

UNISWELL™ SW47

HYDROPHILIC BUTYL RUBBER WATERSTOP

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PRODUCT FEATURES

UNISWELL™ SW47 is a high-performance flexible butyl rubber based hydrophilic waterstop suitable for non-movement construction joints (new or existing joints) where it is fully contained within the joint. The swelling action of the **UNISWELL™ SW47** range is the result of contact between water and hydrophilic groups which are an intimate part of the **UNISWELL™ SW47** polymeric structure. These hydrophilic groups are not subject to extraction and loss of swelling performance by prolonged or repeated wetting.

Expansion of the waterstop creates a positive pressure against the faces of the concrete joint, and fills all the irregular surfaces, voids, and gaps of the joint, and at the same time generates a huge contact pressure to prevent any leakage, thus preventing water from passing through the joint.

UNISWELL™ SW47 unlike many other swellable waterstop, will not crack and fragments when it expands. A waterstop that cracks while expanding will dissolve in water like clay and give rise to pollution and the hydrophilic expansion properties will be lost after a long period.

ADVANTAGES

- Long term durability & integrity
- Will not crack and fragments during expansion
- Unaffected even in repeated wet and dry cycles
- Prevent water leakage by absorbing moisture and swelling
- Easy to handle. No split forming or no welding at site required
- Conforms easily for installation onto rough or smooth concrete surfaces
- Has good elasticity, abrasion resistance, aging resistance, and tear resistance
- Slow expansion rate to prevent damage to freshly placed concrete during curing
- Non-toxic, therefore suitable for use in waters in contact with human or marine life
- Produce 2-3 times expansion and deformation, connect irregular surfaces to prevent leakage
- High expansion ratio, strong mobility supplement, with overlapping balance and self-healing function, which can automatically seal new tiny cracks due to insertion

FIELD OF APPLICATION

Water Tanks & Reservoirs	Basement & Underground Car Parks
Water & Sewerage Treatment Plants	Tunnels & Subways
Dam, Culverts & Spillways	Retaining Walls
Swimming Pools	Roof Decks & Podium Areas
Bund Walls	Lift Pits & Service Pits

TECHNICAL PROPERTIES

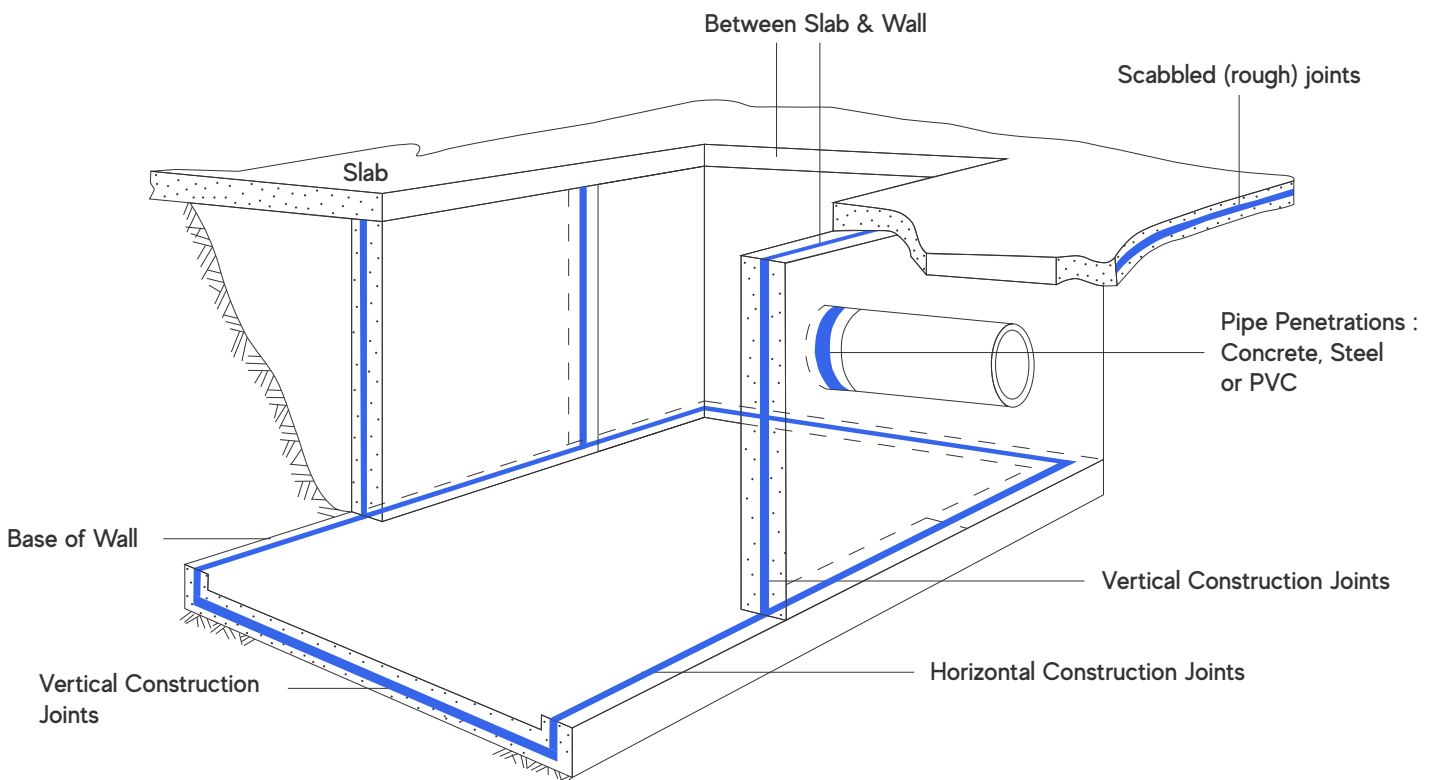
PROPERTIES	TEST METHOD	UNIT MEASUREMENT	RESULT
Service Temperature Range	In-House	°C	-30 to 50
Hardness	ASTM D 2240	SHORE A	45 ± 0.3
Tensile Strength	ASTM D638	MPa	4.67 ± 0.28
Elongation at Break	ASTM D638	%	850
Expansion Volume Rate	ASTM D471	%	>300
Hydrostatic Head Resistance	Hydraulic Rig Tester	m	70

(All tested & physical parameter values are subject to a 5 - 15% tolerance factor)

PHYSICAL PROPERTIES

MATERIAL	Butyl Rubber & Hydrophilic Groups
COLOR	Black
SIZE & PACKING	UNISWELL™ SW47 25mm x 19mm x 5m roll (6 rolls per carton, 30 meters) UNISTICK™ CA 1 liter & 3.6 liters
CONTACT ADHESIVE COVERAGE	Approximately 20 - 30 meters per 1 liter

TYPICAL DRAWING



- ▶ SLAB TO SLAB JOINT
- ▶ WALL TO WALL JOINT
- ▶ PIPE PENETRATION JOINT
- ▶ SLAB TO WALL JOINT
- ▶ KICKER TO WALL JOINT

INSTALLATION PROCEDURES

▶ PREPARATION

Long term durability and function can only be achieved with good preparation to ensure that water cannot by-pass the waterstop.

It is recommended that concrete substrates shall have a minimum compressive strength of 20N/mm, and at least 50mm of concrete cover in all directions of the hydrophilic waterstop.

Ensure that the concrete surfaces where the waterstop will be placed are smooth, clean and free from contamination such as dust, oil, grease, organic growth & release agents.

For fresh concrete we recommended forming a groove in the middle of the joint using a suitable timber strip. After the concrete has hardened, remove the strip to reveal the groove in which the hydrophilic waterstop can sit with minimal preparation.

▶ APPLICATION

Brush apply a continuous bed of UNISTICK™ CA onto the prepared substrate to a width of about 30mm along the proposed line of the waterstop.

It is highly recommended to also apply a thin layer of UNISTICK™ CA to the side of UNISWELL™ SW47 that will bond to the concrete.

Wait for 5 – 20 minutes depending on the environment conditions, to allow the solvent adhesive to fully evaporate before firmly pressing the UNISWELL™ SW47 together to bond with the adhesive.

At joints and intersections, bring the two ends of UNISWELL™ SW47 to butt join together neatly with full face contact, ensuring a tight join between the profiles.

Placement of the second pour of concrete can be applied once the UNISTICK™ CA has dried. Upon pouring, make sure the concrete is properly compacted and vibrated around the UNISWELL™ SW47.

If the UNISWELL™ SW47 has been exposed to water before the second pour takes place, please check for pre-expansion. If the product has pre-expanded then remove that section and replace it with a new length of UNISWELL™ SW47.

SPECIAL NOTES

Cast-in concrete groove is ideal for fixing UNISWELL™ SW47. however, if mechanical fixing using nails (or) other means are envisaged, ensure that the substrate has sufficient strength to hold mechanical fixtures without damaging UNISWELL™ SW47.

Requires a minimum 50mm clear cover from the face of concrete.

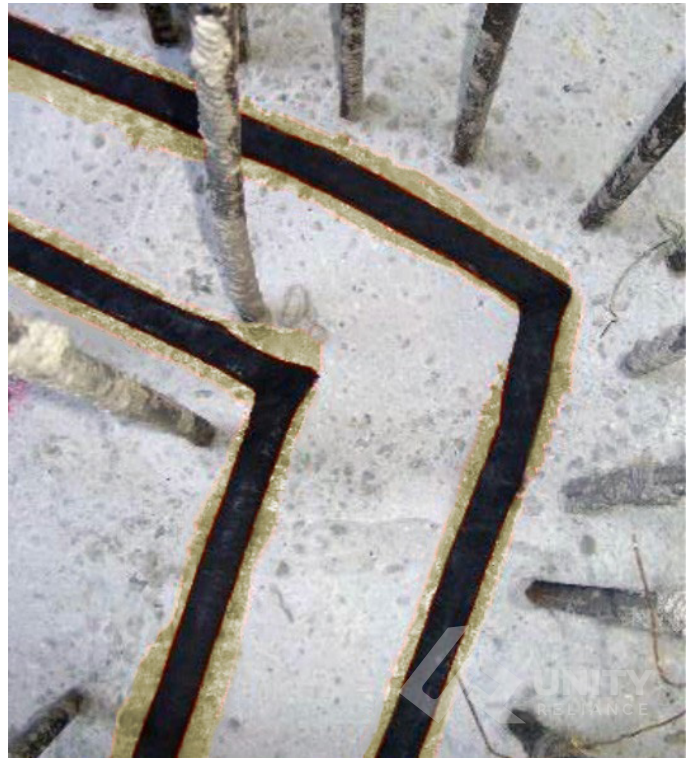
If premature swelling has taken place, dry out or replace a new length of the UNISWELL™ SW47 before fresh concrete pouring.

Should not be used in expansion joints or concrete sections that less than 150mm wide.

WATER IMMERSION TEST



SITE PHOTOS



This technical data sheet is given in good faith and does not guarantee the application work. All Unity Reliance technical data sheets & method statements are updated on a regular basis and can be subject to change without notice. It is the users responsibility to obtain the latest version of the information required.



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