Supercast SW20

constructive solutions

Swellable waterstop for in-situ concrete

Use

Integral sealing for construction joints cast in-situ where conventional waterstops are impractical to use because of limited access. Convenient and problem solving in situations where a conventional waterstop would require complex shuttering.

Typical uses include secant piled and diaphragm walled basements, pile caps and casting against old concrete. Supercast SW20 can provide simple solutions to detailing pipe entries, construction joints in the vertical plane and to kicker joints. Can be linked to Supercast PVC waterstops to give an effective combination of waterstops which maintain network continuity.

Advantages

- Easy to install by bonding, nailing and casting into joint faces
- Factory-made connectors enable full integration of Supercast SW20 and Supercast PVC networks
- Solve detailing problems in conjunction with Supercast PVC range
- Swelling properties unaffected by long term wet/dry cycling.
- Tolerant of salts in concrete and groundwater
- Sustains effective seal in wet conditions

Standards compliance

Suitable for use in contact with potable water – Water Byelaws Scheme Approved Product: Listing No.9312507.

Description

The Supercast SW20 is a swellable waterstop which can be installed and positively linked into conventional Supercast PVC waterstop networks. This allows the use of Supercast PVC for expansion joints and Supercast SW20 for construction joints all the time maintaining an integrated network. The Supercast SW20 is made from high performance synthetic elastomeric strips.

The swelling action is the result of contact between water and hydrophilic groups which are part of the Supercast SW20 'Basic Polymer' molecular structure. The hydrophilic groups are not subject to extraction or loss of swelling performance by prolonged or repeated wetting. This is a unique feature of the basic polymer. Expansion of the waterstop creates a positive pressure against the face of t he concrete joint, thus preventing water passing through the protected joint.

Design criteria

Supercast SW20 should be used to prevent the passage of water through non-movement joints in both new in-situ concrete and between new and existing concrete. Supercast SW20 increases in volume in the range of up to 300% and gives a resistance to hydraulic heads of up to 100 metres. Swelling of Supercast SW20 in fresh concrete is minimal and most of the volume swell takes place after the initial setting of the concrete has taken place. Supercast SW20 is suitable for application between existing and newly placed concrete where there is little or no steel continuity and therefore some small movement may occur. Supercast SW20 waterstops should be positioned to ensure that a minimum of 70 mm cover of concrete is present to accommodate pressure developed during the swelling process.

Properties

Form:	Rectangular section elastomeric strips
Nominal size:	10mm. X 20mm.
Solid Contents:	100%
Hardness Shore 'A':	45
Unrestrained Volumetric Expansion Ratio:	Up to 300%
Service Temperature Range:	-30°C to 70°C
Hydrostatic pressure resistance:	50 metres

Specification clauses

Supplier specification

Water swellable – Basic Polymer – hydrophilic waterstop (and attachments) where shown on the drawing, shall be Supercast SW20, obtained from Fosroc. It shall be used in accordance with the manufacturer's current application instructions.

Supercast SW20

Performance specification

Water swellable – Basic Polymer – hydrophilic waterstop shall be made from a preformed elastomeric strip which can integrate into existing waterstop networks. It shall be free from rubber, bentonite or other inclusions. The waterstop shall have an unrestrained volumetric expansion of up to 300%. It must not deteriorate under prolonged wet/dry cycling. It must be used in accordance with the methods given in the manufacturer's current datasheet.

Instructions for use

Supercast SW20 may be positioned by bonding with the appropriate Supercast SW Adhesive. The waterstop may be installed either into a groove cast in the concrete or directly onto the concrete surface. Nailing may also be used.

Limitations

Supercast SW20 should not be used for expansion joints or those subject to significant repetitive movements.

Supercast SW20 should not be installed with less than 70mm. of concrete cover to ensure that the pressure arising from the swelling action is accommodated.

Supercast SW20 should not be used in locations which allow free unrestrained swelling.

Estimating

Supply

Supercast SW20:	5 metre rolls

Storage

When stored in cool dry conditions, away from sunlight, in the original, unopened containers all products have a shelf life of 12 months.

Precautions

Health and safety

There are no health hazards associated with Supercast SW20 in normal use.

Ancillary materials

Supercast SW Contactor

A Supercast SW20 component moulded in water swellable elastomeric. It is designed to connect with Supercast Hydrofoil, Supercast Watafoil, and Supercast Rearguard profiles. This connector provides a method of ensuring and maintaining the integrity of a waterstop network, for example, when expansion joints occur. The connector is push fitted around the outer bulb of the Supercast PVC waterstop. It is then bonded to the concrete and jointed to the rest of the Supercast SW20 strip.

Supercast SW Adaptor

This adaptor has been developed to solve the problem of fixing a waterstop to a diaphragm, or secant piled wall. The Supercast SW Adaptor combines a water swellable material and a PVC profile. It provides a method of continuously jointing Supercast SW with Supercast Rearguard 'R' at right angles to each other in the same plane. Such junctions occur between diaphragm or secant piled walls, pile caps and floor slabs. The use of Supercast SW Adaptor simplifies the forming of these critical junctions. Site welding of the Supercast SW Adaptor to the Supercast PVC, followed by butt jointing to the existing SW strips is all that is necessary. This provides a positive connection between the two systems. It eliminates reliance on site workmanship to make complex junctions with epoxy or cementitious mortars.

Important note
Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard Conditions for the Supply of Goods and Services, copies of which may be obtained on request. Whilst Fosroc endeavours to ensure that any advice, recommendation, specification of information it may give is accurate and correct, it cannot, because it has no direct or continuous control over where or how its products are applied, accept any liability either directly or indirectly arising from the use of its products, whether or not in accordance with any advice, specification, recommendation of information given by it.

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