



constructive solutions

# Supercast SW\*

## Swellable waterstops for in-situ concrete

### Uses

Integral sealing for construction joints in the 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, masonry nailing or casting into joint faces
- Supercast SWX enables full integration of Supercast SW and Supercast PVC networks
- Supercast SW Adhesive 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

### 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

#### Supplier specification

#### *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, Colehill Road, Tamworth, Staffs. B78 3TL. It shall be used in accordance with the manufacturer's current application instructions.



## Performance specification

### *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.

### 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 allows 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.

# Supercast SW\*

## 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 300% and gives resistance to hydraulic pressure.

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

Supercast SW10 is suitable for use in new concrete construction where steel reinforcement is continuous through the joint, minimizing the possibility of movement occurring.

Supercast SW20 is suitable for use where steel reinforcement is not continuous through the joint, or between existing and newly placed concrete, where some small movement may occur.

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 and Grade 4 basements.

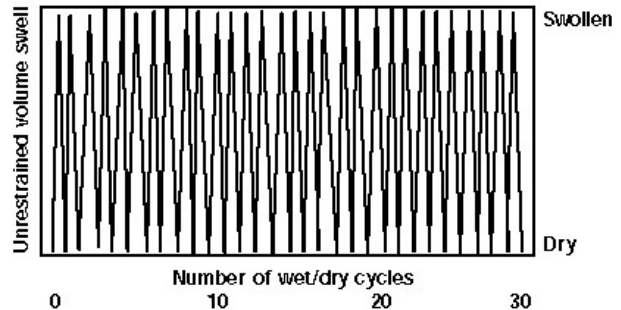
Both Supercast SW10 and SW20 have a delayed swell action which helps prevent pre-swell during wet site conditions (see limitations).

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

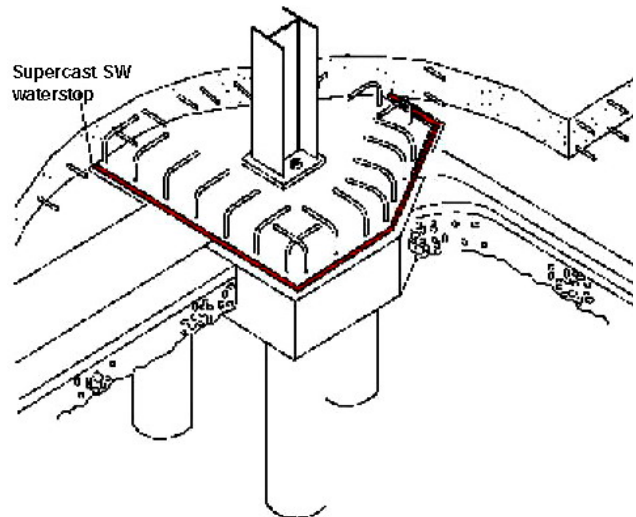
## Properties

<b>Form</b>	: Rectangular section : elastomeric strips
<b>Size</b>	
<b>Supercast SW10</b>	: 5 mm×20 mm
<b>Supercast SW20</b>	: 10 mm×20 mm
<b>Solids content</b>	: 100%
<b>Colour</b>	
<b>Supercast SW10</b>	: Black
<b>Supercast SW20</b>	: Red
<b>Unrestrained volumetric expansion ratio</b>	: Up to 300%
<b>Application temperature range</b>	: -5°C to 50°C
<b>Service temperature range</b>	: -30°C to 70°C
<b>Hydrostatic pressure resistance</b>	: Up to 50 m (refer SW grade)

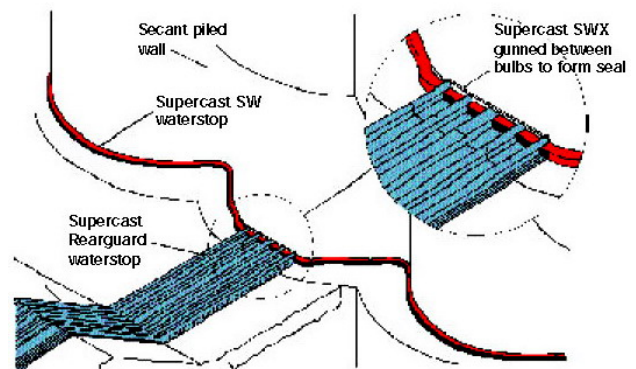
Graphic showing reproducibility of volume swell with wet/dry cycling



Pile cap detail using Supercast SW waterstop



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



# 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 groove cast in the concrete or directly onto the concrete surface. Nailing using masonry nails may also be used.

## Limitations

- Supercast SW should not be used for expansion joints or those subject to significant repetitive movements
- Supercast SW10 and SW20 should not be used in the construction of any concrete section of less than 150 mm thickness
- 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
- Supercast PVC or SWX of minimum bead diameter 12 mm should be preferred, dependent on the degree of seal required
- Supercast SW10 & SW20 must not be fully immersed in water prior to concrete placement, however Supercast can tolerate 3 days exposed to wet conditions on site

## Estimating

### Supply

<b>Supercast SW10</b>	: 5 mm × 20 mm × 15 m rolls
<b>Supercast SW20</b>	: 10 mm × 20 mm × 5 m rolls (10 rolls per carton)
<b>Supercast SWX</b>	: 310 ml cartridge packs (20 cartridges per carton)
<b>Supercast SW Adhesive</b>	: 380 ml cartridge packs (20 cartridges per carton)

### Coverage

<b>Supercast SW10/SW20</b>	: Usually single run of strip per joint
<b>Supercast SWX</b>	: 6 mm diameter bead minimum 2 - 12 metres run per cartridge (Depending upon the surface texture of the concrete)
<b>Supercast SW Adhesive</b>	: 6 mm diameter bead minimum 2 - 14 meters run per cartridge (Depending upon the surface texture of the concrete)

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

## Additional information

### Ancillary materials

#### Supercast SWX

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

#### Supercast SW Adhesive

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

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

**Note:** The above data represents typical values & should not be considered as a purchase specification.

### Storage

#### Supercast SW

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.



# Supercast SW\*

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## 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 sensitization 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.

## The Right Chemistry for Construction

Fosroc is one of the world's major manufacturers of advanced technology chemical based products for the construction and refurbishment industries. It operates internationally through a network of operating companies, licensees, distributors and agents.

Having over 70 years experience and using global resources for research and technical development, Fosroc has built a substantial worldwide reputation in manufacturing the most comprehensive range of high performance construction chemicals:

- Concrete admixtures
- Surface treatments
- Grouts and anchors
- Concrete repair
- Industrial flooring
- Protective coatings
- Joint sealants
- Waterproofing
- Adhesives
- F.R.P Structural Strengthening
- Specific building products

\* Denotes the trademark of Fosroc International Ltd.



### 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 Service.

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