

# Solco Hydrotite Waterstops

## Description:

Solco Hydrotite is a composite strip of blue hydrophilic (water absorbing) and black non-hydrophilic rubber. On contact with water, the hydrophilic rubber expands to seal gaps and prevent further water ingress in precast and cast-in-situ joints. The dark blue hydrophilic rubber turns light blue as it absorbs water, giving a clear visual indicator of any premature expansion.

Solco Hydrotite has a central void that absorbs pressure in the initial stages of expansion to reduce the risk of concrete cracking.

A delay action coating prevents immediate expansion on contact with rain and moisture during transport, storage, and installation. It also stops Hydrotite absorbing water from freshly poured concrete.

Hydrotite waterstop is chemically inert and has passed the WRC Tests of Effect on Water Quality (BS6920), making it suitable for use in potable water applications. It is resistant to mineral and vegetable oils, petrol, and many other chemicals.

## Application:

Performance principles: Hydrotite absorbs water across its hydrophilic rubber component, increasing in thickness up to twice its dry state (100%), depending on water chemical conditions.

In precast construction joints, it provides a secure seal against heads of water up to 0.1 MPa (10m). In cast-in-situ joints, it provides protection up to 0.5 MPa (50 metre head of water).

When integrated into a concrete joint, Hydrotite achieves a durable seal by:

- Conforming to gap variations to create a conventional packing effect.
- Expanding under contact with water to seal any remaining gaps in the joint.
- Retaining expansion qualities throughout its design life to seal in any further gaps that develop through settlement.

## Swelling Properties:

Tests showed an increase of almost 6 times its original volume. This test used distilled water at 23°C over an immersion period of fourteen days.

## Typical Uses:

Solco Hydrotite has a wide range of applications in infrastructure and large-scale construction projects where conditions dictate high performance and design life in excess of 100 years.

- Potable water reservoirs.
- Utility chambers.
- Swimming pools.
- Basements and footings in high-value commercial developments.
- Cast-in-place transit tunnels.
- Sewage treatment tunnels.
- Parking garages.
- Bridges.
- Hydrodams.



CJ-0725



CJ-1020



CJ-2020



CJ-3030

- Co-extrusion ensures expansion is across the joint for maximum seal.
- Unaffected by repeated wet and dry cycles.
- No site welding as is required for traditional PVC waterstops.
- Has a delay coating to help prevent premature expansion.
- Changes colour as a visual alert to let you know it has expanded.
- No need for special intersections, joining is by simple butt joints.
- Can be applied to rough surfaces using Leakmaster gun grade waterstop.
- Easy to handle and install.
- Can be joined to traditional PVC waterstops.

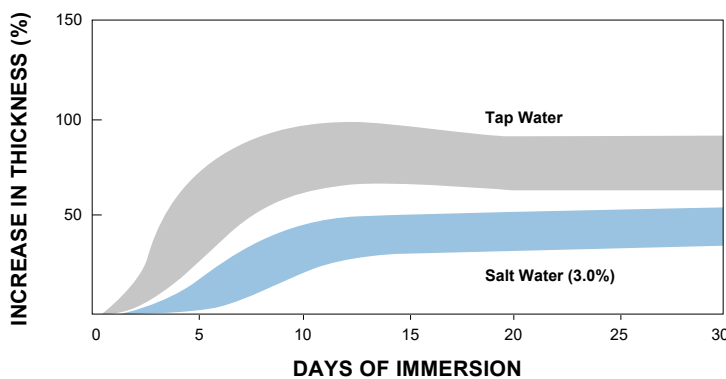
## Technical Data:

| Property                              | Hydrophilic Rubber |         | Non-Hydrophilic Rubber |         |
|---------------------------------------|--------------------|---------|------------------------|---------|
|                                       | Standard           | Typical | Standard               | Typical |
| Specific Gravity                      | 1.40 ± 0.10        | 1.35    | 1.40 ± 0.10            | 1.41    |
| Hardness (JIS A)                      | 50.0 ± 5.0         | 52.0    | 50.0 ± 5.0             | 51.0    |
| Tensile Strength (N/mm <sup>2</sup> ) | min. 2.94          | 3.63    | min. 8.82              | 12.25   |
| Elongation (%)                        | min. 600           | 760     | min. 400               | 435     |

Note: Specimen: Pressed rubber sheet made of the same compound of the products. The specifications shown above may be changed without notice to improve product quality. 'Standard' represents factory specifications. 'Typical' represents most commonly recurring results.

## Swelling Characteristics:

Swelling characteristics of Hydrotite CJ depend on water quality. Typical examples shown below:



## Packaging and Storage:

Hydrotite is packaged in convenient 10m rolls, weighing less than 3kg each. There are 4 rolls in one standard box.

Store Hydrotite in a cool, dark, dry place. Avoid damp conditions, as exposure to moisture, can lead to premature expansion, which may reduce the effectiveness of the watertight seal.

| Available Sizes |                |   |            |               |
|-----------------|----------------|---|------------|---------------|
| VISUAL          | ITEM           | HEIGHT (mm)   | WIDTH (mm) | PACKAGING (m) |
|                 | CJ-0725-3K     | 7   | 25         | 10 x 4        |
|                 | CJ-0725-3K-ADH | Same as above, with pressure sensitive adhesive backing |            |               |
|                 | CJ-1020-2K     | 10  | 20         | 10 x 5        |
|                 | CJ-1020-2K-ADH | Same as above, with pressure sensitive adhesive backing |            |               |
|                 | CJ-1020-4M     | 20  | 20         | 10 x 1        |
|                 | CJ-1030-4M     | 30  | 30         | 10 x 1        |

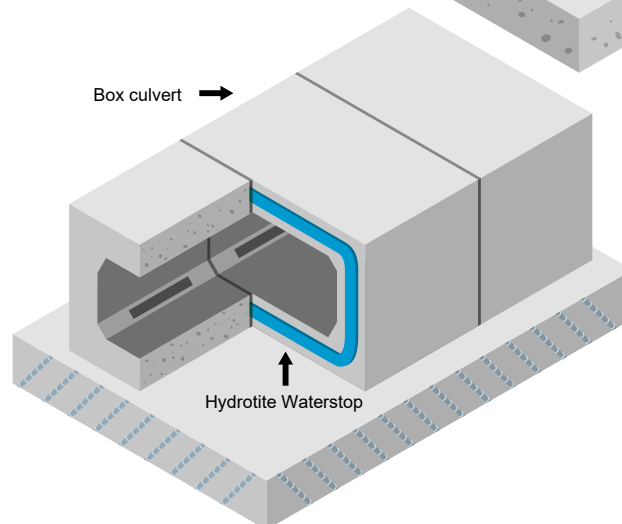
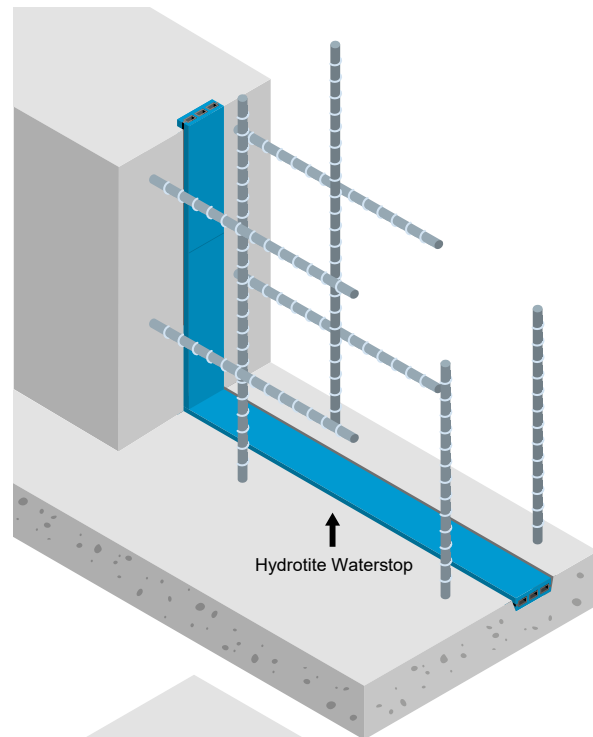
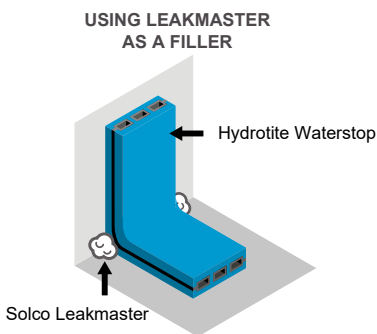
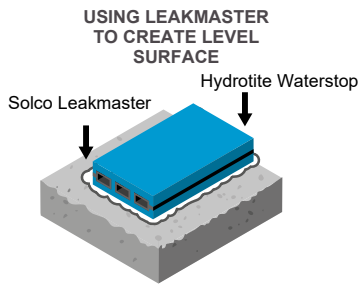
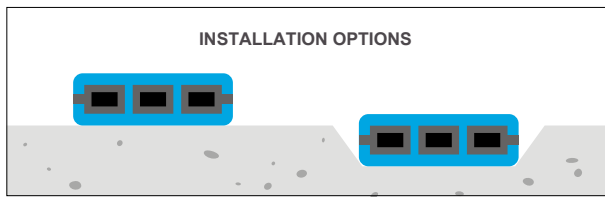
## Installation:

Solco Hydrotite may be installed in a pre-formed groove, or directly onto the flat surface. The second pour should be made as soon as possible after the waterstop is installed to avoid premature swelling on contact with rain, dew, or groundwater.

For the best bond and most effective performance, the surface of the cured first pour should be smooth, even and free of dirt, oil, and laitance. Concrete surfaces left rough by jackhammering or weathering should be smoothed off. Solco Leakmaster Sealant can also be used to level bonding surfaces.

For a firm fix, coat the concrete surface and the underside of the Solco Hydrotite strip with Hydrotite Contact Adhesive A28. Allow to air dry for 2 to 3 minutes before pressing home.

All installations should be checked for gaps between Hydrotite profiles and the substrate before the second pour. Fill any gaps with Solco Leakmaster Sealant and allow to dry before pouring.



## Joining:

Where corners are too sharp to offer sufficient surface contact for proper adhesion, Solco Hydrotite can be cut and butted together.

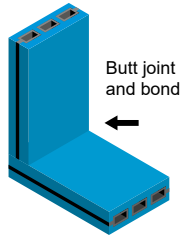
Straight lengths should be cut square with a sharp knife or shears and glued using a Cyanoacrylate glue (superglue). Press and hold the cut ends together to secure the joint. If necessary, gaps or fissures can be filled with Hydrotite Leakmaster.

Flat 90 degree corners are created by mitre cutting both ends at 45-degree angles and fixing with Cyanoacrylate glue. If the width of the joint surface allows, Solco Hydrotite can be bent about its long axis to a 90-degree angle with an inside radius of 60mm.

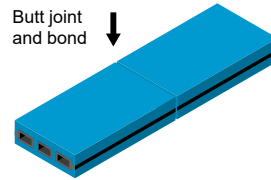
## Second Pour:

It is recommended that concrete is poured to a minimum depth of 100mm to avoid cracking when Hydrotite starts to expand within the joint. A delay action coating ensures concrete has time to begin curing before expansion takes place.

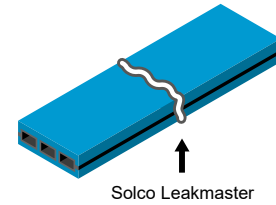
JOINTS AT CORNER



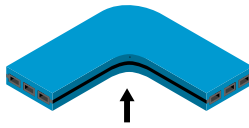
JOINING STRAIGHT LENGTHS



USING LEAKMASTER AS A JOINT FILLER

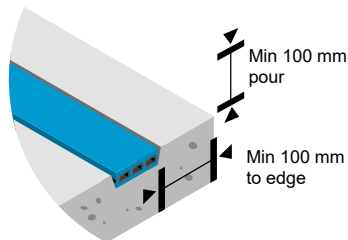


RIGHT ANGLE BEND

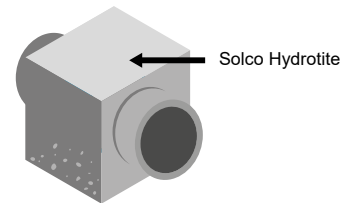


Solco Hydrotite can be bent to a minimum internal radius of approx 60 mm. Otherwise mitre and bond.

MINIMUM POUR DEPTH



PIPE PASSING THROUGH CONCRETE



## Health and Safety:

- Wear protective gloves for handling and installing Solco Hydrotite.
- Store in a cool, dry, well-ventilated place.
- Keep away from water, heat, flames, and sunlight.
- Thermal decomposition may produce harmful gasses, including HCl and CO.
- In the event of a fire, use carbon dioxide, dust, and foam extinguisher and ventilate smoke from the affected area as quickly as possible.
- Dispose of waste and offcuts in line with local or national legislation.