

SERVITITE® Flange 170

Internal PVC waterstop system for passive protection of movement joints and construction joints in reinforced concrete structures

Description

SERVITITE® Flange 170 is a PVC waterstop designed for movement joints in concrete basements and substructures at the junction of existing and new reinforced concrete structures. It is suitable for both horizontal and vertical application and provides a passive, permanent, physical barrier to water ingress. Located in the centre of the concrete member, SERVITITE® Flange 170 will provide resistance against hydrostatic pressure from both faces. SERVITITE® can be used in Type B (BS8102:2009) reinforced concrete structures to protect against water ingress through movement for water-resisting basements. As part of the GCP system, SERVITITE® provides joint protection for up to Grade 3 basements as defined in BS8102: 2009.

Advantages

- Specially designed for movement joints between existing structures and new build
- Easy welding – PVC melting temperature easily achieved on-site to facilitate welding
- Pliable – remains flexible at low temperature
- High quality PVC compound – ensures long term expansion performance
- Compatibility – SERVITITE® is compatible with all GCP joint protection products and below ground water proofing systems
- Chemically resistant – to most chemicals present in the ground including those in ‘brown field’ sites
- Salt water resistant – unaffected by salt water and saline conditions

Application

For movement joints between new and existing buildings and in accordance with BS8102 to provide:

- Joint protection of water-resisting basements – Type B protection
- Joint protection of water-resisting basements with PREPRUFE® system – Type A protection
- Joint protection of water-resisting basements with HYDRODUCT® CF system – Type C protection

Tunnels and subway

Abutments and retaining walls

Installation

A continuous waterstop network should be used at all joints to prevent the ingress of moisture using only factory produced fabrication for changes of direction or profile with site jointing limited to simple butted welds. Before concreting, waterstops must be clean and free from concrete laitance, oil, grease or any other contamination that might prevent a good waterstop to concrete bond.

When installed centrally in a joint, minimum concrete section is 190 mm.

Horizontal Slab joint:

SERVITITE® should be supported in specially prepared split stop-end formwork. This holds the waterstop horizontally, preventing displacement and folding so that half of the width of the waterstop will be cast into the concrete approximately half way through 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 remaining part of the waterstop can be cast into the adjoining slab taking similar precautions discussed in the previous paragraph.

Wall Joints:

SERVITITE® 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 poured concrete. The waterstop may be securely wired to the reinforcing steel using the appropriate Secura Clips supplied, clipped over the end bulbs.

In both case the SERVITITE® Flange 170 should also be fixed to existing reinforced concrete structures as described below:

- Mark the position of the SERVITITE® Flange 170 on the existing reinforced concrete.
- Apply the BITUSTIK™ on the reinforced concrete along the marked position.
- Bed the SERVITITE® Flange 170 onto the BITUSTIK™.
- Apply a second layer of BITUSTIK™ on SERVITITE® Flange 170.
- Mechanically fix the Galvanized Steel Plate onto the second layer of BITUSTIK™ and through the SERVITITE® Flange 170.

Use Internal Corner Piece 100 and External Corner Piece 200 for fixing the galvanized steel plate at corners.

On-site Welding:

The ends of the waterstop to be joined must be straight and square and carefully aligned in the jig. Heat the welding knife using a small Serviseal off cut to test that the knife has reached the correct welding temperature. Insert the welding knife between the two waterstop ends to be welded and press them onto the blade. Hold this position and allow the waterstop to melt along the full length of each face and an even molten bead of PVC can be seen. Slide the jig apart before lifting the welding knife upwards in one smooth action. Immediately slide the jig back to bring the molten waterstop ends firmly together for approximately 30 seconds.

Supply

SERVITITE® Flange 170

Weight	10 m coil 28 kg
Standard Junction	Flat L / Vert L

Special Junction Fabrication	Junction made on demand to suit with site requirements. Please contact your GCP representative
Fixing Accessories	(ordered separately)
Galvanised Steel Plate	80 x 10 x 1450 mm
Supply by one piece	Thickness 10 mm
Internal Corner Piece 100	side length 100 mm
Supply by one piece	Thickness 10 mm
External Corner Piece 200	side length 200 mm
Supply by one piece	Thickness 10 mm
Flange -	wide SERVITITE® secura clip supplied in bag of 100 pieces
BITUSTIK™	150 mm x 12 m
Ancillary Products	AEROFIL®, GCP Sealants
Equipment by GCP	Welding Knives Electrical Knife 110v or 200v Jointing Jigs Jig SERVITITE® Flange

Equipment by Others: *Fine tooth saw, wire brush, Stanley knife, 110v or 220v power source, blow lamp or gas torch if nonelectrical mild steel knife is used, mechanical fixing*

Typical Properties

PROPERTY	VALUE	TEST METHOD
Shore A Hardness	79 ± 5	ISO 868
Tensile Strength	> 10 N/mm ²	ISO 527-2
Elongation at break	> 300 %	ISO 527-2

All declared values shown in this data sheet are based on test results determined under laboratory conditions and with the product sample taken directly from stock in its original packing without any alteration or modification of its component parts.

Health and Safety

There is no legal requirement for a Safety Data Sheet for SERVITITE® or AEROFIL®. For health and safety questions on these products please contact GCP Applied Technologies.

For GCP Sealants read the product label and Safety Data Sheet (SDS) before use. Users must comply with all risk and safety phrases. SDS's can be obtained from GCP Applied Technologies or from our web site at gcpat.com.

Irritating fumes (Hydrogen Chloride) will be liberated when the product is heat welded. Ensure adequate ventilation. The coil must be carried by two persons.

NBS Specification Clause

Refer to Clause E40 310.

North America customer service: 1-877-4AD-MIX (1-877-423-6491)

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