone	30619346	600ml

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