

# HydroTank 301-EP

Metal Construction Joint Waterbar

Revision: 1.5 - 8<sup>th</sup> February 2022  
Code: SX 301-E

## INTRODUCTION

*HydroTank 301-EP Metal Waterbar* is a coated metal waterbar system used for the sealing of kickerless construction joints within retained concrete structures.

*HydroTank 301-EP Metal Waterbar* features a flexible, adherent coating on one side, which is covered with a granular material. The rough coating creates a permanent watertight seal with the surrounding concrete to create a waterbar that works immediately, without requiring activation by water as with hydrophilic waterbars.

Installation is quick and easy with the waterbar fitted in place to the reinforcement steel with special clips so that after the placement of the concrete, the waterbar is fully embedded within the two adjoining elements, completely blocking the passage of water through the joint.

Because *HydroTank 301-EP Metal Waterbar* is not fixed to one of the concrete elements, as is the case with conventional waterbars, the forming of a kicker is not necessary. Where the walls are formed above a kicker joint, use [HydroTank 315 Waterbar](#).

*HydroTank 301-EP Metal Waterbar* metal waterbar is certified to resist water pressure of up to 5 bar (50m), and is resistant to all types of naturally occurring ground water types.

## KEY BENEFITS

- Immediate protection against water pressure - does not need to swell to be effective as is the case with hydrophilic waterbars
- Extremely high bond between the granular coating and the surrounding concrete ensuring that water cannot pass even where the concrete has slightly shrunk during curing
- No kicker or rebate required, reducing site labour costs
- 100% waterproof up to 5 bar of water pressure
- Preformed corner parts for quick site installation
- More durable than conventional waterbars - not easily damaged or moved by the placing or compacting of concrete
- Can be installed in any weather and at any temperature

## TYPICAL APPLICATIONS

The waterproofing of construction joints to placed concrete elements of earth retained structures. The following construction joints can be waterproofed with *HydroTank 301-EP Metal Waterbar* :

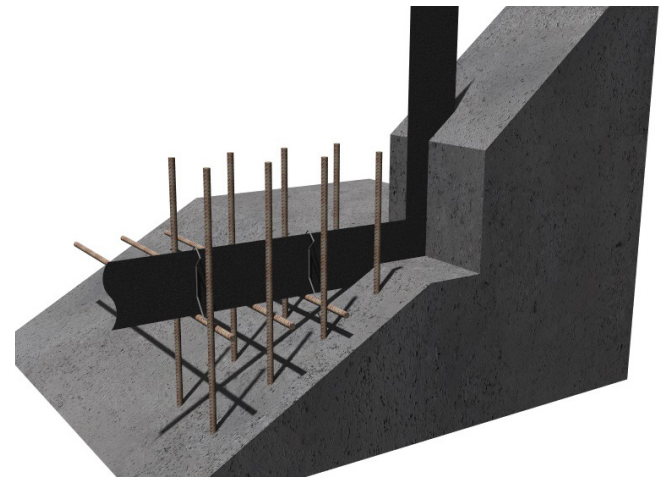
- Raft - Raft
- Raft - Wall
- Wall - Wall

## TOOLS REQUIRED

- Metal snips
- Pliers

## ANCILLARY PRODUCTS

HydroTank 301-EP Fixing Clips.



## SUITABLE SUBSTRATE

Static construction joints on site reinforced concrete, earth retaining structures.

## CONCRETE COVER

*HydroTank 301-EP Metal Waterbar* is placed to the centre of the joint. The concrete cover required for the reinforcing steel is suitable as concrete cover for the waterbar.

## SPECIFICATION

Newton Waterproofing Systems work in partnership with RIBA NBS who publish our products on [NBS Source](#). The platform integrates seamlessly into project workflows, providing all product data from Newton's NBS BIM Objects, NBS Plus Clauses and RIBA Product Selector into one single source of product information.

NBS Source also hosts a large selection of Newton [case studies](#), as well as product [literature and certifications](#).

A wide range of drawings are available [on our website](#).

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## Metal Construction Joint Waterbar

### TECHNICAL DATA

Features	Result	Units
Material	Steel	
Pack size – Coils	6.0	m
Thickness	2.0	mm
Height	140	mm
Length	6.0	m
Shelf life	3	Years
Installation temperature	No restriction	
Service temperature	-20 to +70	°C
Minimum concrete embedment	30	mm
Watertightness	5	bar

### TRAINING & COMPETENCY OF USER

HydroTank 301-EP Metal Waterbar should be used by those with an understanding of the requirement to waterproof retained structures and the knowledge and training to use the product as part of a coordinated approach to the waterproofing of the structure, which in many cases will require further waterproofing products in order to achieve the required habitable grade as defined by BS 8102:2009.

### CONSTRUCTION

The construction should conform with current Building Regulations, British Standards and relevant Codes of Practice.

### LIFE EXPECTANCY

HydroTank 301-EP Metal Waterbar is embedded into the centre of the construction joint and so has a life expectancy and design life that is equal to the life of the concrete the product is embedded within, as long as the concrete is placed and compacted as required by BS EN 1992-3 for earth and water retaining structures.

### CONSTRUCTION - NEW CONCRETE

New concrete should be designed by a Structural Engineer to EN 1992 (Formally BS 8110 & BS 8007). Poured concrete rafts, kickers and foundations should have a surface finish to Class of finish U3 as documented in 'General Specification for Civil Engineering Works' section 14: 'Formwork and Finishes to Concrete', namely a "Uniform, dense and smooth surface" with float marks of no more than 3 mm.

### PREPARATION

Carefully prepare construction joint surfaces to expose the coarse aggregate in order to increase the bond strength and to provide aggregate interlock as outlined in relevant standards/codes of practice.

Construction joint surfaces should be clean and free of dust, dirt, debris and standing water. Loose/flaking concrete or laitance should be removed by scabbling, using a needle gun, sandblasting, jet-washing etc.

### MOVEMENT JOINTS

Please contact the Newton technical department.

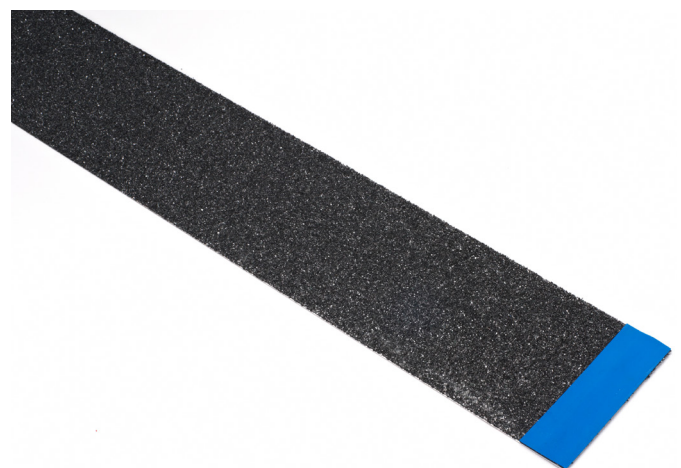
### INSTALLATION

The installation of HydroTank 301-EP Metal Waterbar takes place before concreting and is positioned at the middle of the joint within the reinforcing steel. HydroTank 301-EP Metal Waterbar is installed with the granular coated side facing the direction of probable water infiltration. The embedment depth in the first concrete section must be at least 30 mm.

Place HydroTank 301-EP vertically on the reinforcing steel and secure the metal waterbar to the reinforcing steel with HydroTank 301-EP Omega shaped Fixing Clips (clipped over the metal waterbar and fixed to the perpendicular reinforcing steel with tie wire or cable ties) at 500 mm centres to prevent the waterbar from moving or rising up during concreting.

The metal waterbar is bent or shaped by hand to allow it to follow the course of the joint (corners, curves).

Connecting the HydroTank 301-EP strips at a vertical and horizontal joint is carried out by simply lapping together. There is a hydrophilic strip pre-applied at each end lap and the use of the HydroTank 301-EP fixing clips at all laps will hold the two adjoining waterbars tight.



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### LIMITATIONS

HydroTank 301-EP Metal Waterbar is not designed to be used with wall joints above kickers. For kicker construction, use HydroTank 315 Waterbar.

### PACKAGING

Main product - 6m coils.

### STORAGE

Store in dry conditions at temperatures between 5°C and 25°C

### HEALTH & SAFETY

Product should only be used as directed. We always recommend that the Safety Data Sheet (SDS) is carefully read prior to application of the material. Our recommendations for protective equipment should be strictly adhered to for your personal protection. The MSDS is available upon request from Newton Waterproofing Systems or online via our web site. Please see contact details below.

Any specification/advice provided is only valid if used with products supplied by John Newton and Company Ltd (trading as Newton Waterproofing Systems). Newton Waterproofing Systems reserve the right to update product literature at any time. Please always refer to our [website](#) for the latest versions.