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SUPERSTOP® 47B

HYDROPHILIC BUTYL WATERSTOP SEAL

PRODUCT DESCRIPTION

Superstop® 47B Hydrophilic Butyl Waterstop Seal is a unique sealing compound which expands in a controlled fashion when exposed to moisture, forming a compression seal in concrete joints. Superstop® 47B is ideal for use in horizontal and vertical construction joints for cast in-situ concrete structures.

Superstop® 47B is manufactured utilising a specialised mixing process which encapsulates hydrophilic materials into a Butyl base creating a controlled, moisture-activated seal. The product has the structural integrity and the long term durability features of Butyl, as well as the ability to expand to create a SELF-HEALING JOINT WATERSTOP SEAL.

Unlike many of the traditional clay-based products, Superstop® 47B being hydrophilic polymer based, will not expand to a point that the hydration process itself leads to the possible “disintegration” of the waterstop due to its expansion control system. This is an important issue when the engineers are looking for a seal in vertical construction joints where the joint can open due to excessive shrinkage in the concrete. In-field experience has proven that products which continually expand, may lose their structural intergrity and begin to wash away from the joint when subject to a constant flow of water or from high water pressure.

Superstop® 47B does not expand prematurely from the wet weather due to its unique expansion control system which also means it doesn’t expand from the water in the fresh concrete when poured against it, which helps minimize any pre-expansion if the joint becomes ponded with water. Superstop® 47B is very unique in that it can be installed by embedding it into wet concrete of the first pour as the concrete upon drying bonds very well to the Butyl Seal.

Superstop® 47B has been tested to withstand a 60 metre (6.0 Bar) head of water pressure in potable and salt water conditions.

Due to its Butyl properties, it bonds to both concrete surfaces (1st and 2nd pour) creating a gasket seal first, when used in conjunction with CJ-100 Adhesive. The wet concrete from the 2nd pour bonds tenaciously to Superstop® 47B.

Superstop® 47B complies to NSF/ANSI Standard 61 Drinking Water System Components Health Effects, ensuring Superstop® 47B is safe for use in drinking water applications. Therefore, it is suitable to use in various potable water retaining structures like water tanks, swimming pools and reservoirs.

Total Days of Exposure
in Potable Water

0-4 days - very minimal expansion
due to expansion control system

7 Days 118% expansion
14 Days 131% expansion
28 Days 142% expansion
56 Days 177% expansion

*Note : 100% indicates original size

ADVANTAGES

- Conforms easily for installation onto rough or smooth concrete surfaces.
- Excellent adhesion to concrete with CJ-100 Adhesive.
- Allows concrete to gain strength before expansion due to built-in expansion control system.
- For use in horizontal and vertical construction joints.
- Long term durability & integrity.
- Can be bedded into the wet concrete of the first pour for installation.
- No compaction or displacement problems.
- Unaffected by repeated wet and dry cycles.
- Has the ability to bond to both concrete surfaces.
- No on-site welding required.
- Can withstand 60 metre (6.0 Bar) of hydrostatic head pressure.
- Ability to handle long-term exposure to the environment prior to the 2nd pour taking place.
- Non toxic and requires no special handling.
- NSF Certified for use in potable water applications.
- Very easy to handle and install.

PACKAGING & DIMENSIONS

- Superstop® 47B - 20mm x 15mm x 7.5m per roll (8 rolls per carton = 60 metres per carton)
- CJ 100 Adhesive - 1 litre & 3.6 litres per tin
  Note : Coverage Approximately 20 - 30 metres per 1 litre

AREAS OF APPLICATION

Water Retaining Structures
- Water tanks
- Reservoirs
- Dams
- Spillways
- Sewage treatment plants
- Water treatment plants
- Swimming pools
- Box culverts
- Bund walls

Water Excluding Structures
- Basements
- Underground structures
- Tunnels
- Subways
- Retaining walls
- Pits
- Manholes

Others
- New to old concrete
- Underground structures
- Poured in-situ construction joints
- Roof slabs
- Suspended slabs
- Above & below grade precast panels (check with Concrete Jointing Systems & your Engineer)

Note : Areas of application should be verified and approved by the Consulting Engineer who is satisfied with the suitability of the product for its intended use.

PHYSICAL PROPERTIES

DESCRIPTION	TEST METHOD	RESULT
Base Material		Butyl
Colour		Black
Size (mm)		25 x 19
Specific Gravity	ASTM D-71	1.40/1.45
Hydrocarbon Content (%)	ASTM D-297	47 min.
Volatile Matter (%)	ASTM D-6	1 max.
Penetration, cone @ 77F, 150gm, 5 sec	ASTM D-217	40 ±5
Hydrostatic Head Pressure Resistance		Tested to 60 metre (6.0 Bar)
Application Temperature (°C)		-23 to +52
Service Temperature Range (°C)		-34 to +82

Note : The above Physical Property results are obtained from our internal Certificate of Analysis (COA) testing from a specific batch. Material properties can vary between batches.

INSTALLATION PROCEDURES

Superstop® 47B requires a minimum 50mm cover of concrete from the outside edge.

1. Brush off any dust or debris from the surface where the Superstop® 47B is to be applied. Brush a coat of CJ-100 Adhesive 30mm wide onto the concrete surface and one coat to the surface of the Superstop® 47B.

2. Once both surfaces where the adhesive was applied are touch dry, with the use of your thumbs or heel of your hand, firmly press a continuous bead of Superstop® 47B into position, making sure you achieve full contact with the adhesive on the concrete surface. Do not stretch the Superstop® 47B when applying it into position.

3. Use a neat, firm butt join to join Superstop® 47B together and then knead the ends together to form a continuous uninterrupted gasket. This type of join is used for continuous placement of Superstop® 47B and for any intersection joins.

4. Check to see that the Superstop® 47B has totally adhered to the concrete surface. If the surface is rough or irregular, you may need to use a firmer hand pressure to make sure that the Superstop® 47B has full contact with the surface. There must be no visible gaps under the Superstop® 47B after installation.

5. The protective paper layer cover on the Superstop® 47B can be removed anytime prior to the second pour of concrete taking place.

6. Placement of the second pour of concrete can be applied once the CJ-100 Adhesive has dried. Upon pouring, make sure the concrete is properly compacted and vibrated around the Superstop® 47B.

7. If the Superstop® 47B has been exposed to water (moisture) prior to the second pour taking place, check for pre-expansion. If the product has pre-expanded then remove that section and replace with a new length of Superstop® 47B.

8. For vertical construction joints and overhead applications, it may be necessary to also secure the Superstop® 47B with nails, placed approximately every 250mm apart. This is usually only required as extra security if you need to pour your concrete prior to the CJ-100 Adhesive drying completely.

9. If the Superstop® 47B is going to be exposed to moisture or submerged in water longer than 5-7 days, then a coating of CJ-100 Expansion Delay Coating may need to be applied to all exposed areas. Consult CONCRETE JOINTING SYSTEMS for further advice.

STEP 1 :

Superstop® 47B is to be adhered to the 1st pour of concrete with CJ-100 Adhesive. A clean, dry surface free from dust, debris, etc, is required. Apply one application of adhesive onto the concrete surface and one application anto one side of the Superstop® 47B

STEP 2 :

Once both surfaces are touch dry, lay the Superstop® 47B into position and push firmly down with your fingers. If the surface is rough then you may need to use a firmer hand pressure to make sure that the product has full contact with the surface of the concrete.

TEST REPORTS - INDEPENDENT LABORATORY

- Exposure & Water Immersion Expansion in Potable Water
- Exposure & Hydrostatic Head Pressure (cyclic wet & dry) in Potable Water
- Water Immersion Expansion in Salt Water (5% NaCl)
- Hydrostatic Head Pressure in Salt Water (5% NaCl)
- National Sanitation Foundation (NSF) Certification for Potable Water Use

Note : The above test reports are available upon request.

NSF
Certified to NSF / ANSI 61
Safe for Drinking Water

WRITTEN SPECIFICATION

Waterstops where shown on the drawings shall be Superstop® 47B controlled expansion waterstop as supplied by CONCRETE JOINTING SYSTEMS. The waterstop is to have a built-in expansion control system to minimise any pre-expansion prior to the second pour taking place and be able to withstand up to 60 metres (6.0 Bar) hydrostatic head pressure resistance. The waterstop is to be placed in accordance with the manufacturer's installation guidelines, and the design engineers specification. sales@safarigroup.com.au

NOTES

Due to expansive forces, Superstop® 47B should be both detailed and installed with a minimum 50mm clear cover to the face of the concrete. Expansion rate can vary in salt and contaminated water. Increase cover when using light weight, low strength concrete. Not for use where excessive shrinkage of the concrete may occur at the joint faces. Do not stretch the Superstop® 47B during installation. Not for use in move-

HEALTH AND SAFETY INFORMATION

For further information or advice on health and safety precautions, safe handling, storage and correct disposal of products, please refer to the most recent product Material Safety Data Sheet (MSDS), which is available upon request. In confined spaces or in still air conditions, the use of a ventilation fan or suitable respirator should be used, and the advice and approval of the Site Safety Supervisor is essential.

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Safari Group
75 Tacoma Circuit, Canning Vale 6155
PO BOX 1198 Canning Vale 6970
Ph: (08) 9455 1144
Fax: (08) 9455 2399
sales@safarigroup.com.au