UNISTOP® PVC

POLYVINYL CHLORIDE WATERSTOP



Product Features

UNISTOP® PVC WATERSTOP range is manufactured by extruding high-grade polyvinyl chloride (PVC) resin, which is specially plasticized and stabilised to provide long-term performance and reliable protection against water leakage in concrete structures.

UNISTOP® PVC WATERSTOP is designed to be cast into construction and expansion joints to prevent the passage of liquids under pressure. Its specially designed profile creates a tortuous path, restricting liquids from travelling across the joint and penetrating the concrete structure.

UNISTOP® PVC WATERSTOP is available in a wide range of sizes and profiles to suit various project requirements. It is supplied in roll lengths with factory-produced intersections to minimise on-site heat jointing and can be selected according to the structure and application.

UNISTOP ICJ	Internally placed waterstop for Construction Joints
UNISTOP IEJ	Internally placed waterstop for Expansion Joints
UNISTOP ECJ	Externally placed waterstop for Construction Joints
UNISTOP EEJ	Externally placed waterstop for Expansion Joints

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

Advantages

- High-grade PVC for long-term durability and integrity
- Alternative sizes and profiles to suit all requirements
- Internal profiles come with brass eyelets on edge flanges for tying with steel reinforcements
- Prefabricated intersections to minimise on-site heat jointing
- Resistant to sea water, salt solution, potable and sewage water

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	Required Specification	Result
Hardness, Shore A	BS EN ISO 868	75 – 80	77
Water Absorption	BS EN ISO 62	< 0.15%	0.10%
Specific Gravity	BS EN ISO 1183-1	1.30 ± 0.05	1.335
Tensile Strength	ASTM D412	> 12.2 N/mm^2	15.6 N/mm^2
Elongation at Break	ASTM D412	> 300%	361 %

*Typical results from independent laboratory tests on the PVC compound (2025); test report available on request. Values subject to 5–10% tolerance.

Physical Properties

Material	:	Polyvinyl Chloride (PVC) *(TPR also available upon request)
Colour	:	Blue *(Other colours available upon request)
Packaging		20m / roll (150mm width) 15m / roll (200mm width) 12m / roll (250mm width) 15m / roll (320mm width)
Roll Weight	:	Dependent upon profile

Profiles And Width Selection Guideline

As a general rule, use a 250 mm wide waterstop for concrete walls or slabs 250 mm thick and above. For thicknesses below 250 mm, use the 150 mm or 200 mm profile, selecting the width closest to the wall or slab thickness.

UNISTOP® ICJ or **UNISTOP® IEJ** internally placed waterstops are typically used at wall joints in water-retaining structures, as well as roof, podium deck and wall joints in water-excluding structures.

UNISTOP® ECJ or **UNISTOP® EEJ** externally placed waterstops are generally used where positive water pressure acts directly on the waterstop, particularly in water-excluding structures such as basements and tunnels. They can also be used at base slab joints in water-retaining structures.

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 user's responsibility to obtain the latest version of the information required.

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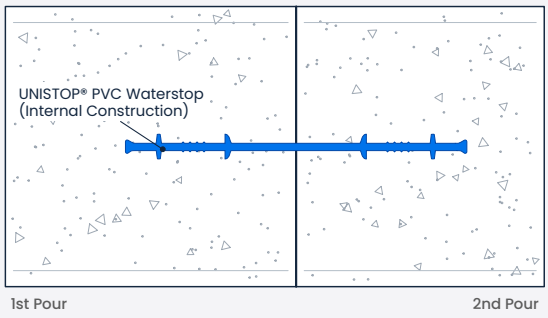
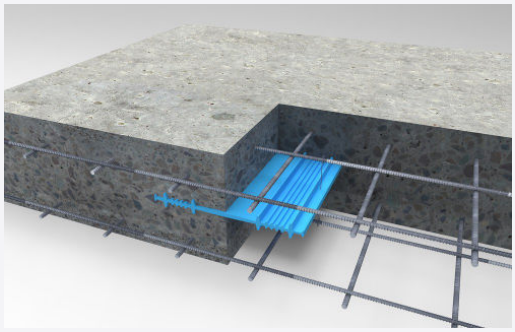
Typical Drawing & Profiles

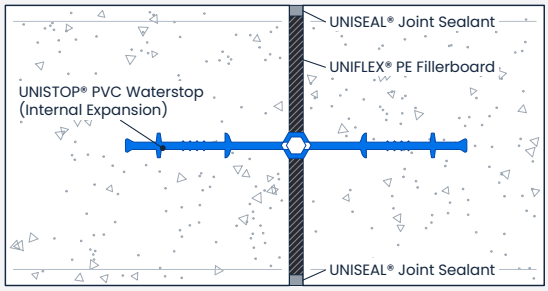
UNISTOP® ICJ (Internal Construction Joint)

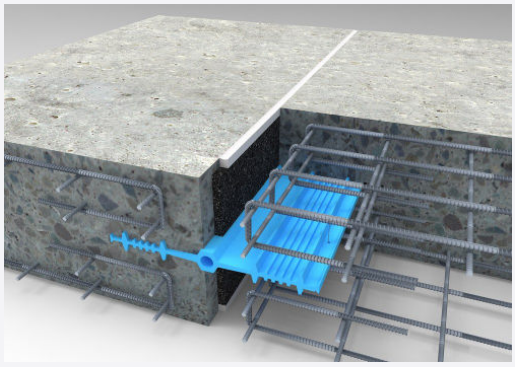




- ICJ 150 (150mm width)
- ICJ 200 (200mm width)
- ICJ 250 (250mm width)
- ICJ 320 (320mm width)

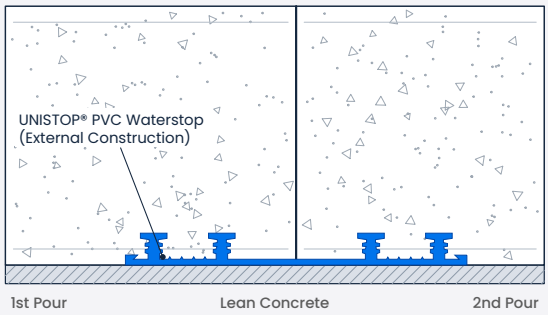
UNISTOP® IEJ (Internal Expansion Joint)

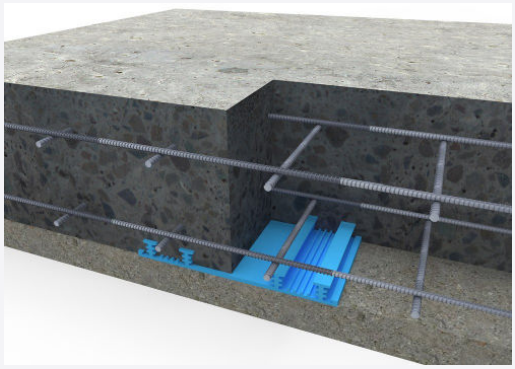




- IEJ 150 (150mm width)
- IEJ 200 (200mm width)
- IEJ 250 (250mm width)
- IEJ 320 (320mm width)

UNISTOP® ECJ (External Construction Joint)





- ECJ 150 (150mm width)
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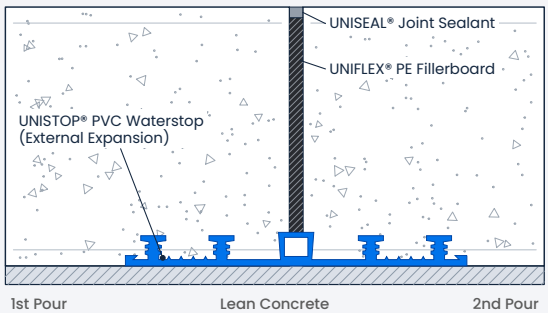
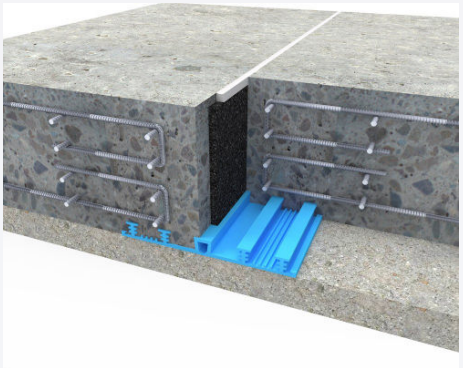
- ECJ 250 (250mm width)
- ECJ 320 (320mm width)

UNISTOP® EEJ (External Expansion Joint)





- EEJ 150 (150mm width)
- EEJ 200 (200mm width)
- EEJ 250 (250mm width)
- EEJ 320 (320mm width)

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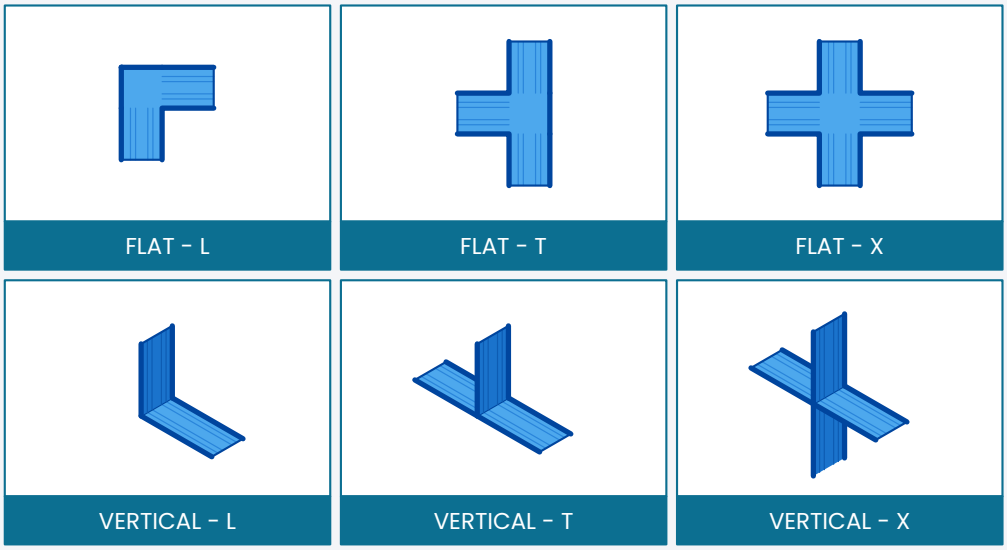
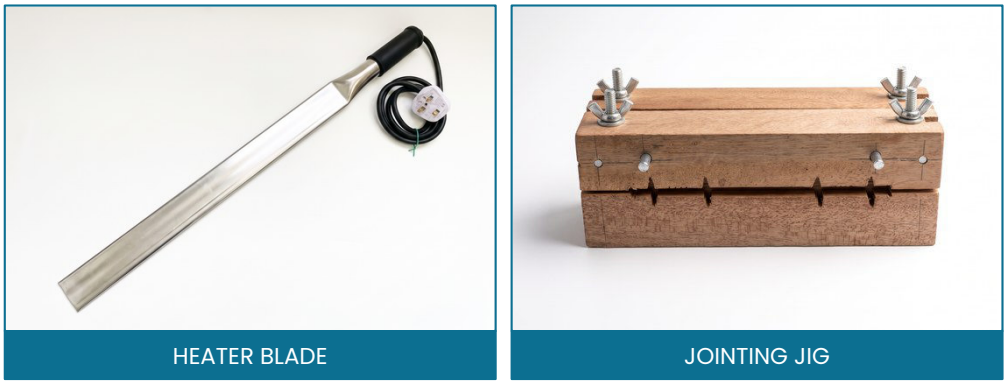
Factory Prefabricated Intersections



Jointing Accessories



Site Photos



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Installation Procedures

1 Preparation | 2 Jointing | 3 Fixing Internally | 4 Fixing Externally

Step 1
PREPARATION

Long-term durability and performance can only be achieved through proper preparation and application, ensuring a continuous waterstop network throughout the structure. Ensure the surfaces where the PVC waterstop is to be placed are clean and free from sharp projections. Unroll the waterstop along the line of the joint and cut it to the required length, allowing for intersections.

Step 2
JOINTING

UNISTOP® PVC WATERSTOP rolls and prefabricated intersections must be hot welded together with a suitable jig and electric heater blade before the waterstop is fixed in place. Use the jig that matches the profile and width of the waterstop.

Cut the waterstop edge with a knife to an even, square finish and align it in the jointing jig with at least 25 mm protruding. Place the heater blade between the PVC ends and close the jigs so both ends touch the blade. Turn on the heater blade to melt the PVC on both sides; when beads form, remove the blade and press the ends firmly together to form a neat butt splice. Hold the joint until the PVC cools into a strong fusion-welded joint.

Step 3
FIXING INTERNALLY

UNISTOP® ICJ or **UNISTOP® IEJ** internally placed waterstops are positioned with their centreline on the centre of the joint and secured with wire tied to the reinforcement through the edge-flange eyelets. Erect the formwork securely on both sides to clamp the waterstop in the middle of the concrete section.

For expansion joints, cast one side first, then fix **UNIFLEX® PE** fillerboard to the concrete face on either side of the centre bulb, for the full joint depth, before casting the next pour against it.

Step 4
FIXING EXTERNALLY

UNISTOP® ECJ or **UNISTOP® EEJ** externally placed waterstops are laid on the compacted grade or lean concrete. The stop-end formwork is fixed on top, and the waterstop is nailed through its outer reinforced web to the formwork so it cannot be displaced during the pour.

For expansion joints, cast one side first, then fix **UNIFLEX® PE** fillerboard to the concrete face above the centre bulb, for the full joint depth, before casting the next pour against it.

For all profiles, fix the waterstop securely so it cannot move during the pour, and compact the concrete fully around it with no voids or honeycombs.

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