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BITUSTOP PVC EDGE TIE WATERSTOPS

DESCRIPTION

BITUSTOP PVC WATERSTOPS are produced by melting and shaping mixtures been obtained from Polyvinylchloride (PVC) resin, stabilizer, plasticizer and anti oxidant dyestuff in suitable temperature and pressure in Extruders.

USES

BITUSTOP PVC WATERSTOPS are used for providing water impermeability in expansion-contraction (structure) joint seen in concrete structures exposed to high & low water pressure and for preventing vibrations and deformations that would appear in concrete blocks.

OUTSTANDING FEATURES

- **Proven Profile** - Solid circular end bulbs promote better concrete compaction and simplifies site jointing.
- **Flexible** - Will accomodate movement during construction and service life.
- **Valve Action** - Created by concrete shrinkage around end bulbs.
- **Grou-tite-fins** - Promotes dense concrete and prevents loss of fines at stop-end shutter.
- **Edge Flange** - Provide positive anchorage for tying wires fastened through reinforced wiring holes.
- **Moulded Transitions** - Available to link with Bitumat external waterstops. WRc approved for potable water.
- **Flat Dumbell** - For construction / contraction joints with partial restraint.
- **Centre Bulb** - For expansion / movement joints subject to a limited degree of deflection.

PVC Edge Tie is an internally cast PVC waterstop system manufactured in a range of sizes for use in reinforced concrete structures. It is essential to form a continuous waterstop network at all joints to prevent the ingress of moisture and it is vital to use factory produced fabrications for changes of direction or profile, with site jointing limited to simple butt welds. PVC Edge Tie, internal flexible waterstop systems, have been developed with solid circular end bulbs for positive embedment in insitu concrete by creating a valve action to seal the water path, suitable for horizontal and vertical applications. They are extruded from high grade polyvinyl-chloride compounded with first quality plasticisers to form a pliable waterstop which remains flexible at low temperatures ideally suited

for sealing joints in concrete structures subject to water pressure Being cast into the centre of the concrete member, PVC Edge Tie waterstops will provide resistance against hydrostatic pressure from both faces.

Waterproofing/Tanking Systems

Where a moisture / vapour proof basement, roof or similar structure is required the PVC Edge Tie/ Bitumat flexible tanking system can be adopted to provide total building security.

Site Jointing

The process of heat fusion or welding is used to provide butt joints between lengths of Bitumat PVC Edge-Tie Waterstop or between lengths of waterstop and preformed junction pieces. A special portable jig (2) is provided for this purpose and is used in conjunction with a heated blade (1).

The ends of the waterstop having been cut square, the jig is used to line up the two ends of the waterstop in precise opposition. The heated blade is then inserted between the two ends and the material is melted on contact. The blade is then removed and the two ends of the waterstop pushed together in the jig where they achieve fusion These bending radii are based on an ambient temperature of 20°C and will increase slightly at lower temperatures.

Typical Junction Pieces

Available for Flat Dumbell and Centre Bulb Waterstops. Additional patterns other than those illustrated are available.

Non regular design requirements of all types can be met by the supply of irregular L and Y Junction pieces manufactured in the full range of sizes. When ordering specify all the included angle.

Supply for construction/contraction joints Flat Dumbell

170mm wide	15m rolls wt 21.9 kg
210mm wide	15m rolls wt 27.8 kg
250mm wide	15m rolls wt 36.7 kg

Supply for expansion/movement joints Centre Bulb

210mm wide	15m rolls wt 26.9 kg
260mm wide	15m rolls wt 38.4 kg

Recommended movement range for PVC Edge Tie to be limited to 12mm. For movements in excess of this, please consult our Engineering Department for guidance.



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Ancillary Materials

External Waterstops for non-suspended slabs Range of sizes available for use in water retaining and water excluding structures

Heavy duty internal waterstops for critical structures Range of sizes available for deep water retaining structures

LM, low modulus internal waterstops for large movements joints Range of sizes available for water retaining structures & joints subject to mining subsidence of settlement

Equipment

PVC Edge Tie Welding Jigs Unit various sizes
Electric (110v or 220v) Unit
Welding Knife
Mild Steel Welding Knife Unit

Equipment by others

Fine tooth saw, wire brush, Stanley knife, 110v or 220v power source, blow lamp if non-electrical mild steel knife is used.

Application

Slab joints

The Bitumat PVC Edge Tie waterstop is supported in specially prepared split stop-end formwork which holds the waterstop in the horizontal plane to prevent dis-placement and folding so that half its width will be cast into the concrete approximately half way through the thickness of the slab.

Care must be taken to ensure that the waterstop is retained 'in the horizontal plane and that adequate compaction of concrete takes place below the web of the waterstop in order to avoid "honeycombing". Lifting the waterstop during compaction to release entrapped air will assist in forming dense compacted concrete. After stripping the formwork supporting the waterstop, the second half can be cast into the adjoining slab with similar precautions taken with regard to "honeycombing".

Wall joints

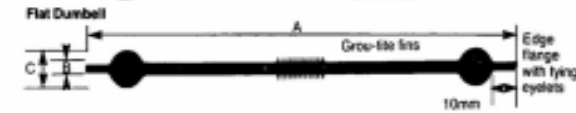
The waterstop must be supported in split-end form work as described for slab joints, with great care taken to ensure that the waterstop does not fold over under the weight of the poured concrete.

To eliminate fold-over, the waterstop should be wired to the reinforcing steel using the wiring holes provided. A fully continuous waterstop network shall be formed using factory made junctions with

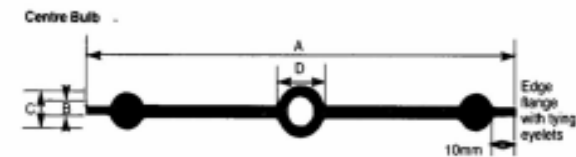
site joints limited to simple butt welds between similar sections.

Product Range at a glance

SN	FD	CB	HD	EX
1	170			
2	210			
3	250			
4		210		
5		260		
6			240	
7				240



Type	Dimensions	A	B	C
170 FD		170mm	5mm	13mm
210 FD		210mm	5mm	13mm
250 FD		250mm	5mm	19mm



Type	Dimensions	A	B	C	D
210 CB		210mm	5mm	13mm	8mm
260 CB		260mm	5mm	19mm	10mm

Health and Safety

Fused site welded jointing of PVC waterstops can result in the liberation of hydrochloric acid fumes. In confined spaces forced ventilation must be provided or a suitable respirator used. On open sites special precautions are not normally required but operators should avoid inhaling any fumes. Before using electric welding knife ensure that it is correctly earthed.

Specification

Bitumat PVC Edge Tie waterstops of the size and dimension specified shall be used to form a continuous network as shown on the detailed drawings and fixed in position with site jointing limited to butt joints, strictly in accordance with the manufacturer's instructions.

Properties of PVC Compound

Tensile strength	13.78 N/mm ² (2000 psi)
Elongation at break	300%
B.S. Softness	45
Specific Gravity	1.3

Compound Tested in accordance with BS 2571 and US Corps of Engineers CRD-C572-74.

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