

TECHNICAL DATA SHEET

DESCRIPTION

Nuraswell is the brand name for a state-of-the-art hydrophilic waterstop with unmatched durability and water sealing capacity. Nurawell expands as it absorbs water and fills up concrete joint gaps conforming to the gap variation, ensuring excellent sealing. Nurawell is based on the technology of hydrophilic, 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. Nurawell is capable of sealing heads of water up to 50 metres and is used extensively throughout the construction industry to seal horizontal and vertical construction joints for poured in-situ concrete.

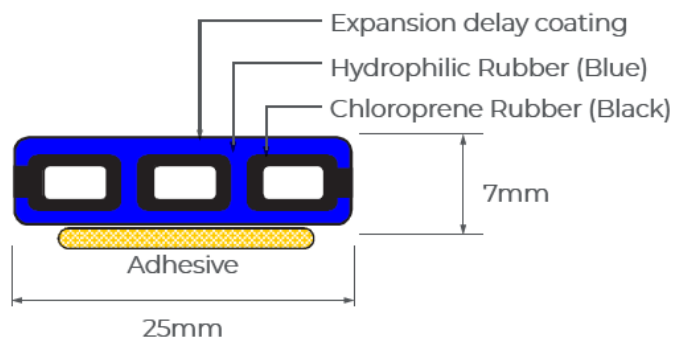
Nurawell consists of a unique combination of expanding hydrophilic materials and non-expanding chloroprene rubber, co-extruded together to form a single strip. The expanding section is blue with the non-expanding section being black. The co-extruded design means that the expansion is directed across 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, Nurawell turns from a dark blue colour to a light blue colour, so that a visual inspection of the Nurawell can be made and so the contractor can see if the Nurawell has pre-expanded.

Nurawell 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.

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

TECHNICAL SPECIFICATIONS

Technical Specifications	Unit of Measurement	Nominal Value
Thickness	mm	7
Width	mm	25
Length	m	10
Hydrophilic expansion	%	600
Delay coating expansion	%	250



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CHEMICAL RESISTANCE

The influence of pH values of concrete, grouting material and ground water upon the expansion of Nuraswell 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. Nuraswell 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	0	0	0
pH 5 aqueous solution	0	0	0
pH 7 (tap water)	-	-	-
pH 9 aqueous solution	0	0	0
pH 11 aqueous solution	0	0	0
Ferrous aqueous solution	0	0	0
Bentonite aqueous solution	0	0	0
Grout aqueous solution	0	0	0

AREA OF USE

Nuraswell is to be used where watertight integrity is the prime issue. Typical applications where there is a need to achieve a water seal include: -

- Sewage treatments plants
- Waste treatment plants
- Reservoirs
- Water tanks
- Swimming pools
- Tunnels
- Subway stations
- Basements
- Pits
- Pipe penetrations

SURFACE PREPERATION

Before commencement, the user should ensure that the receiving surfaces are sound and capable of accepting the product. Material and/or substrates should be checked for compatibility and if necessary, assessed by a competent person to ascertain their suitability.

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APPLICATION

Due to expansive forces, Nuraswell should be both detailed and installed with a minimum 50mm clear cover to the face of the concrete. Expansion rate can vary in salt and contaminated water. Increase cover when using light weight, low strength concrete. Not for use where excessive shrinkage of the concrete may occur at the joint faces. Do not stretch the Nuraswell during installation. Not for use in movement (expansion, isolation, and contraction) joints.

Constructions Joints

A clean, dry, smooth surface (not scabbled) free from oils, grease, dust, debris, etc. is required, similar to a wood float or off-form finish. Air holes 4-5mm in diameter or depth should be repaired with a suitable Nurapatch.

Nuraswell 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.

All joining methods of Nuraswell are by a neat, firm butt joint firmly pushed up to the next section to be joined, this is achieved by cutting the ends square with a sharp knife or scissors. A bead of Nuraswell Gun Grade should then be placed across each join as leaks may occur due to poorly formed butt joints. The use of Nuraswell Gun Grade in this area helps to ensure a watertight structure.

Nailing of Nuraswell is not recommended (unless using adhesive) as it may be stretched or if loose form a curtain effect that would allow the concrete slurry or aggregate to get under or behind the Nuraswell. Leave a 100mm tail of Nuraswell to allow butt joining to the next pour, for any 90° angles Nuraswell must be cut, and butt joined, not simply pulled around the corner as voids can be formed in the corners.

Nuraswell should be protected from moisture or ponding of water prior to placement of concrete to avoid pre-expansion. If Nuraswell has been exposed to water, check for expansion. Nuraswell turns from a dark blue colour to a light blue colour when it starts to expand, this acts as a visual alert for the contractor so that they can tell if the Nuraswell has pre-expanded.

If Nuraswell has been submerged with water for some time and has already expanded too much, simply remove the strip and replace it with new material. The expanded strip when dried, will return to its original size and can be reused without losing its sealing/expanding properties. If reusing Nuraswell it may be necessary to adhere the Nuraswell strip to the concrete with a brushable grade adhesive.

For areas where ponding or running water may be a problem, please refer to your nearest Nuralite office.

On smooth concrete there are several ways the Nuraswell can be affixed.

1. Lay Nuraswell along a clean dry concrete surface next to where the Nuraswell is to be installed. Peel protective backing paper off Nuraswell a section at a time, turn Nuraswell over and press firmly down onto prepared concrete surface

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making sure Nuraswell is fully bonded to the concrete. A bead of Nuraswell gun grade should be placed across any joints.

2. Lay Nuraswell along concrete surface next to where the Nuraswell is to be placed. Apply a bead of a gun grade polyurethane construction adhesive and press the Nuraswell firmly down onto the concrete surface, this will give an excellent bond. A bead of Nuraswell gun grade should be placed across any joints.
3. A layer of brushable grade solvent-based contact adhesive is to be brushed onto the concrete 30mm wide and a layer brushed onto one side of the Nuraswell. When touch dry, turn the Nuraswell over and press firmly down onto the concrete surface, this will give an excellent bond. A bead of Nuraswell gun grade should be placed across any joints.
4. Nuraswell gun grade waterstop can be used as an alternative. A bead of Nuraswell gun grade should be placed across any joints.
5. Masonry nails at 300mm centres can be used for vertical and horizontal applications bedded in with Nuraswell gun grade. Please take care not to cause cracking in the concrete when nailing. Do not place concrete until Nuraswell gun grade has cured sufficiently to avoid displacement during concrete pour. A bead of Nuraswell gun grade should be placed across any joints.

Nuraswell should be fixed into position onto rough concrete surfaces using Nuraswell gun grade waterstop.

1. The Nuraswell is to be applied to a clean dry surface via a standard caulking gun and is used to build up the rough concrete to a smooth surface i.e. the Nuraswell fills the imperfections in the concrete. Place the Nuraswell onto the bead of Nuraswell gun grade, using moderate hand pressure, press the Nuraswell down into Nuraswell gun grade until the Nuraswell gun grade oozes out from under the Nuraswell and there are no visible gaps between the Nuraswell and the concrete surface. A bead of Nuraswell gun grade should be placed across any joints.
2. Masonry nails at 300mm centres can be used for vertical and horizontal applications bedded in with Nuraswell gun grade. Please take care not to cause cracking in the concrete when nailing. Do not place concrete until Nuraswell gun grade has cured sufficiently to avoid displacement during concrete pour. A bead of Nuraswell gun grade should be placed across any joints.

Note: in all applications Nuraswell Gun Grade must be cured before concrete placement, refer [Nuraswell Gun Grade TDS](#).

COMPOSITION

Chloroprene Rubber

SAFETY, STORAGE & HANDLING INFORMATION

Do not stack pallets.
Store indoors.

For these products, the best available information on safe handling, storage, personal protection, health, and environmental considerations has been gathered. SDS (Safety Data Sheet) are available [here](#) and users should acquaint themselves with this

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information. Carefully read detailed precaution statements on product labels and the SDS before use.

TRANSPORT CLASSIFICATION

N/A

The information in this product data sheet is based on our experience and testing. It represents the latest information available at the time of printing, but no guarantee of its accuracy is made or implied, nor responsibility taken for use to which this information may be put. We reserve the right to alter or up-date information parameters and formulations at any time without notice.