

UNITY RELIANCE

Waterstop &
Waterproofing System

UNISWELL®

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UNISWELL® SW47

HYDROPHILIC BUTYL RUBBER WATERSTOP



Product Features

UNISWELL® SW47 is a high-performance, flexible hydrophilic waterstop made from butyl rubber, for non-movement construction joints (new or existing) where it is fully contained within the joint. It swells on contact with water through hydrophilic groups that are part of the **UNISWELL® SW47** polymer structure. These groups are not extracted, so swelling performance is not lost through prolonged or repeated wetting.

As it expands, the waterstop presses against the faces of the concrete joint and fills irregular surfaces, voids and gaps, creating high contact pressure that stops water passing through the joint.

Unlike many other swellable waterstops, **UNISWELL® SW47** does not crack or fragment as it expands, so it does not break down in water or lose its swelling properties over time. Tested to MS 1583 for use in contact with drinking water.

SUITABLE FOR DRINKING WATER CONTACT
Tested to MS 1583 and cytotoxicity test · SPAN approved

Advantages

High-Performance & Flexible: Formulated from flexible butyl rubber as a high-performance hydrophilic waterstop for both new and existing non-movement construction joints.

Long-Term Swelling Performance: Integrated hydrophilic groups within the polymeric structure resist extraction and loss of swelling capacity, even with prolonged or repeated water contact.

Effective Water Sealing: Expands to fill irregular surfaces, voids, and joint gaps while creating high contact pressure against concrete faces to block water passage completely.

Structural Integrity During Expansion: Will not crack or fragment upon swelling, preventing material breakdown, pollution, or loss of long-term expansion properties over time.

Fields 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

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Technical Properties

Property	Test Method	Unit Measurement	Result
Service Temperature Range	In-House	°C	-30 to 50
Hardness	ASTM D 2240	SHORE A	16 ± 0.3
Tensile Strength	ASTM D638	MPa	0.14 ± 0.03
Elongation at Break	ASTM D638	%	850
Expansion Volume Rate	ASTM D471	%	>300
Hydrostatic Head Resistance	Hydraulic Rig Tester	m	70

*Hardness, tensile strength, elongation and expansion: typical results from independent laboratory tests on the UNISWELL® SW47 butyl compound (2025); test report available on request. Values subject to 5–15% tolerance.

Physical Properties

Material	:	Butyl Rubber & Hydrophilic Groups
Colour	:	Black
Size & Packing	:	**UNISWELL® SW47** 25mm x 19mm x 5m roll (6 rolls per carton, 30 metres) **UNISTICK® CA** 1 litre
Contact Adhesive Coverage	:	Approximately 20–30 m per litre

This technical data sheet is given in good faith and does not guarantee the application work.
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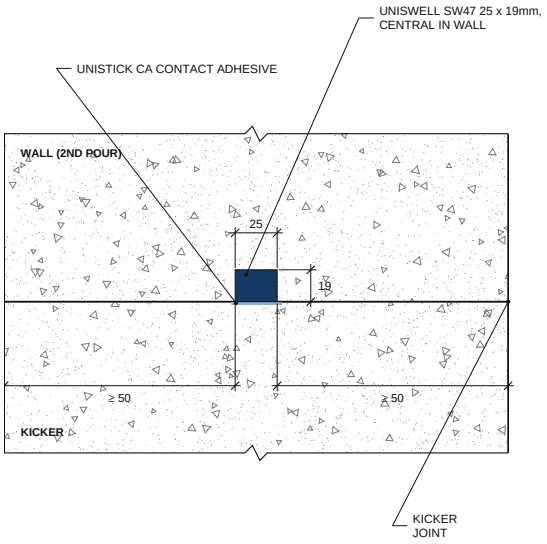
Typical Drawing & Applications

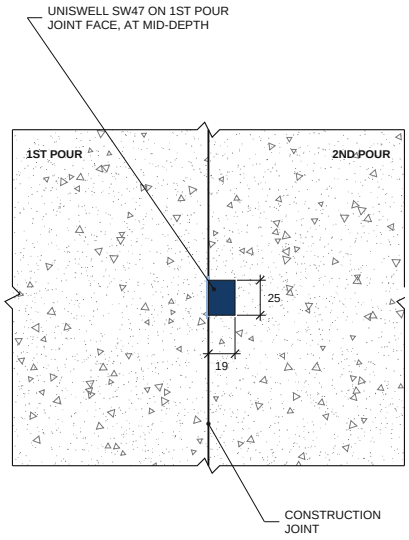
B KICKER JOINT

ENLARGED · NOT TO SCALE

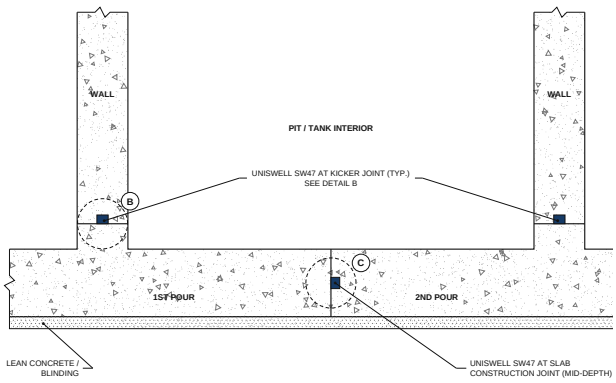


C SLAB JOINT

ENLARGED · NOT TO SCALE

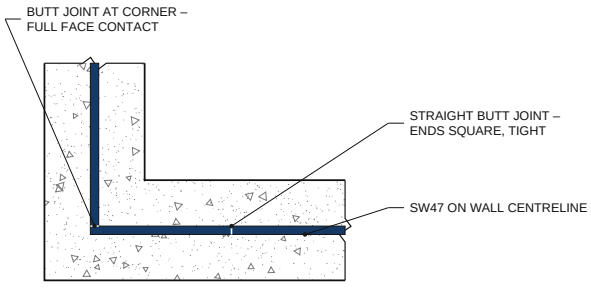


1 SECTION THROUGH BASE SLAB & WALLS



D JOINTS IN SW47 – PLAN

NOT TO SCALE



LEGEND

- Concrete – 1st pour
- Concrete – 2nd pour
- UNISWELL® SW47
- UNISTICK® CA adhesive
- Lean concrete

Illustrations only – not for construction. Refer to drawing UR-SW-02 and the project engineer.

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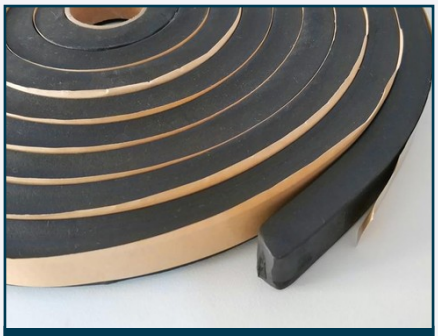
Water Immersion Test



UNISWELL® SW47 WATERSTOP



UNISWELL® SW47 WATERSTOP
EXPANSION TEST



UNISWELL® SW47 WATERSTOP
HIGH WATER ABSORPTION PROPERTY

Site Photos





Shelf Life & Storage

Store **UNISWELL® SW47** in its original sealed packaging in a dry, covered area, off the ground and away from direct sunlight, rain and standing water. As **UNISWELL®** is a hydrophilic material, keep it dry until installation, because premature contact with water or moisture will cause it to swell. Protect from dust, oil and contamination.

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Installation Procedures

1 Preparation | 2 Bonding | 3 Jointing | 4 Concreting

Step 1
PREPARATION

Long-term durability and performance can only be achieved with good preparation, so that water cannot bypass the waterstop.

The concrete should have a minimum compressive strength of 20 N/mm², with at least 50 mm of concrete cover in all directions around the waterstop.

The surface must be sound, smooth, clean and free from dust, oil, grease, organic growth and release agents. No groove is needed: SW47 is bonded directly onto the joint surface (kicker top or slab joint face) on the joint centreline. The surface must be level so that SW47 sits in full contact, with no gaps beneath.

Step 2
BONDING

Brush a continuous bed of **UNISTICK® CA** about 30 mm wide onto the prepared surface along the line of the waterstop. It is highly recommended to also apply a thin coat to the face of **UNISWELL® SW47** that will bond to the concrete.

Wait 5 – 30 minutes, depending on site conditions and surface porosity, for the solvent to evaporate, then press **UNISWELL® SW47** firmly into the adhesive.

Step 3
JOINTING

At joints and intersections, butt the ends of **UNISWELL® SW47** together neatly with full face contact. Do not overlap.

At pipe penetrations, wrap **UNISWELL® SW47** once around the pipe at the wall centre, bonded with **UNISTICK® CA**, with the ends butted together.

Step 4
CONCRETING

Place the second pour once the **UNISTICK® CA** has dried. Compact and vibrate the concrete well around the waterstop.

If **UNISWELL® SW47** has been exposed to water before the second pour, check it for early swelling. Replace any section that has swollen with a new length.

Important Notes

- For non-movement construction joints only. Do not use in expansion joints or in concrete sections less than 150 mm thick.
- Requires a minimum of 50 mm concrete cover from the face of the concrete.
- **UNISWELL® SW47** is surface-bonded with **UNISTICK® CA** – no groove is required. If nails or other mechanical fixings are also used, make sure the substrate is strong enough to hold them without damaging the waterstop.
- If **UNISWELL® SW47** has swollen before concreting, dry it out or replace it with a new length.

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UNISWELL® SW20

HYDROPHILIC CHLOROPRENE RUBBER WATERSTOP



Product Features

UNISWELL® SW20 is a hydrophilic waterstop made from high-performance chloroprene rubber, for non-movement construction joints (new or existing) where it is fully contained within the joint. Hydrophilic groups are co-extruded with the chloroprene rubber as part of the **UNISWELL® SW20** polymer structure, and swell on contact with water.

The swelling creates a positive compression seal against the faces of the concrete joint and prevents water from entering the structure through the protected joint.

Unlike many other swellable waterstops, **UNISWELL® SW20** does not crack or fragment as it expands, so it does not break down in water or lose its swelling properties over time. Tested to MS 1583 for use in contact with drinking water.

SUITABLE FOR DRINKING WATER CONTACT
Tested to MS 1583 and cytotoxicity test · SPAN approved

Advantages

Long-term durability and integrity
Unaffected even in repeated wet and dry cycles
Retains original shape after repeated contraction
No displacement or compacting problems in concrete
Prevents water leakage by absorbing moisture and swelling
Sustains effective seal in wet conditions. Permanently active
Easy to handle. No split formwork or site welding required
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

Fields 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

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Technical Properties

Property	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

*Hardness, tensile strength, elongation and expansion: typical results from independent laboratory tests on the UNISWELL® chloroprene compound; test report available on request. Values subject to 5–15% tolerance.

Physical Properties

Material	:	Chloroprene Rubber & Hydrophilic Groups
Colour	:	Black
Size & Packing	:	**UNISWELL® SW20** 20mm x 10mm x 10m / roll (8 rolls per carton, 80 metres) **UNISTICK® CA** 1 Litre
Contact Adhesive Coverage	:	Approximately 20–30 m per litre

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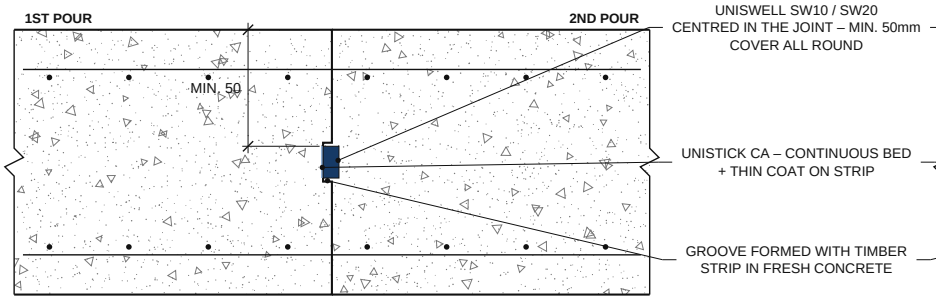
Typical Drawing & Applications

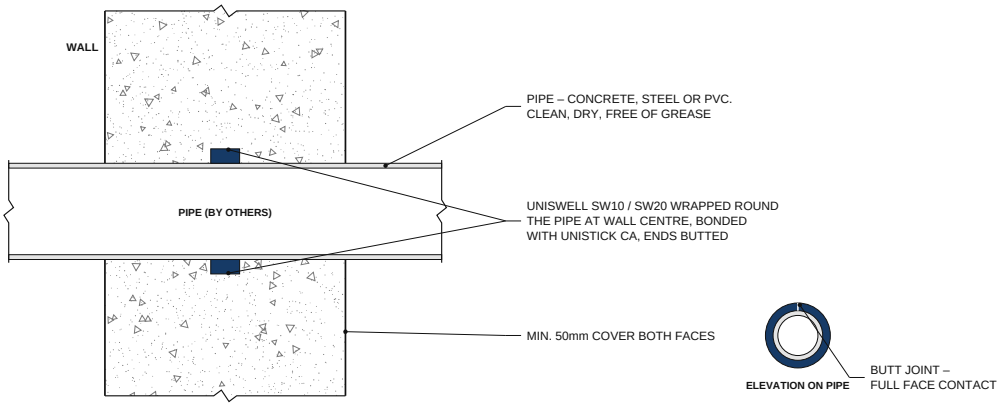
1 WALL TO WALL / SLAB TO SLAB JOINT

Same detail in plan or section · not to scale



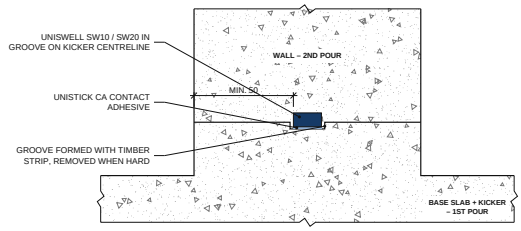
2 PIPE PENETRATION

Section through wall · not to scale



3 KICKER TO WALL JOINT

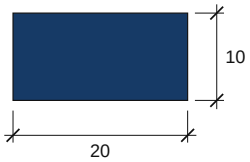
Section · not to scale



4 PROFILE

Enlarged · mm

UNISWELL SW20



Dimensions in mm (TDS).
Selection as per engineer · min. section 150mm.

LEGEND Concrete · UNISWELL® SW20 · UNISTICK® CA adhesive

Illustrations only – not for construction. Refer to drawing UR-SW-04 and the project engineer.

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Water Immersion Test



UNISWELL® SW20 WATERSTOP



UNISWELL® SW20 WATERSTOP
EXPANSION TEST



UNISWELL® SW20 WATERSTOP
HIGH WATER ABSORPTION PROPERTY

Site Photos





Shelf Life & Storage

Store **UNISWELL® SW20** in its original sealed packaging in a dry, covered area, off the ground and away from direct sunlight, rain and standing water. As **UNISWELL®** is a hydrophilic material, keep it dry until installation, because premature contact with water or moisture will cause it to swell. Protect from dust, oil and contamination.

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Installation Procedures

1 Preparation | 2 Bonding | 3 Jointing | 4 Concreting

Step 1
PREPARATION

Long-term durability and performance can only be achieved with good preparation, so that water cannot bypass the waterstop.

The concrete should have a minimum compressive strength of 20 N/mm², with at least 50 mm of concrete cover in all directions around the waterstop.

The surface must be sound, smooth, clean and free from dust, oil, grease, organic growth and release agents. For fresh concrete, form a groove along the centreline of the joint with a timber strip, and remove it once the concrete has hardened so the waterstop can sit in the groove.

Step 2
BONDING

Brush a continuous bed of **UNISTICK® CA** about 30 mm wide onto the prepared surface along the line of the waterstop. It is highly recommended to also apply a thin coat to the face of **UNISWELL® SW20** that will bond to the concrete.

Wait 5 – 30 minutes, depending on site conditions and surface porosity, for the solvent to evaporate, then press **UNISWELL® SW20** firmly into the adhesive.

Step 3
JOINTING

At joints and intersections, butt the ends of **UNISWELL® SW20** together neatly with full face contact. Do not overlap.

At pipe penetrations, wrap **UNISWELL® SW20** once around the pipe at the wall centre, bonded with **UNISTICK® CA**, with the ends butted together.

Step 4
CONCRETING

Place the second pour once the **UNISTICK® CA** has dried. Compact and vibrate the concrete well around the waterstop.

If **UNISWELL® SW20** has been exposed to water before the second pour, check it for early swelling. Replace any section that has swollen with a new length.

Important Notes

- For non-movement construction joints only. Do not use in expansion joints or in concrete sections less than 150 mm thick.
- Requires a minimum of 50 mm concrete cover from the face of the concrete.
- A cast-in groove is the ideal way to fix **UNISWELL® SW20**. If nails or other mechanical fixings are used, make sure the substrate is strong enough to hold them without damaging the waterstop.
- If **UNISWELL® SW20** has swollen before concreting, dry it out or replace it with a new length.

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UNISWELL® SW10

HYDROPHILIC CHLOROPRENE RUBBER WATERSTOP



Product Features

UNISWELL® SW10 is a hydrophilic waterstop made from high-performance chloroprene rubber, for non-movement construction joints (new or existing) where it is fully contained within the joint. Hydrophilic groups are co-extruded with the chloroprene rubber as part of the **UNISWELL® SW10** polymer structure, and swell on contact with water.

The swelling creates a positive compression seal against the faces of the concrete joint and prevents water from entering the structure through the protected joint.

Unlike many other swellable waterstops, **UNISWELL® SW10** does not crack or fragment as it expands, so it does not break down in water or lose its swelling properties over time. Tested to MS 1583 for use in contact with drinking water.

SUITABLE FOR DRINKING WATER CONTACT
Tested to MS 1583 and cytotoxicity test · SPAN approved

Advantages

- Long-term durability and integrity
- Unaffected even in repeated wet and dry cycles
- Retains original shape after repeated contraction
- No displacement or compacting problems in concrete
- Prevents water leakage by absorbing moisture and swelling
- Sustains effective seal in wet conditions. Permanently active
- Easy to handle. No split formwork or site welding required
- 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

Fields 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

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UNITY RELIANCE

Technical Properties

Property	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

*Hardness, tensile strength, elongation and expansion: typical results from independent laboratory tests on the UNISWELL® chloroprene compound; test report available on request. Values subject to 5–15% tolerance.

Physical Properties

Material	:	Chloroprene Rubber & Hydrophilic Groups
Colour	:	Red
Size & Packing	:	**UNISWELL® SW10** 20mm x 5mm x 20m / roll (8 rolls per carton, 160 metres) **UNISTICK® CA** 1 Litre
Contact Adhesive Coverage	:	Approximately 20–30 m per litre

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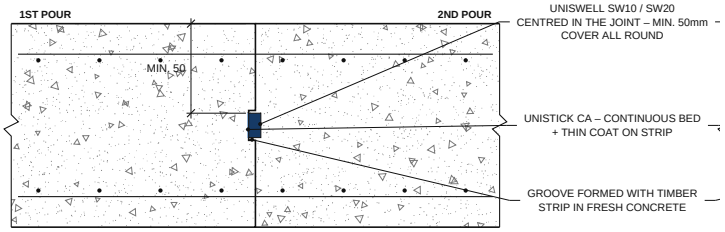
UNISWELL® SW10

Typical Drawing & Applications

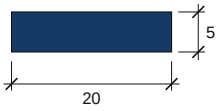
1 WALL TO WALL / SLAB TO SLAB JOINT

Plan or section · not to scale



2 PROFILE

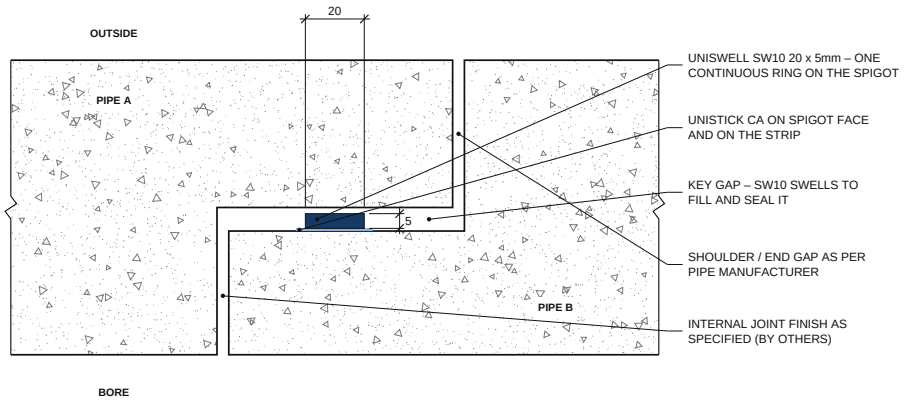
Enlarged · mm



Dimensions in mm (TDS).
Selection as per engineer · min. section 150mm.

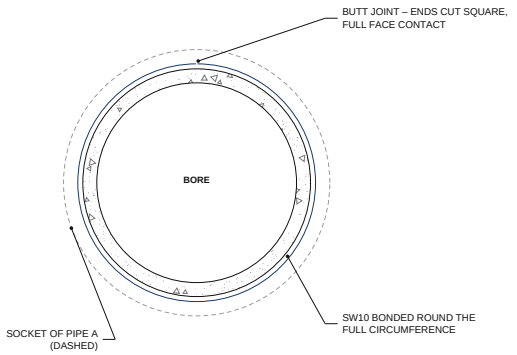
3 PRECAST TO PRECAST KEY JOINT

Enlarged section · not to scale



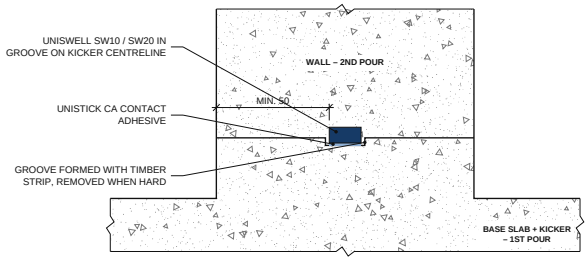
4 PIPE SECTION AT SPIGOT

Not to scale



5 KICKER TO WALL JOINT

Section · not to scale



LEGEND Concrete · UNISWELL® SW10 · UNISTICK® CA adhesive

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Water Immersion Test



UNISWELL® SW10 WATERSTOP



UNISWELL® SW10 WATERSTOP
EXPANSION TEST



UNISWELL® SW10 WATERSTOP
HIGH WATER ABSORPTION PROPERTY

Site Photos





Shelf Life & Storage

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The surface must be sound, smooth, clean and free from dust, oil, grease, organic growth and release agents. For fresh concrete, form a groove along the centreline of the joint with a timber strip, and remove it once the concrete has hardened so the waterstop can sit in the groove.

Step 2
BONDING

Brush a continuous bed of **UNISTICK® CA** about 30 mm wide onto the prepared surface along the line of the waterstop. It is highly recommended to also apply a thin coat to the face of **UNISWELL® SW10** that will bond to the concrete.

Wait 5 – 30 minutes, depending on site conditions and surface porosity, for the solvent to evaporate, then press **UNISWELL® SW10** firmly into the adhesive.

Step 3
JOINTING

At joints and intersections, butt the ends of **UNISWELL® SW10** together neatly with full face contact. Do not overlap.

At pipe penetrations, wrap **UNISWELL® SW10** once around the pipe at the wall centre, bonded with **UNISTICK® CA**, with the ends butted together.

Step 4
CONCRETING

Place the second pour once the **UNISTICK® CA** has dried. Compact and vibrate the concrete well around the waterstop.

If **UNISWELL® SW10** has been exposed to water before the second pour, check it for early swelling. Replace any section that has swollen with a new length.

Important Notes

- For non-movement construction joints only. Do not use in expansion joints or in concrete sections less than 150 mm thick.
- Requires a minimum of 50 mm concrete cover from the face of the concrete.
- A cast-in groove is the ideal way to fix **UNISWELL® SW10**. If nails or other mechanical fixings are used, make sure the substrate is strong enough to hold them without damaging the waterstop.
- If **UNISWELL® SW10** has swollen before concreting, dry it out or replace it with a new length.

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UNISWELL® RING

HYDROPHILIC RUBBER FORM-TIE WATERSTOP



Product Features

UNISWELL® RING Form-Tie Ring Swellable Waterstop is fitted onto form ties and split bolts before concreting, to seal the water path along the tie through the concrete wall. It gives long-lasting protection against water ingress at every form tie in water-retaining and water-excluding structures.

UNISWELL® RING Form-Tie Ring Swellable Waterstop is crafted from a distinctive hydrophilic rubber sealing compound that expands in a controlled manner when it encounters moisture. This expansion creates a compression seal within or around the form-tie system in the concrete structure, providing a permanent, flexible, and watertight barrier.

Advantages

- Long-term durability and integrity
- Unaffected even in repeated wet and dry cycles
- Retains original shape after repeated contraction
- Snug fit on the form tie and stays in position during concrete placement
- Prevents water leakage by absorbing moisture and swelling
- Sustains effective seal in wet conditions. Permanently active
- Easy to install. Slides over the form tie, no cutting or welding required
- Slow expansion rate to prevent damage to freshly placed concrete during curing
- Non-toxic, suitable for use in waters in contact with human or marine life

Fields of Application

Water Tanks & Reservoirs	Basement & Underground Car Parks
Water & Sewerage Treatment Plants	Tunnels & Subways
Dam, Culverts & Spillways	Retaining Walls
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Bund Walls	Lift Pits & Service Pits

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Property	Test Method	Unit Measurement	Result
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Physical Properties

Material	:	Chloroprene Rubber & Hydrophilic Groups
Colour	:	Black
Size Of Product	:	**UNISWELL® RING 5mm Thickness** I.D 14mm x O.D 40mm I.D 16mm x O.D 40mm I.D 30mm x O.D 60mm I.D 18mm x O.D 40mm I.D 35mm x O.D 60mm I.D 20mm x O.D 45mm
Quantity Per Box	:	1000 Pcs with I.D 14,16,18 & 20mm 500 Pcs with I.D 25, 30 & 35mm

Safety Precautions

It is essential that all personnel involved in the installation are equipped with appropriate **personal protective equipment (PPE)**, such as gloves and safety glasses. Adhering to site-specific safety protocols and guidelines is critical to maintaining a safe working environment. Additionally, the waterstop material should be handled with care to prevent any damage.

Shelf Life & Storage

Store **UNISWELL® RING** in its original sealed packaging in a dry, covered area, off the ground and away from direct sunlight, rain and standing water. As **UNISWELL®** is a hydrophilic material, keep it dry until installation, because premature contact with water or moisture will cause it to swell. Protect from dust, oil and contamination.

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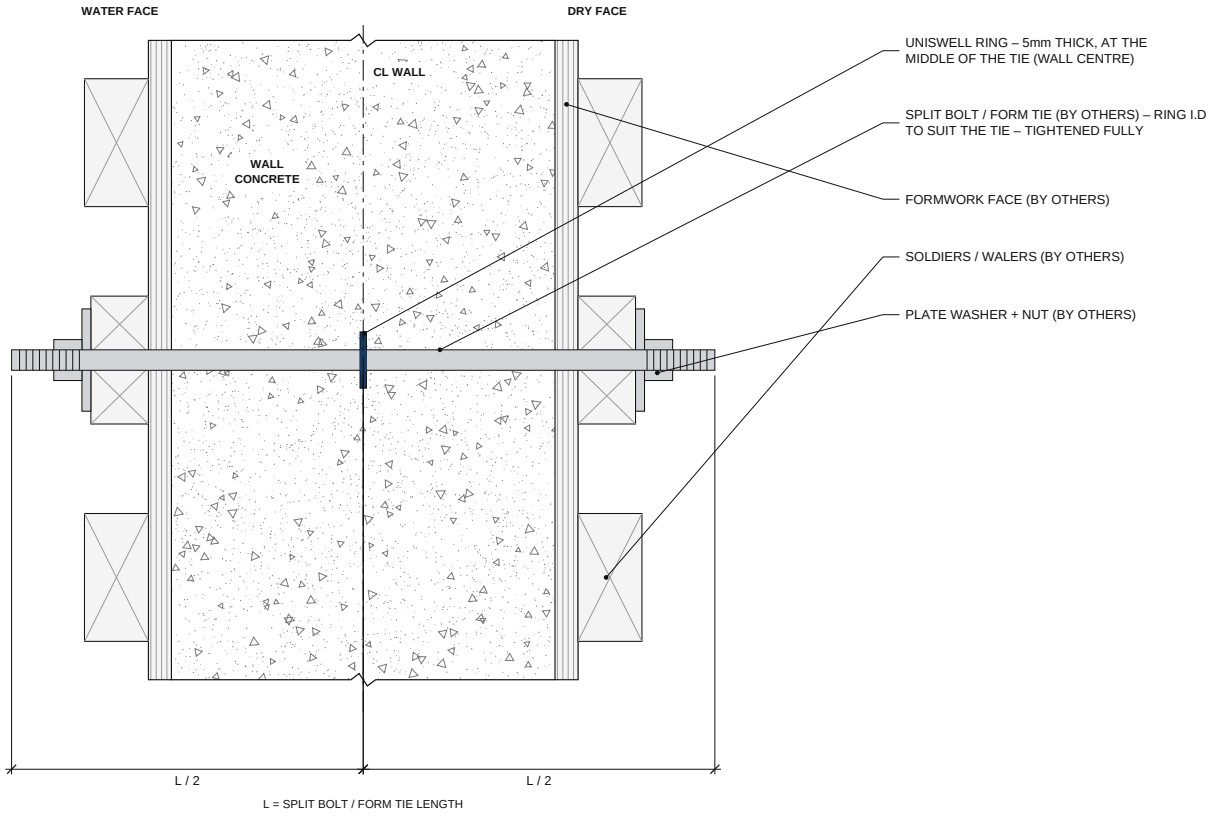
Typical Drawing & Applications

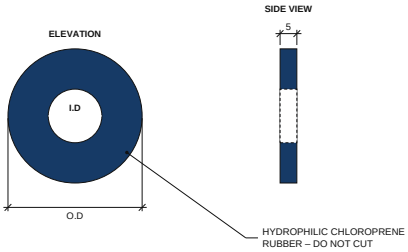
1 FORM TIE THROUGH WALL

Section · formwork in place · not to scale



2 UNISWELL® RING

Enlarged · not to scale



LEGEND

- Wall concrete
- Formwork (by others)
- UNISWELL® RING
- Split bolt / form tie (by others)

Illustrations only – not for construction. Refer to drawing UR-SW-06 and the project engineer.

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Installation Procedures

1 Selection | 2 Fitting | 3 Before Concreting | 4 Concreting

Step 1
SELECTION

Select the **UNISWELL® RING** whose internal diameter (I.D.) gives a snug fit on the form tie or split bolt, so that the ring grips the tie and cannot slide during concreting. Refer to Physical Properties for the available sizes.

Make sure the form tie is clean and free from dirt, dust, oil, grease and release agent where the ring will sit.

Step 2
FITTING

Do not cut the ring. Open it slightly, slide it over the form tie and position it at the middle of the tie (wall centre), so that it will be fully embedded in the concrete. Press it firmly in place so that it cannot move during concreting.

Fit a ring on every form tie or split bolt that passes through a water-retaining or water-excluding wall, and tighten the split bolt fully.

Step 3
BEFORE CONCRETING

UNISWELL® RING is hydrophilic and swells on contact with water. Keep it dry until the concrete is placed.

If a ring has been exposed to water and has started to swell before concreting, replace it with a new ring.

Step 4
CONCRETING

Place and compact the concrete fully around the form tie and the ring, with no voids or honeycombing.

Once the concrete has set, water travelling along the tie is absorbed by the ring, which swells to form a compression seal around the tie. Formwork, tie type, tie spacing and the treatment of tie ends and recesses are as specified by the project engineer.

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