Centrally and externally placed PVC waterstops

Uses
The Sure-Stop range of economical PVC waterstops is designed to provide an integral sealing system for movement and construction joints in concrete cast in-situ. These joints typically occur in the following types of structure:

- Water Retaining
  - Sewage treatment plants
  - Water treatment plants
  - Swimming pools
  - Reservoirs
  - Dams and spillways
  - Bund walls

- Water Excluding
  - Basement areas
  - Underground carparks
  - Tunnels
  - Retaining walls
  - Suspended slabs
  - Pits
  - Roof slabs

Advantages
- A range of profiles and sizes to suit all construction requirements
- Factory made intersections to simplify and minimise on-site fabrication
- Conforms to relevant international standards
- On-site welding equipment available
- Eyelets punched in outer flanges for easy wire tying to reinforcing bars
- Long roll lengths to reduce the amount of welding / joining on site

Description
Sure-Stop PVC waterstops are extruded from high quality materials in accordance with major international standards, giving superior physical properties.

They are specially designed for use throughout the construction industry in water retaining and water excluding structures where a positive seal is required for poured in-situ concrete expansion, construction and contraction joints.

Two types of profiles are available. Sure-Stop Centrestop “CB” for centrally placed applications and Sure-Stop Rearguard “RG” for externally placed applications.

These profiles are available in rolls with separate intersections supplied to simplify and minimise on-site fabrication. The design and size of the profiles provide a difficult path and greater resistance for water to get around while allowing concrete to be easily placed around them.

The range of profiles for central and external applications when embedded into the concrete forms a continuous uninterrupted barrier making Sure-Stop PVC waterstop ideal for preventing water penetration where watertightness is essential.

Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile strength</td>
<td>14 MPa (min)</td>
</tr>
<tr>
<td>Elongation at break</td>
<td>250% (min)</td>
</tr>
<tr>
<td>Hardness shore “A”</td>
<td>70 -90</td>
</tr>
<tr>
<td>Hydrostatic head</td>
<td>30 m</td>
</tr>
<tr>
<td>Joint movement</td>
<td>Up to 10 mm</td>
</tr>
</tbody>
</table>

Sure-Stop Waterstop conforms to BS2571 specification for flexible PVC compounds Class 3 Type E3.

Design Criteria
The correct width of waterstop depends on the thickness of the concrete and positioning of the reinforcement. The thickness of the concrete should be greater than or equal to the width of the waterstop profile. For concrete thickness over 250 mm use Sure-stop 250 mm wide profiles. It is generally recommended to use the same size profile throughout the structure to make installation and site joining simpler and easier.

The efficiency of any waterstop is very dependent on good workmanship and on full compaction of the concrete.

Always thoroughly vibrate concrete around the waterstop to avoid air entrapment and to provide a positive contact between the waterstop and concrete.

Thin Slabs Precaution: the efficiency of any PVC Waterstop is very dependant on good workmanship and on full compaction of the encasing concrete. Without due consideration of both these factors, optimum performance will not be achieved. For this reason PVC Waterstops in thin slabs should be avoided as it is difficult to ensure proper compaction of the concrete and removal of air pockets and porous areas.
Sure-Stop PVC Waterstops

Installation Instructions

Sure-Stop “CB “ Centrally Placed Waterstop
Centrebulb waterstop profiles are fixed generally in the middle of the slab or wall joint of the concrete structure. This profile creates a barrier to water trying either to enter or leave the structure. Its ability to withstand pressure from both sides makes Sure-Stop “CB” ideal for all water retaining and water excluding structures such as reservoirs and sewage treatment plants. The central bulb enables it to be safely used in joints where movement may occur. Sure-Stop “CB” can be used in horizontal and vertical applications for expansion, construction and contraction joints.

Fixing Sure-Stop “CB “
It is important that all waterstops are held securely during the concrete pour and that the concrete is properly compacted to remove voids and porous areas. Where reinforcing steel exists, sufficient space must be available to assist compaction. A series of eyelets have been formed into the outer flanges of the profile so the waterstop can be quickly wire-tied onto the neighbouring steel reinforcement without the risk of water ingress due to the profile falling over.

Sure-Stop “RGX” Externally Placed Waterstop
For use in expansion, construction and contraction joints, the flat top bulb section allows support for any joint filler and allows for any movement in the structure. The bottom of the bulb has a “v” shaped notch so that should the joint open beyond the capacity of the PVC bulb, the bottom of it will tear along the notch and permit the bulb to open whilst still maintaining the water barrier.

Sure-Stop “RGW”
For use in construction and contraction joints, this profile has a central web that facilitates shutter location.

Fixing Sure-Stop “RG “
It is important that all waterstops are held securely during the concrete pour and that the concrete is properly compacted to remove voids and porous areas.

For horizontal applications where an already stable support exists, Sure-Stop “RG” profiles generally require no fixing as they are laid centrally along the joint being formed.

For vertical applications Sure-Stop “RG” profiles can be nailed through the outer flanges directly onto the formwork.

Intersections
A range of prefabricated intersections, both standard and specials are available for each Sure-Stop profile.

These are made in our factory and are usually very difficult to make in the field. By using factory-made intersections, the contractor has to only make straight joining welds on site.

The standard leg length is 250 mm. Factory welded units to suit lift pits, etc. are also available.
Sure-Stop PVC Waterstops

Site Joining
On-site joining is a simple exercise using Sure-Stop heat welding equipment comprising of an adjustable welding jig and heating blade. The ends of the waterstop are cut square and placed into the adjustable jig. The ends of the waterstop then slide up against the heating blade until a bead of molten PVC appears along the length of the blade. Remove the heating blade and bring the two ends together until the molten ends of the PVC fuse. When ordering welding equipment, please advise style and width of waterstop required. Full instructions are available from Parchem or your local distributor.

Welding Equipment
Welding blades and separate welding jigs for Centrestop and Rearguard profiles are available for hire.

Specification Clause
Where shown on the drawings all PVC waterstops shall be Sure-Stop as supplied by Parchem Construction Products. Provide factory made waterstop fabrications for all changes of direction, intersections and transitions leaving only straight butt jointed splices for on-site fabrication.

All waterstops shall be manufactured from polyvinyl chloride (PVC) and comply with BS2571 specification for flexible PVC compounds. The waterstop shall have a tensile strength in excess of 14 MPa (min) and an elongation at break in excess of 250% (min).

Internal type waterstop will be Sure-Stop “CB” waterstop.

External type waterstop will be Sure-Stop “RG” waterstop - type “RGX” for expansion, construction or contraction joints - type “RGW” for construction and contraction joints.

Estimating

Supply

<table>
<thead>
<tr>
<th>Sure-Stop Profile</th>
<th>Width</th>
<th>Roll length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centrestop “CB”:</td>
<td>150 mm</td>
<td>20 m</td>
</tr>
<tr>
<td></td>
<td>200 mm</td>
<td>20 m</td>
</tr>
<tr>
<td></td>
<td>250 mm</td>
<td>15 m</td>
</tr>
<tr>
<td>Rearguard “RGW”:</td>
<td>250 mm</td>
<td>15 m</td>
</tr>
<tr>
<td>Rearguard “RGX”:</td>
<td>200 mm</td>
<td>20 m</td>
</tr>
<tr>
<td></td>
<td>250 mm</td>
<td>15 m</td>
</tr>
</tbody>
</table>

Intersection Pieces

A Safety Data Sheet (SDS) and Technical Data Sheet (TDS) are available from the Parchem website or upon request from the nearest Parchem sales office. Read the SDS and TDS carefully prior to use as application or performance data may change from time to time. In emergency, contact any Poisons Information Centre (phone 13 11 26 within Australia) or a doctor for advice.

Product disclaimer
This Technical Data Sheet (TDS) summarises our best knowledge of the product, including how to use and apply the product based on the information available at the time. You should read this TDS carefully and consider the information in the context of how the product will be used, including in conjunction with any other product and the type of surfaces to, and the manner in which, the product will be applied. Our responsibility for products sold is subject to our standard terms and conditions of sale. Parchem does not accept any liability either directly or indirectly for any losses suffered in connection with the use or application of the product whether or not in accordance with any advice, specification, recommendation or information given by it.