

Hydrotite

Premium grade, water swellable, waterstop range for use in cast in-situ concrete

DESCRIPTION

Hydrotite is a hydrophilic waterstop which exhibits excellent durability and water sealing capacity. It 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 50 m and is used throughout the construction industry to seal horizontal and vertical construction joints for poured in-situ concrete.

Hydrotite offers various profiles for in-situ concrete construction joints such as DSS0220, CJ0725-3K, CJ1020-2K, CJ1030-4M. It 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.

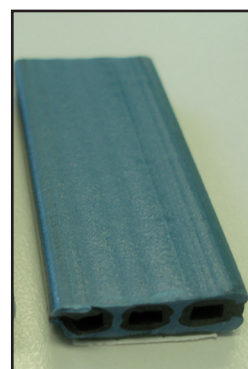
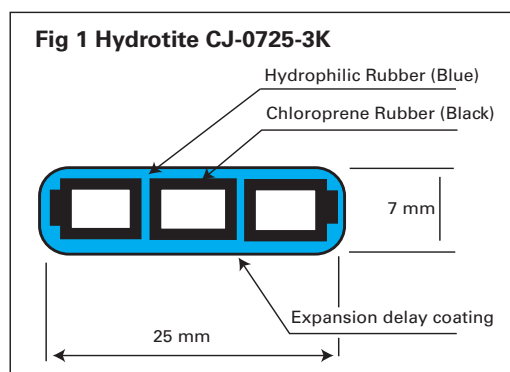
This expansion creates an effective compression seal within joints which shuts out the water path. Upon expansion Hydrotite turns from a dark blue colour to a light blue colour so that a visual inspection of the Hydrotite can be made and the contractor can check if the Hydrotite has pre-expanded.

Hydrotite is treated with a delay coating to prevent it from absorbing water from the moist green concrete, to help stop any premature expansion should the joint become ponded with water prior to the second pour and to stop any premature expansion taking place before curing of the concrete. For areas where ponding or running water may be a problem, please contact Parchem or your local distributor for advice.

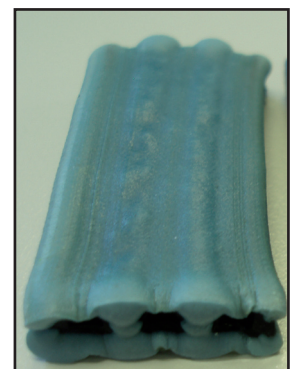
Some Hydrotite profiles are available with a self-adhesive backing which makes installation easier and lowers construction time and costs. The self-adhesive backing means that the purchase of other construction adhesives is not required and also saves the contractor the installation costs of applying the adhesive to 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 again introduced to the joint. Some leakage may occur before Hydrotite re-expands fully. Repeated wet and dry cycling of this nature does not effect the functioning of Hydrotite.

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



Before expansion

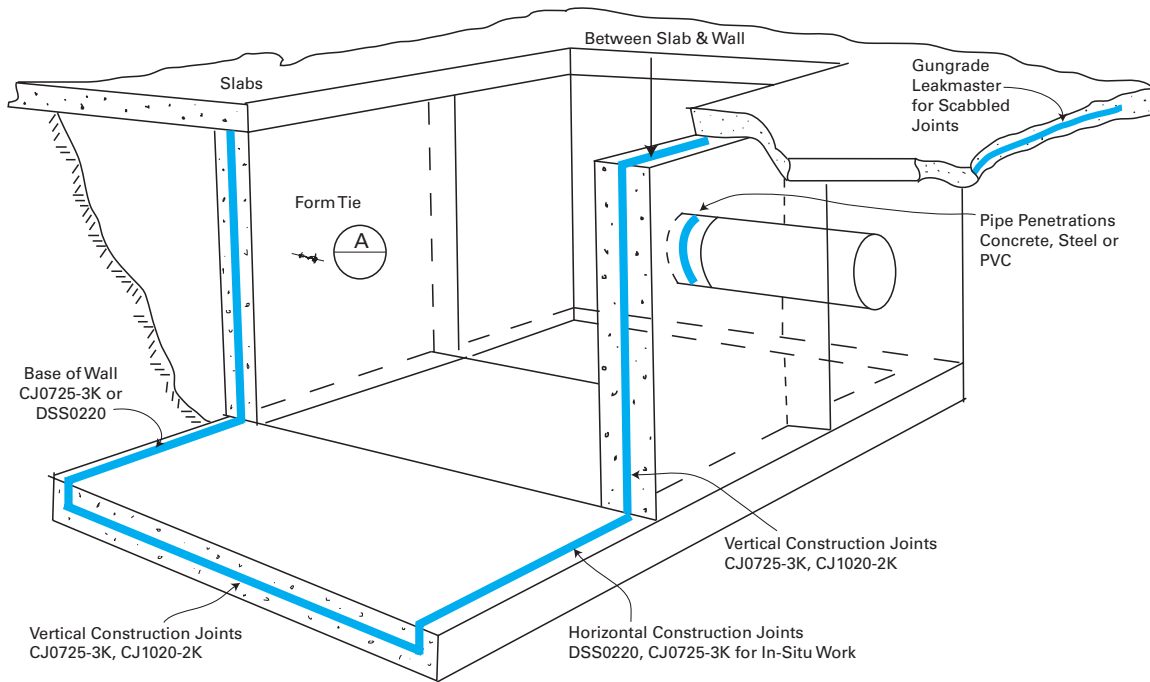


After expansion

an alesco company

Corkjoint

PARCHEM	CONCRETE REPAIR	FLOORING	JOINTING SYSTEMS	WATERPROOFING
TECHNICAL DATA SHEET	JUNE 09			
www.parchem.com.au	7 Lucca Road, Wyong NSW 2259	Sales 1800 624 322	Technical 1800 812 864	ABN 80 069 961 968



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 seal include:-

- Sewerage treatment plants
- Pipe penetrations
- Subway stations
- Water treatment plants
- Swimming pools
- Basements
- Reservoirs
- Tunnels
- Pits

Vertical Construction Joints: CJ0725-3K, CJ1020-2K, CJ1030-4M, CJ2020-M

Horizontal Construction Joints: DSS0220, CJ0725-3K, CJ1020-2K, Leakmaster

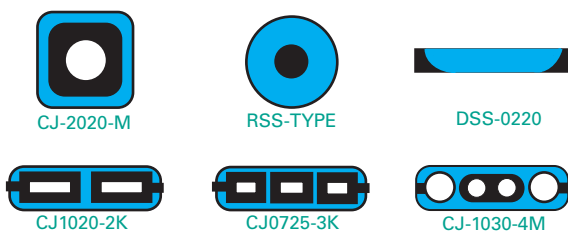
Joint and Leak Repairs: RSS rods various sizes

Pipe Penetrations: DSS0220, CJ0725-3K, Leakmaster

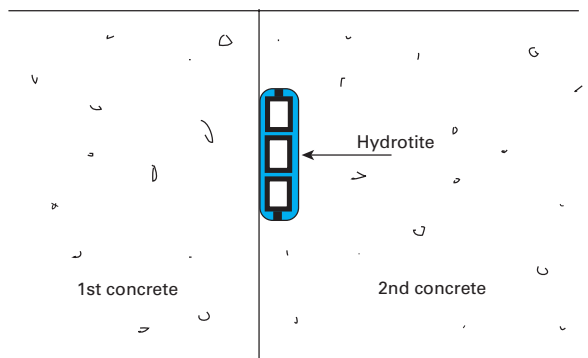
Thru Tie Holes: RSS rods, RSS2519D, RSS2014D

GUIDE TO PROFILE SELECTION

Shown below is a guideline of where Hydrotite profiles have been specified and used in construction joints in various projects. Joint details should be verified by the Consulting Engineer who should determine the suitability of the products for its intended use.



Typical Application of Hydrotite



ADVANTAGES

- Self-adhesive properties makes installation much easier and reduces construction costs
- Co-extruded design means expansion is directed 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
- Extra cans of delay coating are available 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
- Easy to handle and install
- Can be joined to traditional PVC waterstop
- No compaction or displacement problems
- Non toxic and non hazardous
- No need for split forming

DESIGN CRITERIA

Hydrotite should be used to prevent the passage of water through low movement joints in both new in-situ concrete and between new and existing concrete. Hydrotite can also be used around penetrating pipe entries prior to concrete placement. Hydrotite increases in volume in the range of up to 800% and gives a resistance to hydraulic heads of up to 50 metres.

Hydrotite waterstops should be positioned to ensure that a minimum of 50 mm cover of concrete is present to accommodate pressure developed during the swelling process.

Hydrotite is suitable for applications between existing and newly placed concrete where there is little or no steel continuity and therefore some small movement may occur.

Hydrotite is generally not suitable for use in expansion joints

TABLE 1: BASIC PHYSICAL PROPERTIES OF HYDROTITE

Item	Unit	Hydrophilic Rubber		Chloroprene Rubber	
		Standard	Typical	Standard	Typical
Specific Gravity		1.40 ± 0.10	1.35	1.40 ± 0.10	1.41
Hardness	(JIS-A)	50 ± 5	52	50 ± 5	51
Tensile Strength	N/mm ²	min. 2.94	3.63	min. 8.82	12.25
Elongation	%	min.600	760	min. 400	435

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 follows.

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.

TABLE 2: BEHAVIOUR IN CHEMICAL SOLUTION

Hydrotite exhibited retention values 90% or more in the following solutions:

- 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

PACKAGING

PROFILE	DIMENSIONS	METRES PER ROLL	METRES PER CARTON
DSS0220 *	20 MM X 2 MM	25	100
CJ0725-3K *	25 MM X 7 MM	10	40
CJ1020-2K *	20 MM X 10 MM	10	50
CJ1030-4M	30 MM X 10 MM	10	40
CJ2020-M	20 MM X 20 MM	10	30
RSS 1208D	12 MM DIAMETER	20	40
RSS1610D	16 MM DIAMETER	10	20
RSS2014D	20 MM DIAMETER	10	20
RSS2519D	25 MM DIAMETER	5	10

* these profiles available with self adhesive backing

LIMITATIONS

- Not recommended for use in suspended slabs or expansion joints
- Minimum of 50 mm cover of concrete over Hydrotite for reinforced concrete and 100 mm cover of concrete or unreinforced concrete based on concrete strength of 22.5N mm²
- Expansion rate can vary in salt or contaminated water
- Not for use where excessive shrinkage may occur

SPECIFICATION CLAUSE

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 Parchem.

The waterstop shall consist of a non-expansive chloroprene rubber, co-extruded with a blue hydrophilic rubber which is capable of swelling by approx. 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 expand.

The waterstop is to be installed strictly in accordance with the manufacturers recommendations. Please refer to Hydrotite Installation Guidelines.

ADDITIONAL INFORMATION

Parchem provides a wide range of complementary products which include:

- concrete repair – cementitious and epoxy
- grouts and anchors – cementitious and epoxy
- waterproofing membranes – liquid applied, cementitious and bituminous sheet membranes
- waterstops – pvc and swellable
- joint sealants – building, civil and chemical resistant
- industrial flooring systems – cementitious and epoxy
- architectural coatings
- filler boards – swellable cork, bituminous and backing rod
- ancillary products

For further information on any of the above, please consult with your local distributor or Parchem sales office.

IMPORTANT NOTICE

A Material Safety Data Sheet (MSDS) and Technical Data Sheet (TDS) are available from the Parchem website or upon request from the nearest Parchem sales office. Read the MSDS 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 0800 764 766 within New Zealand) 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.

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