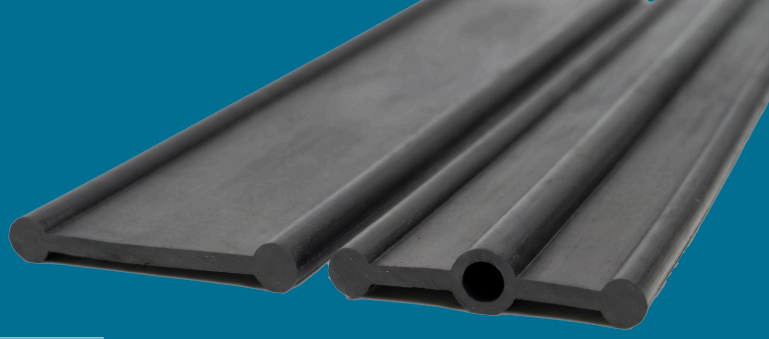
UNISTOP® TPR

THERMO RUBBER WATERSTOP



Product Features

UNISTOP® TPR Thermo Rubber Waterstop range is manufactured by extrusion using a specially formulated blend of high-quality polyvinyl chloride (PVC) and rubber compounds. It is produced without the use of reclaimed or vulcanised waste, ensuring consistent quality and performance. The material is designed to provide excellent flexibility, durability, and movement accommodation in concrete structures.

UNISTOP® TPR Thermo Rubber Waterstop is designed to be cast into construction and expansion joints as an integral sealing system to prevent the passage of liquids under pressure, particularly in water-retaining and water-excluding structures subject to high movement and water pressure. Its flexible properties allow it to accommodate joint movement while maintaining a reliable watertight seal, making it suitable for a wide range of demanding concrete applications.

Advantages

Easy install and on-site welding
Thermoplastic material that welds without vulcanising
Prefabricated intersections to minimise on-site heat jointing
Capable of withstanding high hydrostatic head and water pressure
Resistant to ageing, corrosion, weather, acid, alkali and metal salts
Superior long-term durability
Reliable watertight sealing

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
Tensile Strength	ASTM D 638	MPa	> 20
Elongation at Break	ASTM D 638	%	> 400
Hardness	BS EN ISO 868	SHORE A	80 ± 5
Specific Gravity	BS EN ISO 1183-1	–	1.30 ± 0.05
Water Absorption, 23°C	BS EN ISO 62	%	< 0.5

*Values based on independent laboratory tests (2025); test report available on request.

Physical Properties

Material	:	Polyvinyl Chloride (PVC) & Rubber
Colour	:	Black
Packaging	:	20m / roll (150mm width) 15m / roll (230mm width) 15m / roll (305mm width) *packing other than the above can be manufactured on request*
Melting Temperature	:	180–200 °C

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

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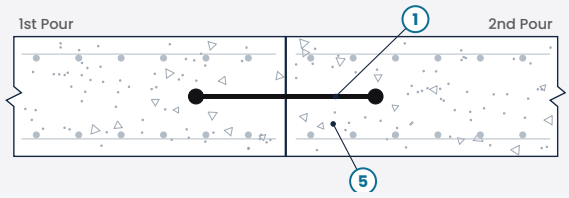
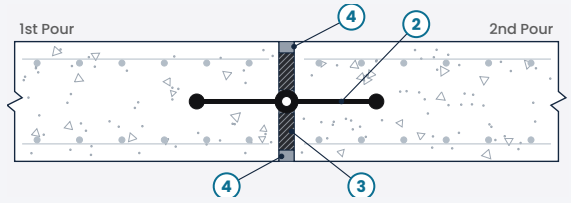
Typical Drawing & Profiles

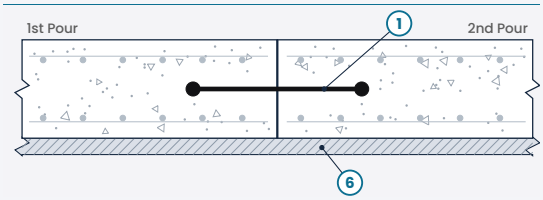
A CONSTRUCTION JOINT — Wall / susp. slab · NTS



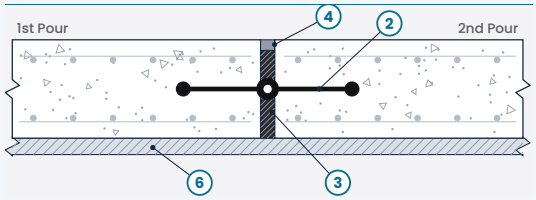
B EXPANSION JOINT — Wall / susp. slab · NTS



C CONSTRUCTION JOINT — Slab on ground · NTS



D EXPANSION JOINT — Slab on ground · NTS

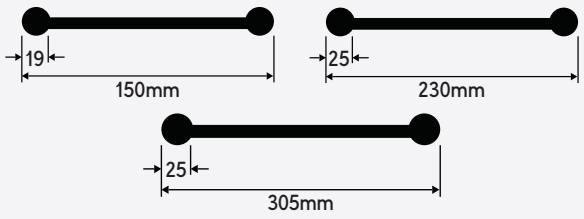


LEGEND & NOTES

1	UNISTOP® TPR DB (Dumbbell) waterstop	4	UNISEAL® Joint Sealant
2	UNISTOP® TPR CB (Centre Bulb) waterstop	5	Reinforced concrete (by others)
3	UNIFLEX® PE Fillerboard	6	Lean concrete blinding (by others)

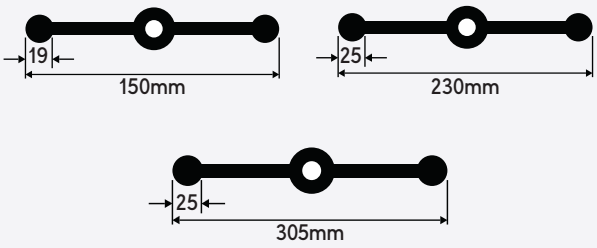
All details not to scale.
DB at construction joints; CB at expansion joints, bulb in the gap.
Member thickness, joint width, sealant depth and reinforcement as per the project engineer.

1 UNISTOP® TPR DB (DUMBBELL) — Dimensions in mm



- UNISTOP® TPR 150DB (150mm)
- UNISTOP® TPR 230DB (230mm)
- UNISTOP® TPR 305DB (305mm)

2 UNISTOP® TPR CB (CENTRE BULB) — Dimensions in mm



- UNISTOP® TPR 150CB (150mm)
- UNISTOP® TPR 230CB (230mm)
- UNISTOP® TPR 305CB (305mm)

Illustrations only – not for construction. Refer to drawing UR-ST-05 and the project engineer.

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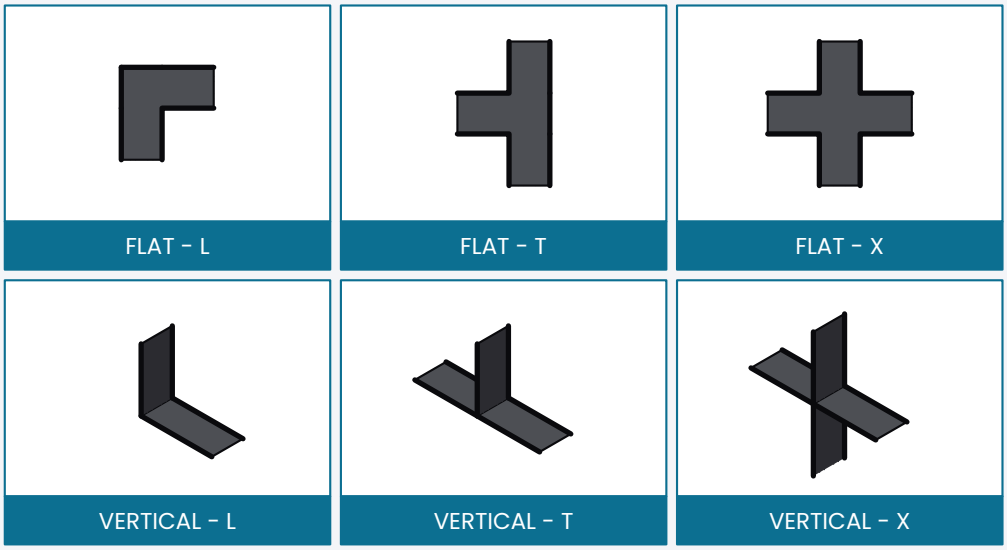
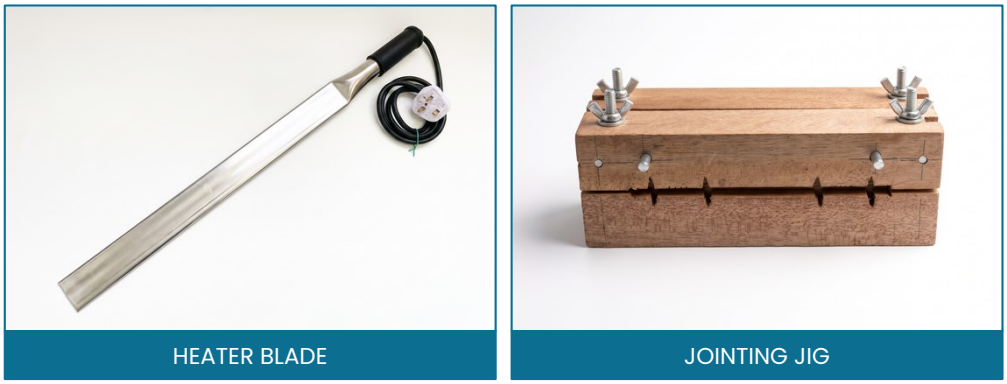
Factory Prefabricated Intersections



Jointing Accessories



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Installation Procedures

1 Preparation | 2 Jointing | 3 Fixing | 4 Expansion Joints

Step 1
PREPARATION

Long-term durability and performance can only be achieved through proper preparation and installation, to ensure a continuous waterstop network throughout the structure.

Ensure that the surfaces where the 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 as necessary. Use **UNISTOP® TPR DB** at construction joints and **UNISTOP® TPR CB** at expansion joints.

Step 2
JOINTING

UNISTOP® TPR is made from a PVC and rubber blend, so it can be heat-welded on site. Use factory-fabricated L, T and X intersection pieces at all junctions and changes of direction, and limit site welding to straight butt joints.

Cut both ends to be joined straight and square, and make sure they are clean and dry.

Heat both ends at the same time on an electric heater blade at approximately 180 °C until the material melts. Do not burn or char the ends. Remove the heater blade and immediately press the molten ends firmly together, keeping the profiles aligned. Hold them in place until the joint has cooled.

Once cooled, inspect the joint. It must be continuous across the full width of the profile, free of gaps, irregular cut edges and dirt.

Step 3
FIXING

Position the waterstop centrally across the joint, with its centreline (the centre bulb on **UNISTOP® TPR CB**) aligned with the centreline of the joint, and fix it securely so that it cannot move during concrete placement.

Erect split formwork securely on both sides of the waterstop, clamping it at its centre. The outer edges of the waterstop may be tied to the reinforcement with tie wire. Do not drive nails or make holes through the waterstop.

Compact the concrete fully around the waterstop so that no voids or honeycombing remain.

Step 4
EXPANSION JOINTS

At expansion joints, the centre bulb of **UNISTOP® TPR CB** must not be cast into the concrete; it must remain exposed within the joint gap.

Cast the concrete on one side first. Then fix **UNIFLEX® PE** fillerboard securely to the concrete face on either side of the waterstop centre bulb, for the full depth of the joint, and cast the next section of concrete directly against the **UNIFLEX® PE**.

Seal the joint surface with **UNISEAL®** joint sealant as shown in the typical drawings.

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