

# HYDROTITE

## HYDROPHILIC CHLOROPRENE RUBBER WATERSTOP

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### PRODUCT DESCRIPTION

Hydrotite is the brand name for a state of the art hydrophilic waterstop with unmatched durability and water sealing capacity. Hydrotite expands as it absorbs water and fills up concrete joint gaps conforming to the gap variation, ensuring excellent sealing. Hydrotite is based on the technology of hydrophilics, a material which expands in a controlled fashion by approximately eight times by volume in the presence of moisture to create a pressure seal within the joint, when properly installed. Hydrotite is capable of sealing heads of water up to 30 metres and is used extensively throughout the construction industry to seal horizontal and vertical construction joints for poured in-situ concrete.

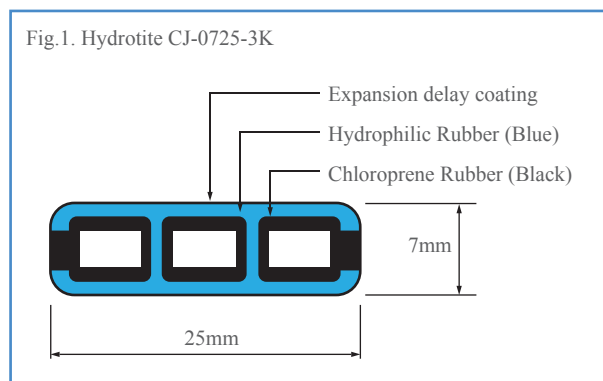
Hydrotite consists of a unique combination of expanding hydrophilic materials and non-expanding chloroprene rubber, co-extruded together to form a single strip. The expanding section is blue with the non-expanding section being black. The co-extruded design means that the expansion is directed across the joint for maximum sealing performance. This expansion creates an effective compression seal within the joint, preventing the egress of water through it. Upon expansion, Hydrotite turns from a dark blue colour to a light blue colour, so that a visual inspection of the Hydrotite can be made and so the contractor can see if the Hydrotite has pre-expanded.

Contractors require an economical waterstop that is easy to install and needs to perform over a long period of time maintaining joint integrity. Recognised world-wide, Hydrotite has a proven track record as a high quality and cost effective solution as a waterstop for water retaining or water excluding needs.

Hydrotite is treated with a delay coating to prevent it from absorbing water from the wet concrete of the second pour, and to also help stop any premature expansion should the joint become ponded with water, prior to the second pour being placed, and to stop any premature expansion taking place before curing of the concrete.

Hydrotite, as with any hydrophilic waterstop, will return to its original size if there is no more water or moisture present. Hydrotite will then re-expand when water or moisture is reintroduced to the joint. Some initial leakage may occur before Hydrotite re-expands fully. Repeated wet and dry cycling of this nature does not affect the functioning of Hydrotite.

The standard dimension and shape of CJ-0725-3K is as per fig. 1



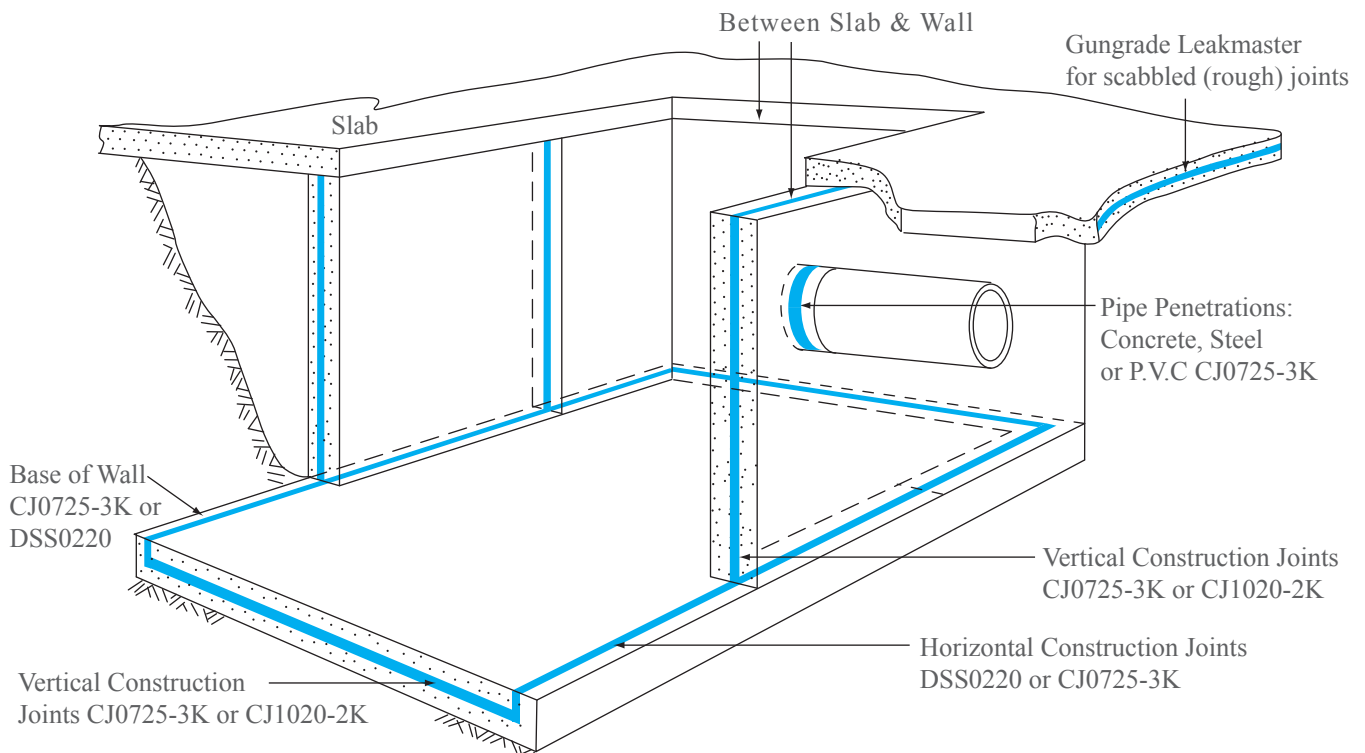
## ADVANTAGES

- Easy to handle and install
- Excellent adhesion to concrete surfaces
- Outstanding physical properties
- Profiles with self-adhesive backing allow for simple and fast installation processes
- Co-extruded design means expansion is directed across the joint for maximum seal
- Unaffected by repeated wet and dry cycles
- No site welding is required for joining processes
- Has a delay coating to help prevent premature expansion
- Extra delay coating is available for very wet conditions, if required
- 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
- Can be joined to traditional PVC waterstop
- No compaction or displacement problems
- Non toxic and non hazardous

## AREAS OF APPLICATION

Hydrotite is to be used where watertight integrity is the prime issue. Typical applications where there is a need to achieve a water

- Sewerage Treatment Plants
- Water Treatment Plants
- Reservoirs
- Water Tanks
- Swimming Pools
- Tunnels
- Subway Stations
- Basements
- Pits
- Pipe Penetrations

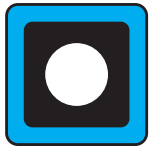


Note : Contact AITKEN FREEMAN for application and product type verification.

## PROFILE SELECTION

Shown below is a guideline of the types of Hydrotite profiles that are available for use in construction joints in various projects.

Note : Contact AITKEN FREEMAN for application and product type verification. Joint details should be verified and approved by the Consulting Engineer who should satisfy himself of the suitability of the product for its intended use.



CJ-3030-M



CJ-2020-M



RSS-TYPE



DSS-0220



CJ1020-2K



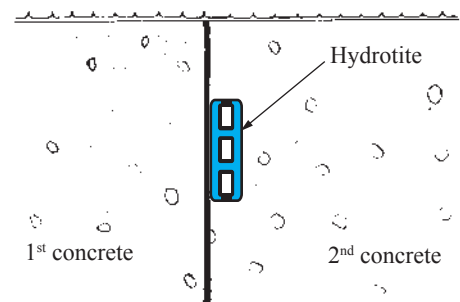
CJ0725-3K



CJ-1030-4M

- VERTICAL CONSTRUCTION JOINTS  
CJ0725-3K, CJ1020-2K, CJ1030-4M
- HORIZONTAL CONSTRUCTION JOINTS  
DSS0220, CJ0725-3K, CJ1020-2K, LEAKMASTER
- JOINT AND LEAK REPAIRS  
RSS RODS VARIOUS SIZES
- PIPE PENETRATIONS  
DSS0220, CJ0725-3K, LEAKMASTER
- THRU TIE HOLES

### Typical Application of Hydrotite



## PHYSICAL PROPERTIES

ITEM	UNIT	HYDROPHILIC RUBBER		CHLOROPRENE RUBBER		TEST METHOD
		Specification	Typical	Specification	Typical	
Hardness		A50 ± 5	A53	A50 ± 5	A54	JIS K 6253
Tensile Strength	MPa	Min. 2.5	2.9	Min. 8.8	10.1	JIS K 6251
Elongation	%	Min. 600	700	Min. 400	530	JIS K 6251

## WRITTEN SPECIFICATION

Hydrophilic expanding waterstops shall be placed at the joints in the concrete at the locations shown on the drawings in accordance with the requirement of this specification. Waterstops where shown on drawings shall be Hydrotite (fill in profile number) Hydrophilic Waterstops as supplied by AITKEN FREEMAN.

The waterstop shall consist of a non-expansive black chloroprene rubber, co-extruded with a blue hydrophilic rubber, which is capable of swelling by approximately eight times by volume. The waterstop shall be treated with a delay coating to prevent premature expansion and be able to change colour upon expansion which acts as a visual alert that the waterstop has started to

## LEAKMASTER

Leakmaster is a water swelling gun grade waterstop with excellent and unique physical properties. It can be used in places where the standard extruded profiles are not suitable in areas such as rough concrete surfaces or as a back-up to these profiles in complex junctions. (Please refer to separate Leakmaster brochure).

## PACKAGING

PROFILE	DIMENSIONS	METRES PER ROLL	METRES PER CARTON
DSS0220*	20mm x 2mm	25	100
CJ0725-3K*	25mm x 7mm	10	40
CJ1020-2K*	20mm x 10mm	10	50
CJ1030-4M	30mm x 10mm	10	40
CJ2020-M	20mm x 20mm	10	30
CJ3030-M	30mm x 30mm	5	10
RSS1208D	12mm diameter	20	40
RSS1610D	16mm diameter	10	20
RSS2014D	20mm diameter	10	20
RSS2519D	25mm diameter	5	10

\* These profiles are also available with self-adhesive backing (upon request).

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## CHEMICAL RESISTANCE

The influence of pH values of concrete, grouting material and ground water upon the expansion of Hydrotite was tested using hydrophilic rubber as below. The specimen was immersed in each solution for seven days and the retention value of tensile strength and elongation were measured. Then, the specimen was removed from each solution and placed in tap water for seven days. The specimen was then compared with specimens that had been expanded in tap water only.

The retention value of both physical properties and expansion was compared with that of specimens tested in tap water. Hydrotite keeps the retention values 90% or more in all solutions listed in the table below. In the table, "O" indicates retention value 90% or more.

TYPE OF TEST SOLUTION	CHANGE OF PHYSICAL PROPERTIES AFTER 7 DAYS IMMERSION		RETENTION OF EXPANSION VALUE AFTER 7 DAYS IMMERSION IN TAP WATER FOLLOWING IMMERSION IN SOLUTION
	TENSILE STRENGTH	ELONGATION	
pH 3 aqueous solution	○	○	○
pH 5 aqueous solution	○	○	○
pH 7 (tap water)	—	—	—
pH 9 aqueous solution	○	○	○
pH 11 aqueous solution	○	○	○
Ferrous aqueous solution	○	○	○
Bentonite aqueous solution	○	○	○
Grout aqueous solution	○	○	○

## HEALTH AND SAFETY

For further information or advice on health and safety precautions, safe handling, storage and correct disposal of products, please refer to the most recent product Material Safety Data Sheet (MSDS), which is available upon request. In confined spaces or in still air conditions, the use of a ventilation fan or suitable respirator should be used, and the advice and approval of the Site Safety Supervisor is essential.

The information and the recommendations relating to the application and end use of this product are given in good faith and are based on the information provided by the manufacturer of the product and/or the Company's current knowledge and experience in connection with the product when properly stored, handled and applied under normal conditions and no liability of final function at the job site is assumed. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability of or fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written and/or oral recommendations, or from any other advice offered by the Company. No responsibility or liability by the Company will be accepted for misuse, misreading or derivation from the recommended guidelines in respect of this product and the user shall determine the suitability of the product for his intended use and assume all risks and liability in connection therewith. The information contained in this brochure may change at any time without notice.

Effective Date: 12 October 2016

