

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

Parchem is the certified local distributor of **Hydrotite** in Australia and New Zealand and is authorised to provide approved technical support and product warranties.

Uses

Hydrotite is used where watertight integrity is the prime issue. Typical applications include construction joints for in-situ concrete in:-

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

Advantages

- Self-adhesive makes installation easier and reduces construction costs
- Co-extruded design means expansion is directed across the joint for maximum seal
- Delay coating to help prevent premature expansion
- Unaffected by repeated wet and dry cycles
- No site welding as is required for traditional PVC waterstops
- No need for special intersections, joining is by simple butt joins
- Can be applied to rough surfaces using Leakmaster gun grade waterstop
- Can be joined to traditional PVC waterstop
- No compaction or displacement problems
- Complies to AS/NZS 4020:2018

Description

Hydrotite is a hydrophilic waterstop manufactured by C.I. Takiron Corp. which expands in a controlled manner in the presence of moisture to create a pressure seal within construction joints in concrete structures.

When properly installed Hydrotite is capable of sealing heads of water up to 50m 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, CJ1020. 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.

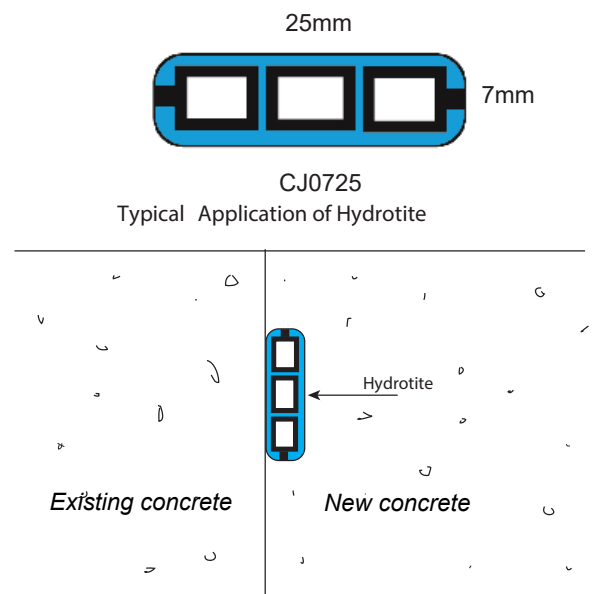
This expansion creates an effective compression seal within joints which shuts out the water path. Upon expansion Hydrotite turns from a dark blue colour to a light blue colour so that a visual inspection of the Hydrotite can be made and the contractor can check if the Hydrotite has not pre-expanded.

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.

Most Hydrotite rectangular profiles are supplied 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 shown below:



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.

Construction Joints:	DSS0220, CJ0725-3K, CJ1020-2K
Pipe Penetrations:	DSS0220, CJ0725-3K,
Thru Tie Holes:	RSS rods: RSS1610D, RSS2014D, RSS2205D, RSS2519D

Installation guides are available from the Fosroc website for typical construction joint details and when using Hydrotite plugs in Thru Tie (tie bolt) holes.

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 up to 500% and gives a resistance to hydraulic heads of up to 50 metres.

Hydrotite waterstops should be positioned to ensure that a minimum of 100 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.

Physical properties of Hydrotite

Item	Unit	Hydrophilic Rubber References	Non-hydrophilic Rubber References	Test Method
Hardness	(JIS-A)	50 ±5	50 ± 5	JIS K 6253
Tensile Strength	N/mm ²	Min.2.00	Min.8.8	JIS K 6251
Elongation	%	Min.550	Min.400	JIS K 6251
Expansion	Vol.%	Min.500	-	In house test

Standards Compliance

Hydrotite complies with AS 4020-2018; AWQC Report 308541.

Copies of the report are available on the Fosroc website.

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

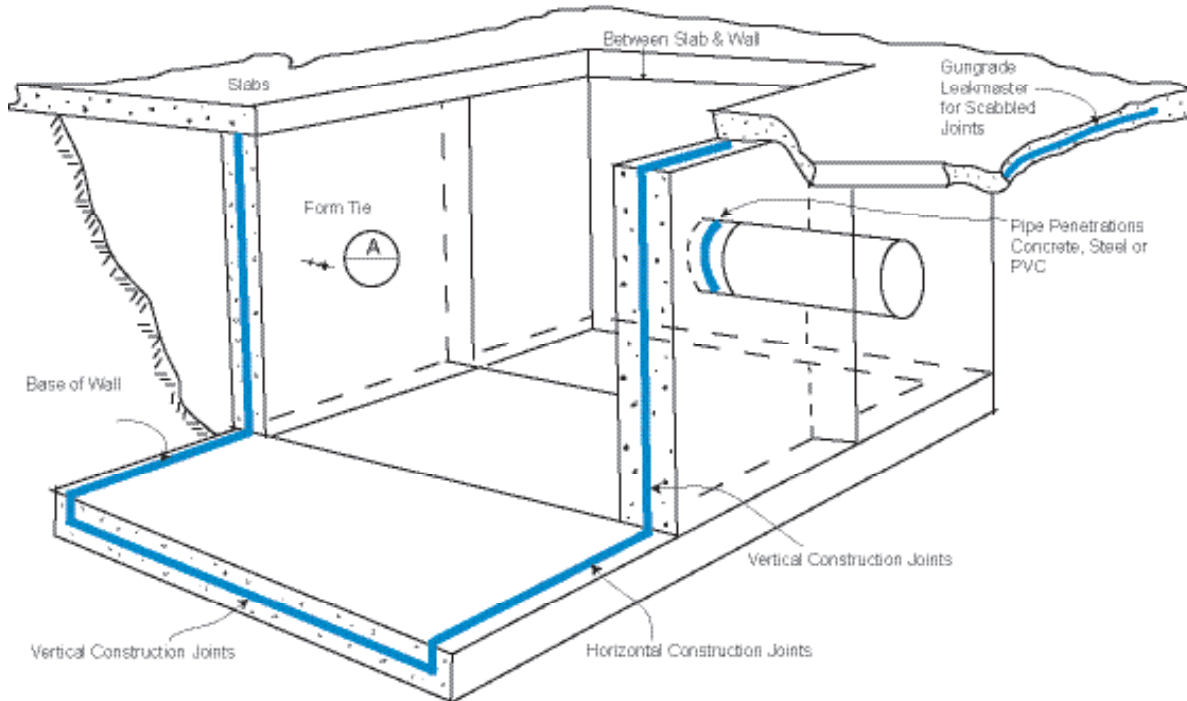
Hydrotite exhibited retention values 90% or more in the following solutions:

- 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

Limitations

- Hydrotite is designed for use in in-situ concrete; not suitable for masonry / blockwork construction applications.
- Not recommended for use in suspended slabs or expansion joints.
- Minimum of 100 mm cover of concrete over Hydrotite for reinforced concrete and 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 or movement may occur.

Hydrotite Areas of Application



Supply

Profile	Dimensions	Material code
Hydrotite CJ0725-3K ADH / 10m roll	7mm x 25mm	FC000550-UNIT
Hydrotite CJ1020-2K ADH / 10m roll	10mm x 20mm	FC000555-UNIT
Hydrotite DSS0220 ADH / 25m roll	2mm x 20mm	FC000560-UNIT
Hydrotite RSS1610D / 10m roll	16mm diameter	FC000580-UNIT
Hydrotite RSS2014D / 10m roll	20mm diameter	FC000455-UNIT
Hydrotite RSS2205D / 10m roll	22mm diameter	FC000595-UNIT
Hydrotite RSS2519D / 5m roll	25mm diameter	FC000545-UNIT



CJ0725



CJ1020



DSS0220



RSS sections

Shelf life

Hydrotite has a shelf life of 3 years from date of manufacture.

When storing, keep Hydrotite in a cool, dark, dry space and not expose it to water or sunlight.

Important notice

A Safety Data Sheet (SDS) is available from the Fosroc website. Read the SDS 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 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.