Fosroc® Supercast SW

constructive solutions

Swellable waterstops for in-situ concrete

Uses

Integral sealing for construction joints in concrete cast in-situ.

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. The Supercast SW range can provide simple solutions to detailing pipe entries, construction joints in the vertical plane and to kicker joints.

They can be linked to Supercast PVC waterstops to give an appropriate effective combination of waterstops which maintain network continuity.

Advantages

- Easy to install by adhesive bonding, or casting into joint faces
- Supercast SWX enables full integration of Supercast SW and Supercast PVC networks
- Supercast SW Adhesive and Supercast SWX can be applied to damp substrates
- Solves detailing problems in conjunction with Supercast PVC waterstops
- Swelling properties unaffected by long term wet/dry cycling
- Tolerant of salts in concrete and groundwater
- Sustains effective seal in wet conditions
- Highly adaptable to accommodate complex joint shapes

Description

The Supercast SW range consists of swellable waterstops; Supercast SW formed sections, Supercast SWX gun-applied paste and Supercast SW Adhesive.

Supercast SW sections are made from high performance synthetic elastomer strips. The swelling action of the Supercast SW range is the result of contact between water and hydrophilic groups which are an intimate part of the Supercast SW polymeric structure. These hydrophilic groups are not subject to extraction and loss of swelling performance by prolonged or repeated wetting.

Expansion of the waterstop creates a positive pressure against the faces of the concrete joint, thus preventing water passing through the joint.

Supercast SWX is a grey, elastomeric water-swellable gun applied paste. Supercast SWX can be used as a swellable adhesive to adhere Supercast SW waterstop to concrete. It has the capability to fill undulations and surface holes in the concrete beneath the waterstop and swell into these when required.

Supercast SWX also enables Supercast SW sections to be linked into conventional Supercast PVC waterstop networks. This allows the use of Supercast PVC for expansion joints and Supercast SW for construction joints whilst maintaining an integrated waterproofing network.

Design criteria

Supercast SW 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 SW increases in volume up to a maximum of 200% and gives resistance to hydraulic pressure.

Swelling of Supercast SW in fresh concrete is minimal therefore maximising the positive pressure seal provided by the hydrophilic to the protected joint.

Supercast SW20 has a larger section and so offers a greater surface area of contact to the concrete in areas of higher risk, such as when waterproofing Grade 3 basements.

Both Supercast SW10 and SW20 have a delayed swell action which helps prevent pre-swell during wet site conditions (see limitations).

The minimum thickness of concrete cover required to accommodate pressure developed during the swelling process is 75mm for Supercast SW10 and 80mm for SW20.

Standard compliance

Supercast SW10 and Supercast SW20 are suitable for use in contact with potable water and are Water Regulations Advisory Service approved products.

Drinking Water Inspectorate Regulation 25(1)b of the Water Supply (Water Quality) Regulations 1989.

Specification clauses

Supercast SW

Water swellable polymeric hydrophilic waterstops (and attachments) where shown on the drawings, shall be Fosroc Supercast SW10 (or SW20) obtained from Fosroc Limited, Drayton Manor Business Park, Coleshill Road, Tamworth, Staffs. B78 3TL. It shall be used in accordance with the manufacturer's current application instructions.

APPROVED MATERIAL WRAS

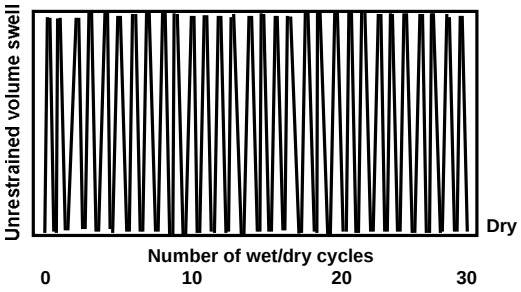
Fosroc® Supercast SW

Water swellable polymeric hydrophilic waterstop where shown on the drawings, 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 able to withstand a hydrostatic head of up to 50 metres (refer SW grade). It shall be used in accordance with the methods given in the manufacturer's current data sheet.

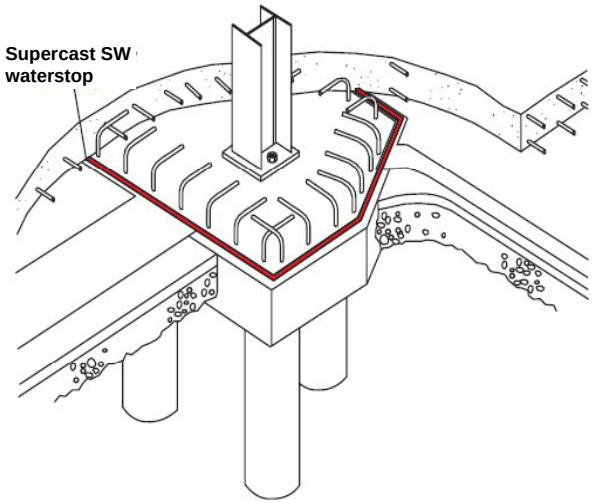
Properties

Form:	Rectangular section elastomeric strips
Size: Supercast SW10: Supercast SW20:	 5 mm x 20 mm 10 mm x 20 mm
Solids content:	100%
Colour: Supercast SW10: Supercast SW20:	 Black Red
Unrestrained volumetric expansion ratio:	Up to 200%
Application temperature range:	–5°C to 50°C
Service temperature range:	–30°C to 70°C
Hydrostatic pressure resistance*:	SW10: 30 metres SW20: 50 metres

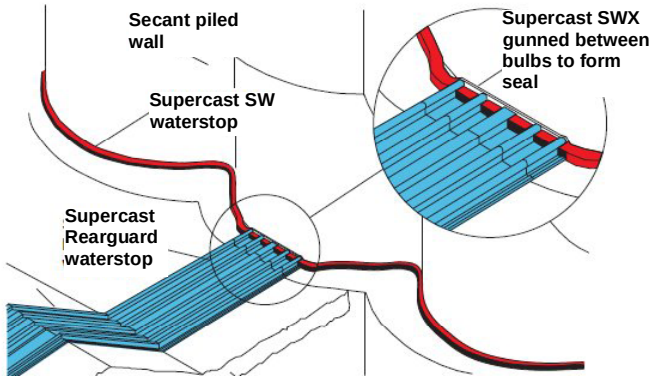
*(In concrete construction joint with no movement)



Graphic showing reproducibility of volume swell with wet/dry cycling



Pile cap detail using Supercast SW waterstop



Supercast SW, Supercast SWX and Supercast Rearguard waterstops at secant pile wall and floor slab junction

Fosroc® Supercast SW

Application instructions

Supercast SW may be positioned by bonding with Supercast SWX or Supercast SW Adhesive. The waterstop may be installed either into a suitable groove cast in the concrete or directly onto the concrete surface.

Estimating

Pack sizes

Supercast SW10:	5 mm x 20 mm x 15 metre rolls
Supercast SW20 :	10 mm x 20 mm x 5 metre rolls
Supercast SWX:	310 ml cartridge packed in cartons of 20, or as a single tube
Supercast SW Adhesive:	380 ml cartridge packed in cartons of 20

Coverage

Supercast SW10 /SW20:	Usually single run of strip per joint
Supercast SWX: (per cartridge)	6 mm diameter bead - 11 metres run 12mm diameter bead - 2.7 metres run
Supercast SW Adhesive: (per cartridge)	6 mm diameter bead - 13.5 metres run 12 mm diameter - 3.4 metres run

The above coverages are approximate and make no allowances for wastage.

Limitations

Supercast SW should not be used for expansion joints or those subject to movements in excess of 2mm.

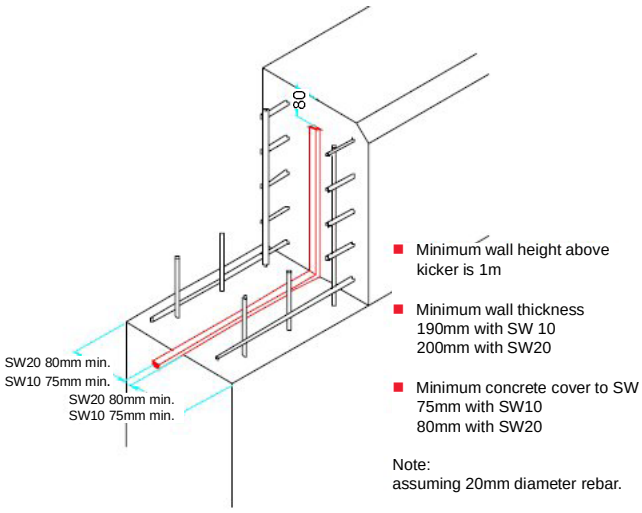
Supercast SW swell rate is dependent on the quality (solids content) of water and the temperature of water. The lower the temperature and the greater the solids content, the lower the swell rate.

Supercast SW should not be used in locations which allow free unrestrained swelling or for free standing walls, such as bund or dwarf walls, where the swell pressure is sufficient to lift the wall from its foundations. Contact Fosroc for product/ method recommendations in this case.

Supercast SW may be fixed with Supercast SW Adhesive on smooth surfaces, but Supercast SWX Adhesive should be used where concrete is rough. In both instances the bead diameter of the adhesive should be a minimum of 12mm.

Supercast SW must not be immersed in water prior to concrete placement, however, Supercast SW20 can tolerate upto 3

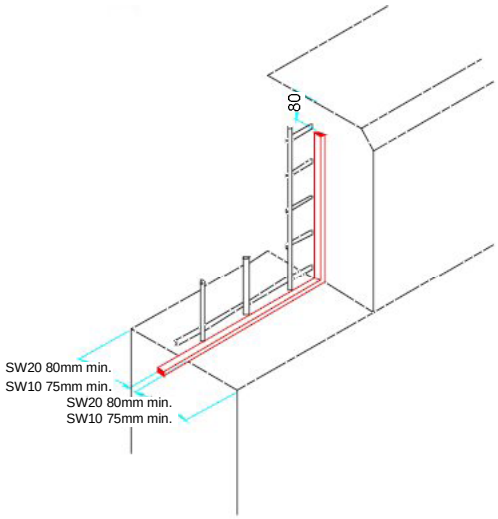
SW Details with 2 cages of reinforcement



- Minimum wall height above kicker is 1m
- Minimum wall thickness 190mm with SW 10 200mm with SW20
- Minimum concrete cover to SW 75mm with SW10 80mm with SW20

Note:
assuming 20mm diameter rebar.

SW Details with 1 cage of reinforcement placed centrally



Fosroc® Supercast SW

Storage

Supercast SW

Shelf life: 12 months
Store in original unopened cartons or bags in cool, dry conditions, away from sunlight.

Supercast SWX

Shelf life: 9 months
Store in original unopened cartridges or cartons in cool, dry conditions, away from sunlight

Supercast SW Adhesive

Shelf life: 12 months
Store in original unopened cartridges or cartons in cool, dry conditions, away from sunlight

Additional information

Ancillary materials

Supercast SWX

Form:	Elastomeric water swellable paste
Colour:	Grey
Tack-free time:	Approximately 1 hour (20°C / 50% RH)
Cure rate:	3mm in 24 hours
Volume swell ratio:	200%
Concrete pour:	2 to 8 hours

Supercast SW Adhesive

Form:	Grey paste
Application temperature:	5°C to 30°C
Maximum open time:	30 minutes
Concrete pour:	2 to 8 hours

Adhesion: Can be used on damp concrete provided it is rag dry.

The above data represents typical values and should not be considered as a purchase specification.

Precautions

Health and safety

Supercast SW

There are no known health hazards associated with Supercast SW10 and SW20 in normal use.

Supercast SWX

Supercast SWX may cause sensitisation by skin contact. Avoid contact with skin and eyes. Wear suitable gloves and eye/face protection. Use only in well ventilated areas.

Supercast SW Adhesive

No significant hazard. For additional information see relevant product safety data sheet.

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Important note :
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