

VERNI-SUPAGAURD WATERSTOPS

DESCRIPTION

The Verni-Supagaurd Waterstops range is extruded from specially formulated PVC material, which whilst flexible is easily welded on site to provide the primary seal in the waterproofing of water retaining and/or water excluding structures. They are supplied as straight lengths in coils in blue colour.

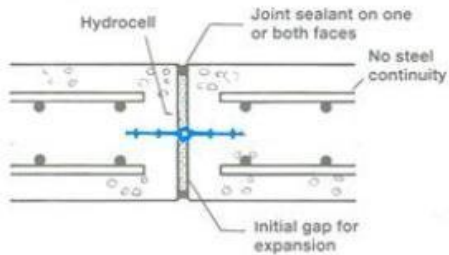
USES

Verni-Supagaurd Waterstops range is designed to provide the integral sealing of movement and construction joints in insitu concrete which occur in the following types of concrete structures:

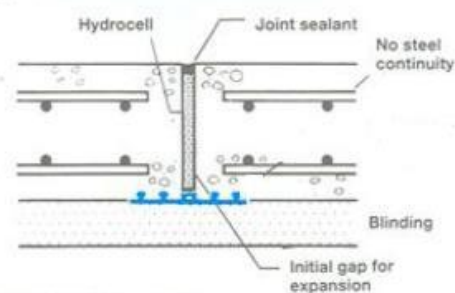
Water Retaining

- Reservoirs, water towers, digesters and sewage tanks
- Dams, reservoirs, water towers, culverts, canals and spillways
- Swimming pools

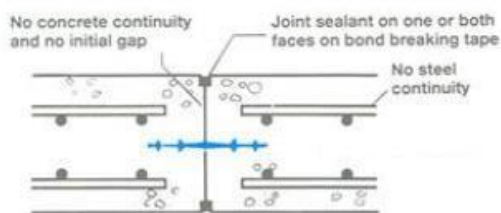
Expansion joint – wall



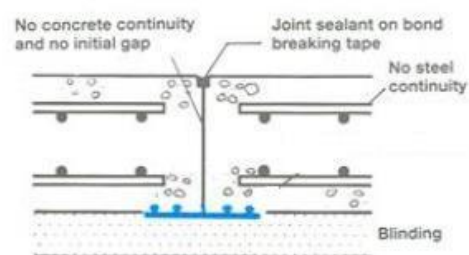
Expansion joint – floor



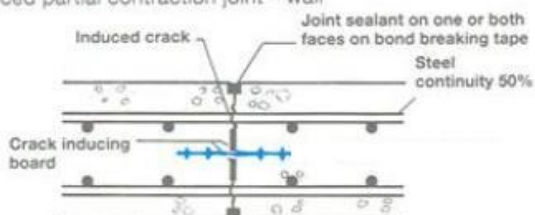
Formed contraction joint – wall



Formed contraction joint – floor

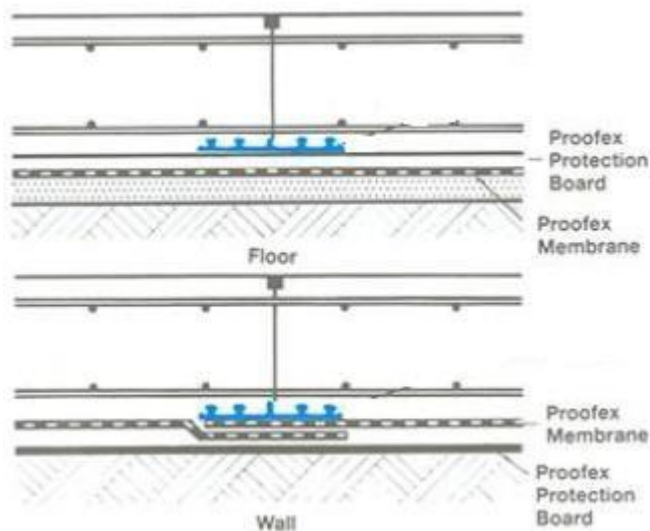


Induced partial contraction joint – wall



Water excluding

- Basement Structures and underground car parks
- Tunnels and subways
- Abutments and retaining walls
- Roof Decks and podium areas
- Bunded areas surrounding liquid retaining tanks



ADVANTAGES

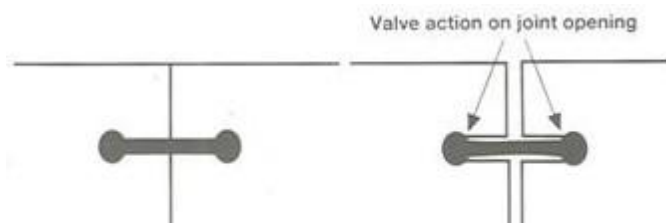
- The largest range of profiles and sizes to suit all construction requirements
- Co-ordinated profiles
- Ensures bulb continuity throughout the network.
- Making on site jointing simpler.
- Allows for jointing of external to centrally placed sections.
- Allows for jointing of expansion joint section to construction joint section.
- Flat top to centre bulb ensures snug fit of filler board.
- Reinforced eyeleted flanges to simplify site installation (on request)

SYSTEMS

Waterstops work because of two specific aspects of their design:

(a) Valve principle

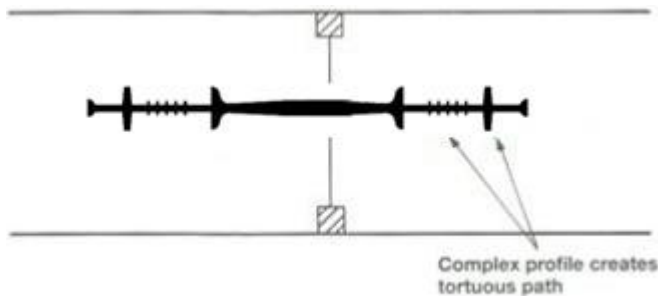
Simple waterstop profiles based on dumbbells are cast into the edges of adjacent concrete panels, which act as baffles. In the event of joints opening as drying shrinkage or other movement occurs, the edge bulbs of the profile act as anchors. These induce tensions across the waterstop resulting in a sealing effect at the inner faces of the edge bulbs.





(b) Tortuous path principle

Profiles with a more complex cross section have a much greater surface area. They present a much greater resistance and more difficult path for water to seep around the section.



Waterstops are additionally categorised according to whether they are placed centrally or externally in concrete.

(1) Centrally placed waterstop profiles

The concept of centrally placed waterstop profiles is to provide a water barrier across all joints in insitu concrete structures by casting the section centrally into the edges of adjacent concrete components. They are suitable for use in most water retaining and water excluding structures, being capable of withstanding water pressure from either the internal or external face.

Expansion joint centrally placed

Verni-Supagaard Waterstop centre bulb – 140mm	Code: 61 0712 301
Verni-Supagaard Waterstop centre bulb – 150mm	Code: 61 1647 301
Verni-Supagaard Waterstop centre bulb – 190 mm	Code: 61 0715 301
Verni-Supagaard Waterstop centre bulb – 200 mm	Code: 61 1643 301
Verni-Supagaard Waterstop centre bulb – 240 mm	Code: 61 0739 301
Verni-Supagaard Waterstop centre bulb – 250 mm	Code: 61 1639 301
Verni-Supagaard Waterstop centre bulb – 300 mm	Code: 61 2393 301

Construction joint centrally placed

Verni-Supagaard Waterstop dumbbell (Ball) – 150 mm	Code: 61 0711 301
Verni-Supagaard Waterstop dumbbell – 150 mm	Code: 61 1648 301
Verni-Supagaard Waterstop dumbbell – 200 mm	Code: 61 1644 301
Verni-Supagaard Waterstop dumbbell (Ball) – 220 mm	Code: 61 1614 301
Verni-Supagaard Waterstop dumbbell (Ball) – 225 mm	Code: 61 0714 301
Verni-Supagaard Waterstop dumbbell – 250 mm	Code: 61 1640 301

(2) Externally placed waterstop profiles

Externally placed waterstops profiles are designed for use in basement, foundation, and floor slab construction in both horizontal and vertical joints. Each Verni-Supagaard Waterstop incorporates a wide reinforced nailing flange for positive fixing to formwork or concrete blinding. The specially designed bulbs allow ease of concrete compaction, provide a secure anchorage into the concrete and a positive barrier.



Expansion joint externally placed

Verni-Supagaard Waterstop external E (Square) – 150 mm	Code: 61 1872 301
Verni-Supagaard Waterstop external E (Dove) – 150 mm	Code: 61 1645 301
Verni-Supagaard Waterstop external E (Square) – 200 mm	Code: 61 0866 301
Verni-Supagaard Waterstop external E (Dove) – 200 mm	Code: 61 1641 301
Verni-Supagaard Waterstop external E (Dove) – 230 mm	Code: 61 1701 301
Verni-Supagaard Waterstop external E (Dove) – 250 mm	Code: 61 1637 301

Construction joint externally placed

Verni-Supagaard Waterstop external C – 150 mm	Code: 61 1646 301
Verni-Supagaard Waterstop external C – 185 mm	Code: 61 1618 301
Verni-Supagaard Waterstop external C – 200 mm	Code: 61 1642 301
Verni-Supagaard Waterstop external C – 250 mm	Code: 61 1638 301

Construction joint externally placed

Verni-Supagaard Waterstop external X – 190 mm	Code: 61 1703 301
Verni-Supagaard Waterstop external X – 230 mm	Code: 61 1702 301

PHYSICAL PROPERTIES

Form:	Extruded thermoplastic PVC sections
Colour:	Blue
Joint movement:	Up to 10 mm
Hydrostatic head:	Up to 10 m head
Tensile strength:	> 14 MPa
Elongation at break:	250% - 360%
Complies with:	CKS 389 1973

DESIGN CRITERIA

The choice of the width and thickness of waterstop is largely governed by concrete thickness, the position of the reinforcement, aggregate size and complexity of the pour. In general the 250 mm width of waterstop is suited to wall thicknesses of 250 mm and over. For concrete less than 250 mm thick, the use of a narrower waterstop approximating to the wall thickness will be appropriate. 150mm and 200mm profiles are available for this purpose.

INSTALLATION TECHNIQUES

Centrally placed waterstops

Verni-Supagaard Waterstop Centre Bulb and Dumbell - are to be fully tied to the re-bar to eliminate possible displacement during the concreting and vibrating process. It is imperative that care is taken to fully compact the concrete around the waterstop in order to eliminate any voids or honeycombing in that area.

Externally placed waterstops

When used on ground slabs where the waterstop is supported on blinding, Verni-Supagaard Waterstop external E, external C profiles and external X usually require no fixing. Lay the waterstop centrally over the line of the joint to be formed.

Fixing to vertical shuttering is done by nailing through the outer nailing flanges leaving the head of the nail proud so that it is held in the cured concrete. This prevents the waterstop being displaced when the shuttering is struck.



SITE JOINTING

Only butt joints should be welded on site. The ends of the butt joints must be cut square. These cut ends should then be pushed against the preheated heater blade until a molten bead appears against the blade. Remove the blade and firmly press the two molten ends of the waterstop together and hold firmly until these ends are fused together. A piece of shutterboard or similar material placed under the joint prior to the operation will facilitate the jointing. This jointing must be undertaken in a well-ventilated area as the fumes given off when the PVC is being melted are an irritant to the lungs and eyes. In enclosed areas forced ventilation is a prerequisite. A wire brush is used to clean the PVC residue on the heater blade after every jointing operation.

MODEL SPECIFICATION

Verni-Supagaard Waterstop external C.

Externally placed waterstop for construction and contraction joints in walls and floors to water retaining and water excluding structures. The waterstop will be Verni-Supagaard Waterstop external C, an externally placed extruded plasticized PVC compound applied in accordance with the recommendations of Verni-Speciality Constructions Products. The waterstop will comply with the requirements of CKS 389:1973 and have an elongation at break of 300%

Verni-Supagaard Waterstop dumbell.

A centrally placed waterstop for construction and contraction joints in walls and floors to water retaining and water excluding structures. The waterstop will be Verni-Supagaard Waterstop dumbell, a centrally placed extruded plasticized PVC compound applied in accordance with the recommendations of Verni-Speciality Constructions Products. The waterstop will comply with the requirements of CKS 389:1973 and have an elongation at break of 300%.

Verni-Supagaard Waterstop external E

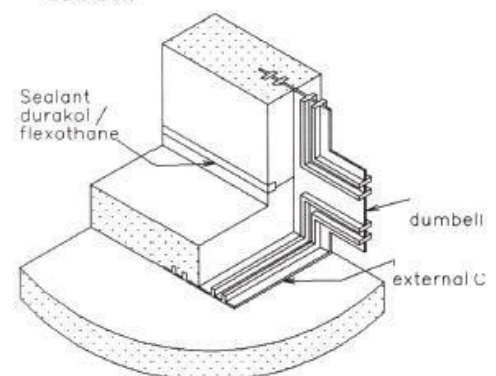
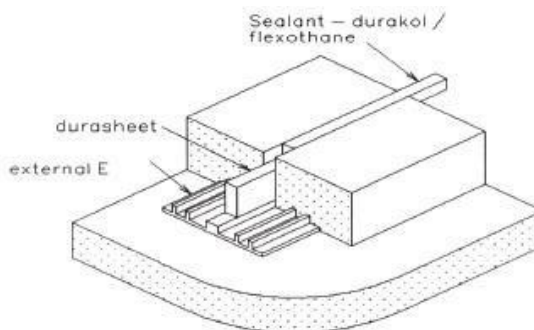
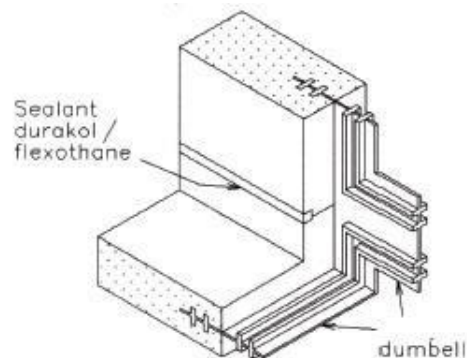
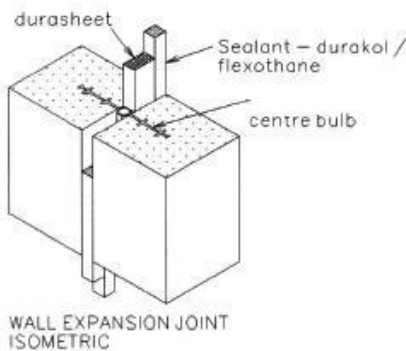
Externally placed waterstop for expansion joints in walls and floors to water retaining / water excluding structures. The waterstop will be SCI Aqua external E, an externally placed extruded plasticized PVC compound. The waterstop will comply with the requirements of CKS 389:1973 and have an elongation at break of 300%.

Verni-Supagaard Waterstop centre bulb

Centrally placed waterstop for expansion joints in walls and floors to water retaining and water excluding structures. The waterstop will be Verni-Supagaard Waterstop centre bulb, an externally placed extruded plasticized PVC compound.

Verni-Supagaard Waterstop external X.

Externally placed waterstop for construction and contraction joints in walls and floors to water retaining and water excluding structures. The waterstop will be Verni-Supagaard Waterstop external X, an externally placed extruded plasticized PVC compound applied in accordance with the recommendations of Verni-Speciality Constructions Products. The waterstop will comply with the requirements of CKS 389:1973 and have an elongation at break of 300%



STORAGE

Store under cover out of direct sunlight and protect from extremes of temperatures. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging.

HEALTH & SAFETY

Always carry out the jointing of Verni-Supagaurd Waterstop in a well-ventilated area as the fumes given off are an irritant to both eyes and lungs. In confined areas forced ventilation is a prerequisite.

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin, and foodstuffs (which can also be tainted with vapour until product is fully cured or dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention. Use in well-ventilated areas and avoid inhalation. Keep away from children and animals. Reseal containers and dispose of as per local regulations. For further information refer to the material safety datasheet.

IMPORTANT NOTE

This data sheet is issued as a guide to the use of the product(s) concerned. Whilst Verni-Speciality Constructions Products endeavors to ensure that any advice, recommendation, specification or information is accurate and correct, the company cannot - because Verni-Speciality Constructions Products has no direct or continuous control over where and how Verni-Speciality Constructions Products' are applied -accept any liability either directly or indirectly arising from the use of Verni-Speciality Constructions Products', whether or not in accordance with any advice, specification, recommendation or information given by the company.



Dimensions are approximate and subject to manufacturing tolerances

FURTHER INFORMATION

Where other products are to be used in conjunction with this material, the relevant technical data sheets should be consulted to determine total requirements.

All products originating from Verni-Speciality Constructions Products are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational health and safety standards ISO 9001: 2015.