

# WATERSTOP BS®

## CONSTRUCTION JOINT BENTONITE SWELLING TAPE



WaterStop BS® is a flexible strip concrete construction joint waterstop consisting of polyisobutylene rubber, sodium bentonite, special fillers and additives. Due to its flexible and expanding sodium bentonite nature, it provides a permanent seal in horizontal and vertical construction joints by expanding upon contact with water. The pressure of the swelling action up to %400 of its initial volume will cause WaterStop BS® to expand in the joint, filling all cavities and thereby stopping waterflow.

Instead of extending the water path as in conventional PVC type waterstops, WaterStop BS® converts into colloid form and effectively stops water by swelling and forming a strong compression seal.

### APPLICATIONS



Waterproofing is a system that must be viewed as a whole. In order to ensure the whole waterproofing system is working in perfect harmony, all the complex construction details should be safely solved particularly with professional auxiliary materials.

### APPLICATION AREAS

- > Construction joints in foundation slabs and walls.
- > In manholes and around penetrations such as pipes and H-piles
- > Repairing of construction joints of existing concrete structures
- > Cold joints of water containment structures
- > Detailing pile caps and grade beams
- > Closing of rod holes before application of membranes.

### ADVANTAGES

#### > Fast and easy application

WaterStop BS® is directly applied over concrete or metal surface by nailing without the need of welding in roll ends

#### > Flexible and safe solution

WaterStop BS® can easily take the shape of the details such as penetrations. There is no need of special transition parts need to be used in PVC based products.

#### > Active throughout the life of the structure

WaterStop BS® forms impermeable barrier and stops the water penetration by swelling.

### Substrate Preparation

WaterStop BS® should be directly applied on dry surface free of dirt, dust, oil or other contaminants. It is a must to remove spalling loose concrete, laitance layer by scrubbling, brushing or water jetting and place WaterStop BS® directly only on sound concrete surfaces. If exist, all segregations should be repaired with cementitious non shrink repair mortar.

### Application

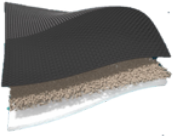
Intimate contact with the surface, of the substrate is necessary. WaterStop cannot extend over already put rebars otherwise the full waterproofing effect will not be realized, water paths will be formed through the rebars. Waterstop BS is positioned in the center of the reinforced concrete construction joint, ensuring that a minimum of 3" (75 mm) concrete cover is provided to all sides of the product. WaterStop BS® can be fixed in three different ways in order to maintain correct position when pouring the concrete. It can be mechanically fixed in the construction joint with nails by gluing or by fixing rail. Push WaterStop BS® firmly in order to adapt any undulations in the concrete surfaces.

Do not overlap consecutive strips of WaterStop BS®, when use with BS mesh, tightly butt the coil ends together, if BS Mesh is not used, coils should be installed side by side exceeding each other at least 11" (25 mm).

**ACCESSORIES**

**BENTOSHIELD**

Range of bentonite waterproofing membranes



**BS MESH**

U shaped expanded metal grid



**BS GRANULES**

Sodium bentonite granules



**BENTOPASTE**

Expanding detailing mastic



**BS TAPE**

1 or 2-sided joint sealing tape



**BS Termination Strip**

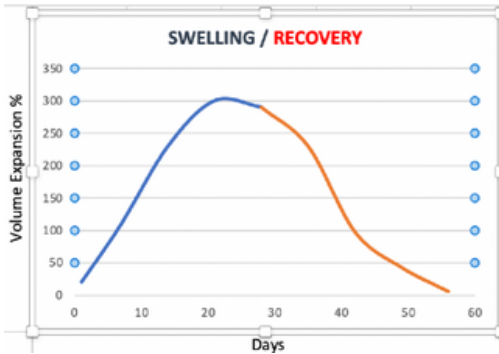
Galvanized termination bar



BS Mesh mechanically secures WaterStop BS® by use of fasteners in order to prevent the movement during concrete placement. BS Mesh strips are directly placed on WaterStop BS®. Intimate contact is necessary with the WaterStop by firmly pressing and joining the mesh strips next to each other without leaving a weak gap.

Casting of retaining walls and floor slabs is carried out immediately after fixing Waterstop BS® in position. The 'free water' in a concrete mix is not enough to physically swell a hydrophilic waterstop.

**TECHNICAL PERFORMANCE**



**TEST NO: PB-60121**

**Swelling/Recovery Cycles Method: The increase**

In volume was measured when specimens were immersed in tap water (Hardness CaCO3-210 mg/L) at 23C over a 29 day period. Recovery volume was measured when specimens were removed from the solution and air dried over 28 days. The dotted blue line indicates the swelling, and red line indicates of the recovery cycle.

Resistance to hydrostatic pressure (14 days) : 70m

Day 7 ≥200% , Day 14 ≥300% - Wet/dry difference ≥300%

Shore: 50

Color: Black

**LIMITATIONS**

When exposed to considerable pre-hydration due to continuous water contact prior to confinement in the joint, WaterStop BS® may lose its property and replacement of the strips can be required. WaterStop BS® should not be stretched to take the shape of the detail.

Selection of polymer modified range of WaterStop may be prudent, particularly where conditions of ground contamination exist.

**COMPATIBILITY**

BentoPaste may be combined with other products. Always conduct trials before combining products in specific mixes and contact the GEOMAS Technical Service Department for information and advice about any specific combinations.

**PACKAGING**

	TYPE	SIZE	ROLL LENGTH	BOX / PALLET
	WaterStop BS	1" X 3/4" (25 mm x 20 mm)	16.4 ft (5 m)	82.5 ft (25 m)– 3445 ft (1050m)
	WaterStop BSM	3/8" X 3/4" (10 mm x 20 mm)	32.8 ft (10 m)	165 ft (50 m)– 6890 ft (2100m)

**STORAGE**

WaterStop BS® should be stored in a dry, frost-free place in unopened, undamaged original packaging. In order to maintain the proper viscosity, store the goods above 4 °C and not exceeding 95°F (35°C). It is strongly recommended to keep the goods to store at room temperature for 24 hours prior to application.

**HEALTH & SAFETY**

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.