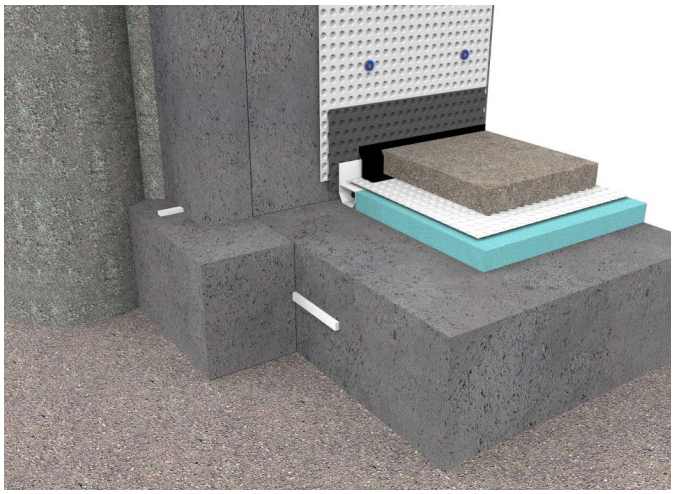
Type B & C Waterproofing
BBC-01 SPECIFICATION SHEET
Combined Waterproofing of Secant Piles

Rev 3.0 - 02 February 2022

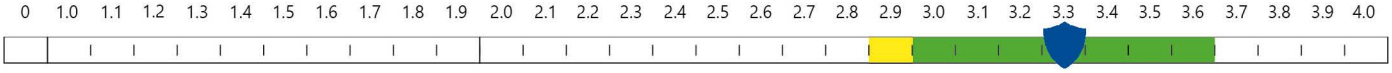


BUILD

WALL CONSTRUCTION:
Reinforced Concrete (RC)

FLOOR CONSTRUCTION:
RC Raft

NWI SCORE



This specification employs 2 forms of waterproofing (Type B - Intergral Protection) to limit ground water ingressing behind the (Type C - Drained Protection) to ensure that the desired internal environment is achieved. The effectiveness of the waterproofing is dependent on the Type B systems being effective, especially at the construction joints.

SPECIFICATION

TYPE B ANCILLARIES

Install Newton HydroTank System to all construction joints and service penetrations providing integral protection.

TYPE C INSTALLED INTERNALLY

Waterproof internally with Newton CDM System providing drained protection.

NEWTON WATERPROOFING INDEX

The Newton Waterproofing Index (NWI) is a unique scoring system that accurately assesses the level of risk and potential success of specific waterproofing specifications. The NWI score is awarded by a panel of experienced waterproofing design specialists and reflects the chances of success of that specification. The scoring system works in conjunction with the British Standard for waterproofing, which defines the three types of internal environments as Grades 1, 2 and 3.

NOTES

To improve the NWI score please see Newton Specification Sheet BABC-01.

The detailing of other building elements and termination details are available within the Newton Waterproofing specification library.

A-RATED INSURANCE

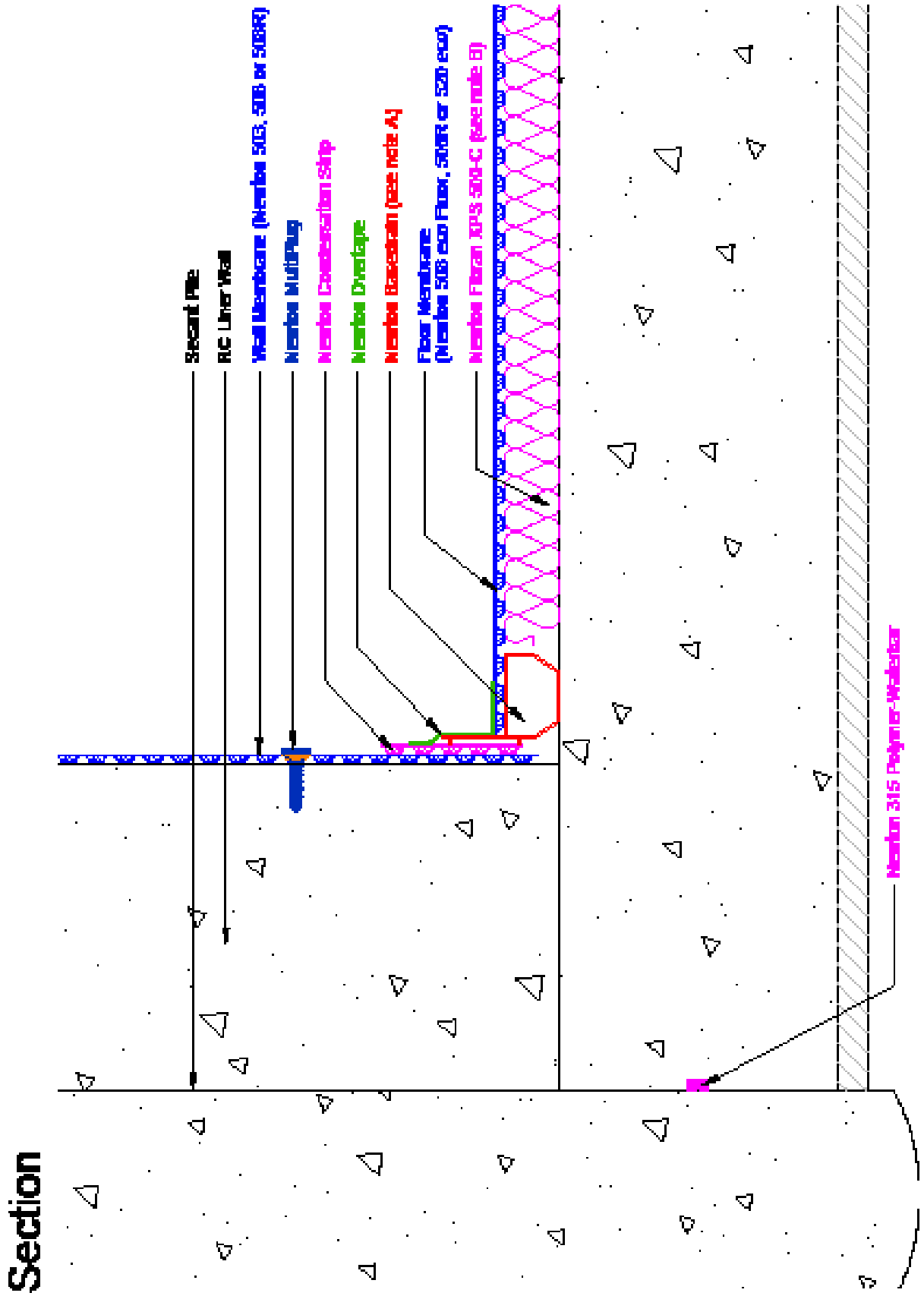
Tailor made insurance policies available depending on the specialist contractor and specification.

Newton House, 17-20 Sovereign Way, Tonbridge, Kent, TN9 1RH
T: +44 (0)1732 360 095 **W:** www.newtonwaterproofing.co.uk **E:** tech@newtonwaterproofing.co.uk

BBC-01

Combined Waterproofing of Secant Piles

NEWTON WATERPROOFING SOLUTION - BBC-01



NOT TO SCALE | 29JAN19 | DESIGN-DGB | DRAWN-AJG | CHECKED-DGB | REV-A

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Type B & C Waterproofing
BBC-01 OUTLINE SPECIFICATION
Combined Waterproofing of Secant Piles

The following specification provides 2 forms of waterproofing

Specification	BBC-01
Description	Combined waterproofing to RC structure. No gas protection.
Build	Reinforced concrete walls, supported from an RC raft. Designed with crack widths limited to 0.2mm, and which conforms to BS EN 1992
NEWTON HYDROTANK SYSTEM	All construction joints (day joints, shrinkage joints, movement joints etc) should be waterproofed with Newton System 300 waterbars to limit water ingress thorough joints in the structure.
Newton 315 Polymer-Waterbar	A high grade, hydrophilic waterbar with high elasticity and high tensile strength, made from a polymer which swells when in contact with moisture.
Preparation	See E40/230 NBS Clause for Newton 315 Polymer-Waterbar
Application	Install the waterbar as described in the product datasheet
Place slab	Place RC slab ensuring that the concrete is fully compacted, paying attention to compaction below the reinforcement steel and waterbar. Pay particular attention not to damage the 315 Polymer-Waterbar during vibration of the concrete.
NEWTON CDM SYSTEM	Maintainable basement waterproofing solution ideal for new-build basements and refurbishment projects. Comprises four components: Cavity Drain Membranes, Drainage, Pumps and Control Systems. Complies with the British Standard for Waterproofing.
Substrate Preparation	
Walls	See J40/310 NBS Clause for Newton System 500.
Floor	Horizontal concrete surfaces should have a surface finish to should have a surface finish to at least Class of finish U3 and preferably to class U4 or U5 as documented in 'General Specification for Civil Engineering Works' section 14: 'Formwork and Finishes to Concrete', namely a 'Uniform, dense and smooth surface'. Floor to be no more than +/- 5mm over 2m in any direction and no more than 25mm over any dimension. Floor to be flood tested and and depressions over 10mm or over to be filled with appropriate repair product such as Newton 908 LiquaBond mortar. Floor slab to be treated with Newton 906 Lime Inhibitor as per the product data sheet
Floor preparation:	
Surface cracks (dead)	Fill with fine filler or 901-P mixed with sand and/or scrim with plasterers scrim
Surface Cracks (live)	Treat as movement joint - see below
Small holes or slight surface damage	Repair with appropriate filler
Joints	
Movement Joints and Isolation Joints	**IMPORTANT:** Movement and isolation joints should be avoided if possible as they are very difficult to waterproof. If they need to be included, please speak to the Newton Technical Department who will confirm an exact specification for the joint.
Sump	If water collected by the system is to be removed by pumping, provision for the sump must be included at the time the slab is placed. Methods for forming of the sump chamber are included within the Titan-Pro pumping system Installation Manual. The Titan-Pro sump chamber must be surrounded by compacted concrete or placed within a concrete box and then concrete in place.

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Installation	As per the Newton CDM Installation manual. Installation should be by Newton NSBC waterproofing contractors who are trained in the installation of the system. It is a requirement of the BBA Certificate that the system is installed by Newton NSBC waterproofing contractors.
Wall Membrane	Install with as many fixings are required to place the membrane to the wall. Add further fixings as required for wall mounted ancillaries such as dry-lining brackets, insulation ties or brick/block ties.
Drainage System	Place above the slab within a spacer of Newton XPS 500-C. Place Newton Basedrain drainage channel to the perimeter and to any internal walls that are supported from the own strip foundations. Place Newton Floordrain above construction joints, door thresholds or where cross drains are required. The drainage system to terminate at the pumping system. Make connections to the Titan-Pro sump with Newton Basedrain Connectors.
Floor Membrane	Place the membrane to the floor, above the Fibran-XPS insulated drainage spacer. Seal the floor membrane to the permitter Basedrain drainage channel with Newton Overtape, sealed to the up-stand of the Basedrain.
Protrusions	Seal the membrane as tightly as possible to the protrusion. A range of preformed sealing collars, sleeves, cloaks and linings are available.
Protection	Always required
To Wall membrane	Please the Newton CDM installation manual
To Floor membrane	Please the Newton CDM installation manual

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Type B & C Waterproofing
BBC-01 NBS CLAUSE
Combined Waterproofing of Secant Piles

The following document is to be read alongside the relevant Newton Waterproofing datasheets.

NEWTON E40 - NEWTON HYDROTANK SYSTEM

E40 Designed joints in in situ concrete

120 CONSTRUCTION/ MOVEMENT JOINTS GENERALLY

Newton 315 Polymer-Waterbar

A high grade, hydrophilic waterbar with high elasticity and high tensile strength, made from a polymer which swells when in contact with moisture. Ideal for sealing structures against water leaks to both cast-in-place concrete and precast construction joints.

The swelling is achieved through hydrophilic acrylate polymers, which are inseparably embedded within the butylene carrier material. This results in high elasticity and exceptional tensile strength, even when fully expanded within the joint.

Due to its high resistance to acids, alkalis and organic solutions, Newton 315 Polymer-Waterbar can be used to seal joints where aggressive water is expected such as within sewage treatment plants, biogas plants and liquid waste holding tanks.

Newton 315 Polymer-Waterbar swells up to 9 times its original size when in contact with water, sealing the joint fully and reliably. Newton 315 Polymer-Waterbar is particularly suited to sealing non-compressed joints such as at the junction between slab and wall.

Newton Waterproofing Systems Ltd, Newton House, 17-20 Sovereign Way, Tonbridge, Kent, TN9 1RH

Tel: 01732 360095, Email: Tech@Newtonwaterproofing.co.uk, Web: www.newtonwaterproofing.co.uk

Please click here to download the full Newton 315 Polymer-Waterbar NBS Clause

NEWTON J40 - NEWTON CDM SYSTEM

J40 Flexible sheet waterproofing/damp proofing

290A HIGH DENSITY POLYETHYLENE STUDDED CAVITY DRAIN MEMBRANE

Newton CDM System

The Newton Cavity Drain Membrane (CDM) System is a maintainable basement waterproofing solution ideal for new-build basements and refurbishment projects. Comprising of four components: Cavity Drain Membranes, Drainage, Pumps and Control Systems, the Newton CDM System complies with the British Standard for Waterproofing and provides a Grade 3 habitable internal environment.

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Please click here to download the full Newton CDM system NBS Clause

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