Rubber Waterstop

constructive solutions

Waterstops for high performance joints

Uses

The Fosroc range of Rubber Waterstops is designed to be cast in as an integral joint sealing system for in-situ concrete, water retaining or excluding structure where maximum performance is required as a result of high movement or hydrostatic head. These joints typically occur in reservoirs, dams and spillways, tunnels and other major civil engineering structures.

Advantages

- High degree of elasticity to accommodate pronounced cyclic movement
- High elongation to cater for subsidence and seismic movement
- Withstands high water pressure
- Hot vulcanised site joints

Prefabricated networks can be supplied to reduce site jointing. The range consists of straight lengths and intersections in centre bulb or plain web dumbbell profiles for expansion and construction joints.

The principle uses of Fosroc Rubber Waterstop included any of the following structures in circumstances where the joints may be subject to high pressure or pronounced or repeated movements.

Technical support

Fosroc offers a comprehensive range of high performance, high quality technical products, manufactured in accordance with a BS 5750 registered quality scheme. In addition, Fosroc offers a technical support package to specifiers, end-users and contractors, as well as on-site technical advice.

Standards Compliance

Fosroc Rubber Waterstop complies to BBS 903 Part A2 (1995)

Description

Fosroc Rubber Waterstop sections are made from high quality natural rubber compound which has been formulated to give excellent flexibility to used in high movement joints in water retaining and water excluding insitu concrete structures.

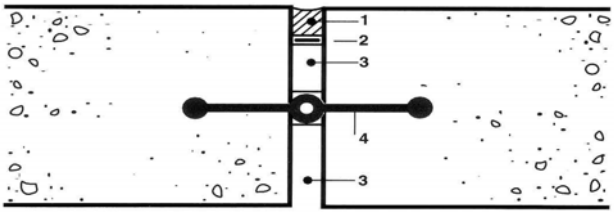
The centre bulb in the Rubber Waterstop profile makes it suitable for subsidence, contraction and expansion joints, including high movement joints.

Applications

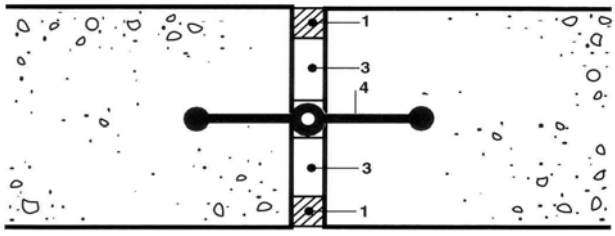
Water retaining structures

Rubber waterstop are recommended for sealing high movement expansion joints. They are particularly recommended for sealing joints subject to high water pressures in such structures as irrigation canals, culverts, dams, reservoirs, sea walls and sewage works.

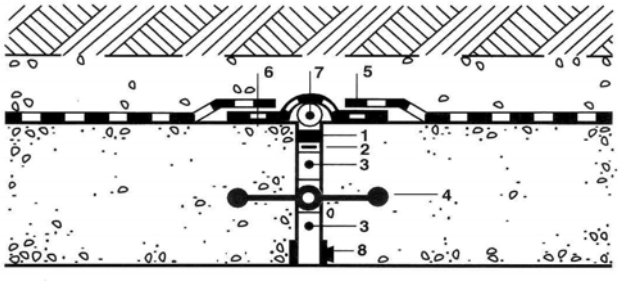
Example of sealed expansion joints in floor slabs of water retaining structures is shown below :



Example of sealed expansion joints in wall of water retaining structures is shown below:



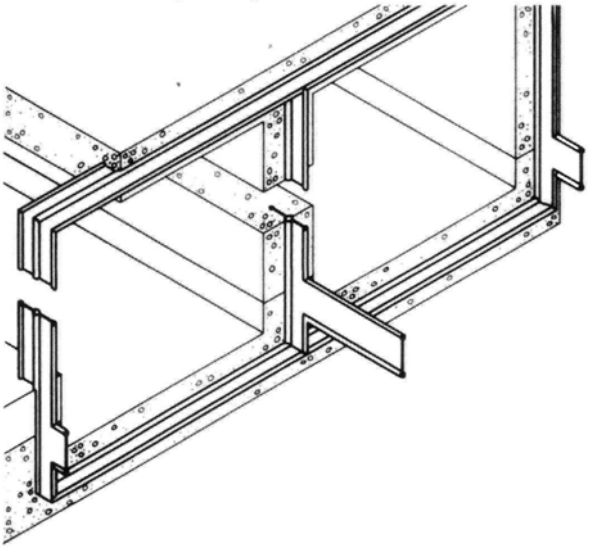
Example of sealed roof joint water retaining structures is shown below:



Rubber Waterstop

1* Thioflex 600
2. Bond breaker
3* Self-expanding Cork Filler
4.Rubber Waterstop
5. Slip Membrane
6* Instantseal Alu
7* Backer Rod
8* PVC Capping Strip

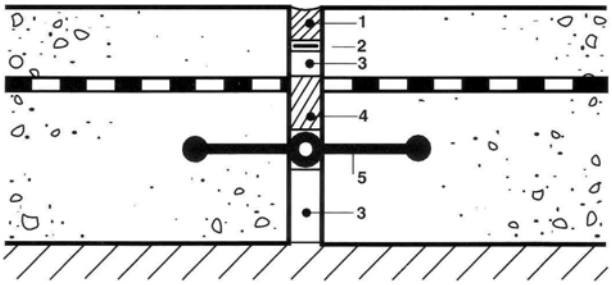
Twin box culvert expansion joint



Water excluding substructures

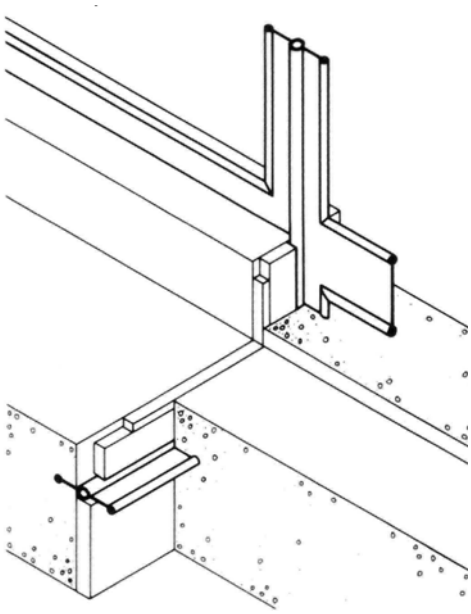
Rubber waterstop are recommended for sealing joints in retaining walls and building basements, particularly where there may be subject to high movement and subsidence.

Example of sealed joints in floor slabs of water excluding substructures is shown below:



1* Heavy Duty Sealer
2. Bond Breaker
3- Resin Bonded Cork Filler
4* Pliastic
5 **Rubber Waterstop**
6* Plastijoint
7* Self-expanding Cork Filler

Subsidence Joints



Further reading : Fosroc Application Guides

Fosroc Application Guides complement the data contained in the Fosroc Product Data Sheets. Each Guide deals with a single building or civil engineering application and presents on a single sheet design information on the use of relevant Fosroc products.

The use of Rubber waterstop is illustrated in the following Guides:

1-1 Open Channels

1-2 Closed channels ininsitu concrete

1.4 Open reservoirs

1.5 Close reservoirs

1.6 Storage tanks in insitu concrete

1.7 Concrete watertowers

3.1 Basements untanked

3.2 Pedestrian subways

3.3 Service tunnels

4.1 Trafficked roofs

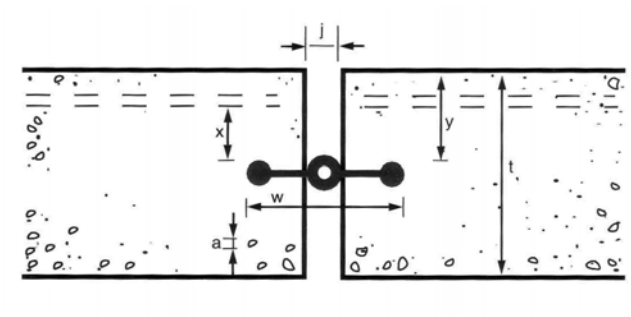
Rubber Waterstop

Waterstop Selection

Centrally placed rubber waterstops, i.e. the Dumbell and centre Bulb profiles are designed to be used for most situations applicable to a waterstop system within a performance parameter indicated under the heading" Technical Data". Rubber waterstop are particularly suited in high movement joints and joints in structures liable to subsidence.

Profiles : Reference to the profile diagram and accompanying description will classify the profile types into application categories. It will be seen that construction joint may be using the Plan Web sections and expansion or high differential movements joints may be sealed using the Centre Bulb profile designed to accommodate cyclic movement.

Size : The appropriate waterstop width depends upon the concrete thickness, the aggregate size and the position on the reinforcement.

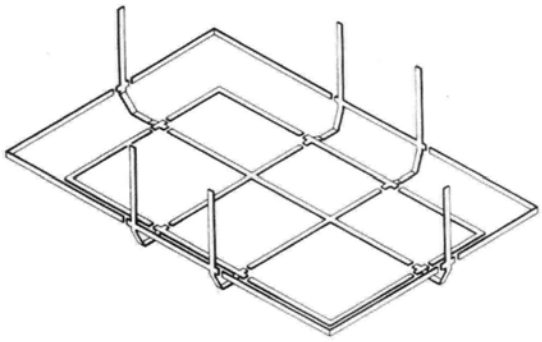


1. w not greater than t
2. w not less than 6a+j
3. y not less than %(w-j)
4. x not less than 2a

a = x not less than 2a

Fosroc Waterstop Service : The Fosroc Waterstop Service covers the design of waterstop networks to suit individual project requirements, preparation of working drawing and taking off quantities. It also includes prefabrication of as much of the network as is practicable, under ideal conditions in the Fosroc factory. This minimises site jointing and ensures that site installations is as simple and rapid as possible. This service is offered free of charge and is available to all users of Fosroc Waterstop.

Example of typical waterstop layout drawing for sedimentation tank is shown below :

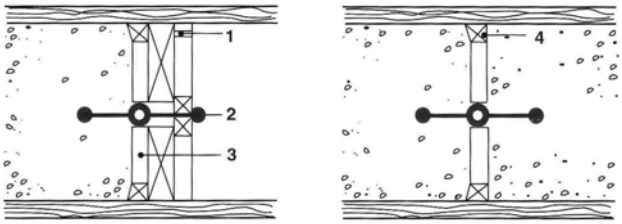


See separate technical data sheet on Supercast PVC waterstop for PVC centrally placed and externally placed profiles.

Installation

The Waterstop are to be installed so that they are securely held in their correct position whilst the concrete is placed. The concrete must be fully and properly compacted around the waterstop to ensure that no voids or porous areas remain. Where reinforcement is present, adequate clearances are to be left between this and all waterstops to permit proper compaction of the concrete. No holes are to be made through any waterstop.

Example of Rubber waterstop installation showing split shuttering is shown below:



1 Folding wedges
2.Rubber waterstop
3* Compressible fillerom - RBCF
4. Batten form slot for joint sealing pound.

Site Installation and Jointing

Consult Rubber Waterstop Guides referenced above

Rubber Waterstop

Properties

		Rubber Waterstops
Form	:	Elastic solid sections
Storage	:	During storage rubber waterstops should be protected from UV light
Solid content	:	100%
Colour	:	Black
Hardness	:	60 to 65, IRHD, at 25 C
Tensile strength	:	20.7 N/mm² at 25 C (minimum)
Elongation at Break	:	500% at 25 C (minimum)
Movement Accommodation	:	Total joint range Plain Web low

Section	Section Width In mm	kg/1m	minimum radius on flat in Metre	minimum radius on edge in mm	linear deduction in mm
Centre Bulb	305	4.89	8.750	230	95
	230	4.07	8.000	150	63
	150	2.35	7.000	150	63
Plain Web	230	3.31	8.000	150	63
	150	1.95	7.000	150	63

Linear deduction

The figures stated under this column are the difference between the length of material used in the event that a 90 C mitred angle is formed and that when the material is bent through a radius on edge.

Importance Note

Whilst all reasonable care is taken in compiling technical data regarding the use of such products all recommendations or suggestions regarding the use of use of such products are made without guarantee since the conditions of use are beyond the control of the company. It is the customer's responsibility to satisfy himself that each product is fit for the purpose for which he intends to use it and that actual conditions of use are suitable.

Health and safety

Rubber waterstop

There are no health hazards associated with Rubber waterstop normal use.

Jointing kits

Users having sensitive skin are advised to use a suitable barrier cream. Should any solution enter the eyes rinse at once with clean water.

.

Fosroc Sdn. Bhd.
No 8 Jalan Trompet, 33/8
Seksyen 33, 40400 Shah Alam
Selangor, Malaysia

Branch Office:
215B Argyll Rd, 10050 Penang
Malaysia

telephone:
+60 3 5191 5660

+60 4 228 7464

fax:
+60 3 5191 6960

+60 4 228 0901

email:
malaysia@fosroc.com

2413-2005-AQ-SIN-RVA