

UNISTOP™ NR

NATURAL RUBBER WATERSTOP

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PRODUCT FEATURES

UNISTOP™ NR RUBBER WATERSTOP range are moulded from high quality natural rubber compound and it is free from reclaimed or vulcanised waste.

UNISTOP™ NR RUBBER WATERSTOP are designed to be cast into construction or expansion joints in concrete structures as an integral sealing system to prevent the passage of liquids under pressure especially for water retaining or excluding applications with high movements and water pressure.

UNISTOP™ NR RUBBER WATERSTOP available in a different number of sizes & profiles to suit the project's requirement. They are available in roll lengths, alongside with the factory moulded intersections to minimise site jointing and ensures that site installation is as simple and rapid as possible.

ADVANTAGES

- Excellent High Movement Accommodation
- High elasticity accommodates Pronounced Cyclic Movement
- High elongation to cater for Subsidence and Seismic Movement
- Capable to Withstand High Hydrostatic Head and Water Pressure
- Resistant to Aging, Corrosion, Weather, Acid, Alkali, Metal Salt

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

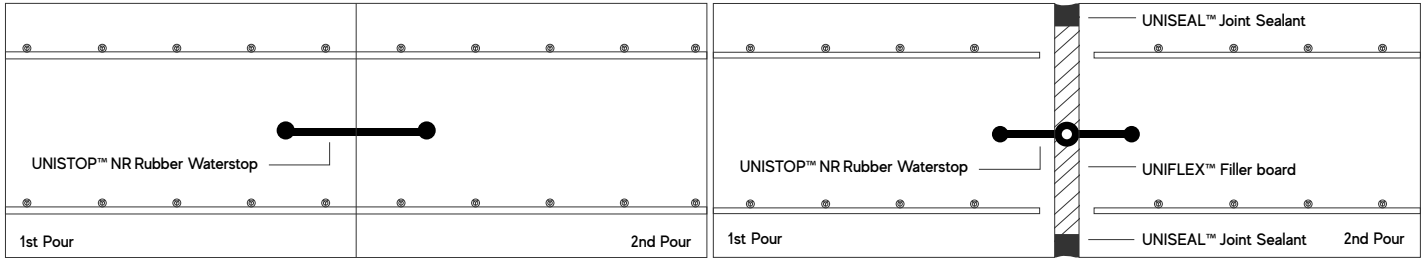
PROPERTIES	TEST METHOD	RESULT
Tensile Strength (MPa)	ISO 37 : 2017	25.2
Elongation at Break (%)	ISO 37 : 2011	640
Immersion in Distilled Water [48 hours / 70°C] Change in Volume (%)	ISO 1817 : 2015	1
Density (g/cm ³)	ISO 2781 : 2008 [Method A]	1.12
Hardness (IRHD)	ISO 48-2 : 2018	60
Compression Set [24 hours / 70°C] (%)	ISO 815-1 : 2014	17
Properties after accelerated ageing in air oven, 7 days at 70°C		
Change in Tensile Strength (%)	ISO 188 : 2011	-3
Change in Elongation at Break (%)	ISO 188 : 2011	-11
Change in Hardness (IRHD)	ISO 188 : 2011	-2

(All values given are subject to 5-10% tolerance / All values are based on testing of rubber compound / Compliance with ISO BS standard)

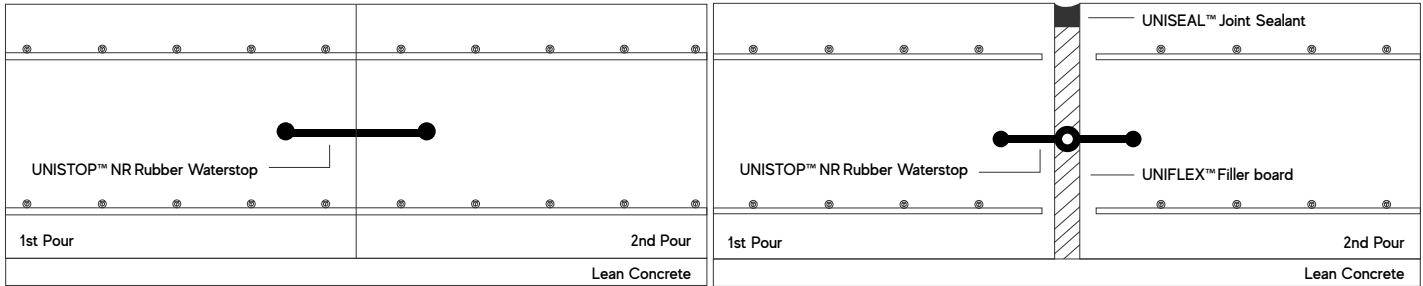
PHYSICAL PROPERTIES

MATERIAL	Natural Rubber *(TPR also available upon request)
COLOUR	Black
PACKAGING	20m / roll (150mm width) 15m / roll (230mm width) 12m / roll (305mm width) *(custom length available upon request)
ROLL WEIGHT	Dependent upon profile

TYPICAL DRAWING & PROFILES

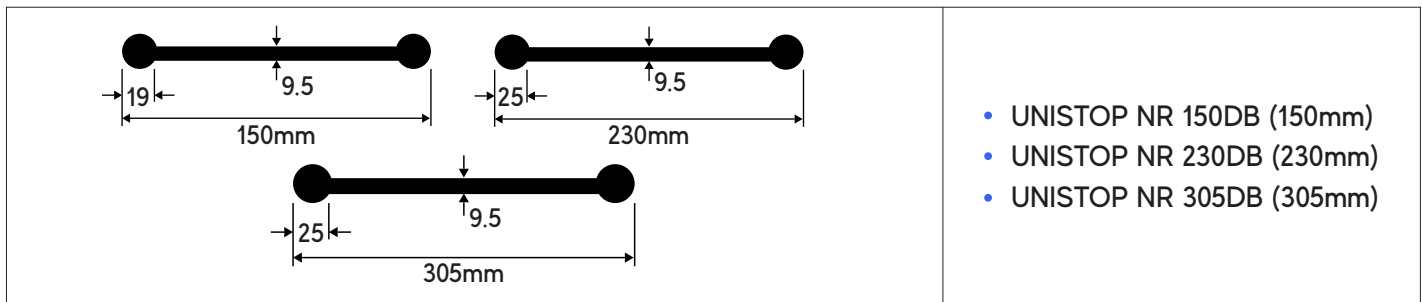


WALL / SUSPENDED SLAB APPLICATION

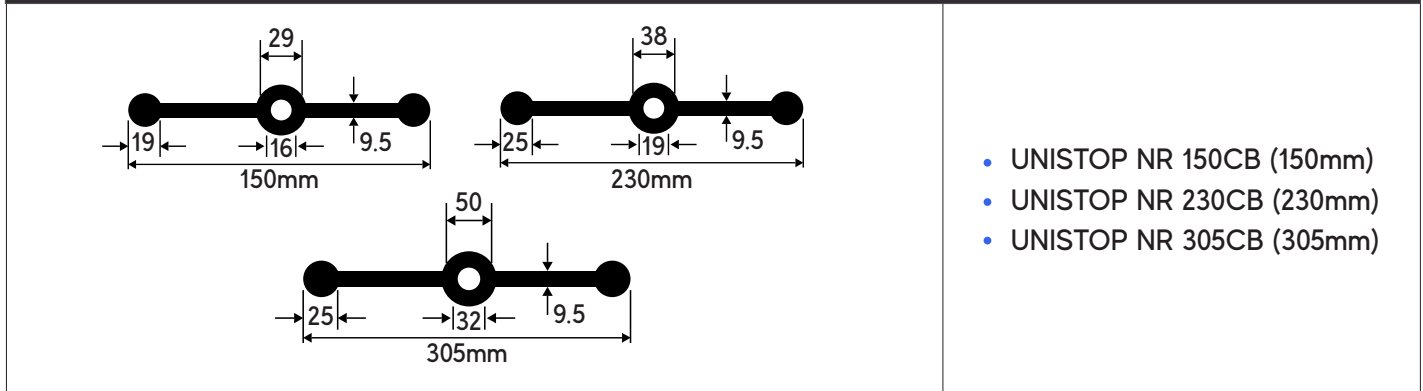


SLAB ON GROUND APPLICATION

UNISTOP NR - DB (Dumbbell)



UNISTOP NR - CB (Centre Bulb)



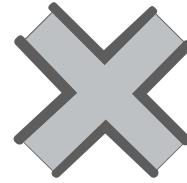
FACTORY PREFABRICATED INTERSECTIONS



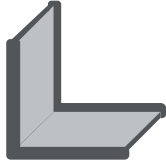
FLAT - L



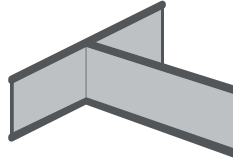
FLAT - T



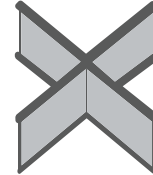
FLAT - X



VERTICAL - L

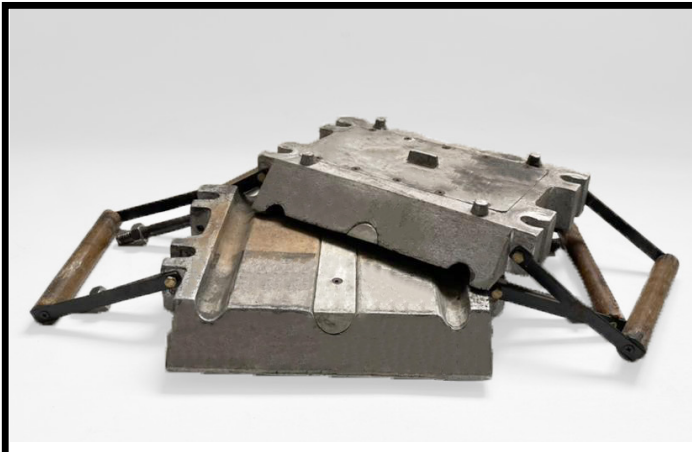


VERTICAL - T



VERTICAL - X

JOINTING ACCESSORIES



HOT VULCANISING KIT

Hot Vulcanising Kit	1 Unit
Rubber Compound	5 KG
Rubber Solution	1 Liter



COLD VULCANISING KIT

Vulcanising Compound Part A	1 Tin
Vulcanising Compound Part B	1 Tin
Rubber Cover	5/10 pcs
Rubber Solution	100cc
Rubber Cleaner	100cc
Wire Brush	1 Pcs

PROFILES AND WIDTH SELECTION

▶ **UNISTOP™ DB (Dumbell)** and **UNISTOP™ CB (Centre Bulb)** profiles are internally / centrally placed type of sealing system. They are particularly suited to high movement joints and joints in structures liable to subsidence.

▶ **PROFILES**

UNISTOP™ DB (Dumbell) suitable for construction joints, contraction joints and joints where no shear movement.

UNISTOP™ CB (Centre Bulb) suitable for expansion joints and joints with high movement.

▶ **SIZES**

The appropriate waterstop width depends upon the concrete thickness, the aggregate size and the position on the reinforcement.

INSTALLATION PROCEDURES

▶ *FIXING*

UNISTOP™ DB or **UNISTOP™ CB** internally placed waterstops are positioned within the concrete where the centerline of the waterstop is aligned with the centre of the joint, and securely fix in their correct position to avoid moving during concrete placement. The formwork should be securely erected either side of waterstop so as clamp it in the middle of where the concrete will be poured. The concrete must be fully and properly compacted around the waterstop to ensure that no voids or porous areas remain. No holes are to be made through any waterstop.

To create expansion joints, cast one side of the concrete first, then securely fix **UNIFLEX PE™** (polyethylene fillerboard) to the concrete faces either side of the rubber waterstop centre bulb for the full depth of the joint, before casting the next piece of concrete directly against the **UNIFLEX PE™**.

▶ *PREPARATION*

Cut the two ends of the rubber waterstop section to be joined as straight as possible with a sharp knife (clean water can be used as lubricant).

Wire-brush the rubber waterstop ends and surfaces within the 75mm of the joint until a suede-like finish is obtained.

Wipe it with clean cloth, clean the prepared surfaces and ends of the rubber waterstop with solvent cleaner using a paint brush.

When solvent cleaner had dried, apply rubber solution onto the rubber waterstop ends and surfaces within the prepared area and let it dry for about 5 minutes.

▶ *JOINTING (HOT VULCANISING METHOD)*

Pre-heat the hot vulcanising mould for approximately 30minutes and the pre-heat temperature should reach between 130°C - 150°C.

Prepare and cut the rubber compound into 2 pieces 2" wide and same length to the wide of the rubber waterstop. Place these pieces on each end onto the rubber waterstop and press firmly into position. Now cut small pieces of rubber compound that are similar sizes to the diameter of the outside dumbbell section of the rubber waterstop and firmly press them into position on each of the rubber waterstop profile.

Prepare and cut 3" wide section of rubber compound long enough so it can wrap a round the rubber waterstop. This section must be centrally placed over the join and wrap fully around the rubber waterstop.

The rubber waterstop join is placed onto the bottom part of the hot vulcanising mould and the lid is then clamped over the top of the rubber waterstop for approximately 25 to 30 minutes.

Unclamp the rubber waterstop and remove it from the hot vulcanising mould after 25 to 30 minutes. cool down the rubber waterstop for about 20 minutes, examine its appearance, then install when it is qualified.

▶ *JOINTING (COLD VULCANISING METHOD)*

Mix both vulcanising compound Part A & B with equal portion until uniform color is achieved.

Apply the compound onto each end of the prepared waterstop and press firmly on the both side of the waterstop Any excessive material around the joint shall be spread evenly to ensure no voids are left around the jointing area.

Scrap off the dried vulcanising residue with knife and roughen the attached surface with wire brush.

Clean the surfaces using solvent cleaner with cloth and once dried apply a coat of rubber solution.

Remove the foil behind the rubber cover and place the longer length of the rubber cover across the width waterstop and press firmly from the center to the edges to avoid trapping of air

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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