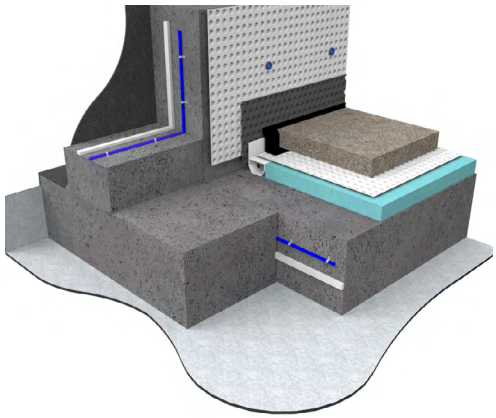
Type A, B & C Waterproofing
JN-02 SPECIFICATION SHEET
Complete Waterproofing of RC Basement

Rev 2.1 - 09 January 2020

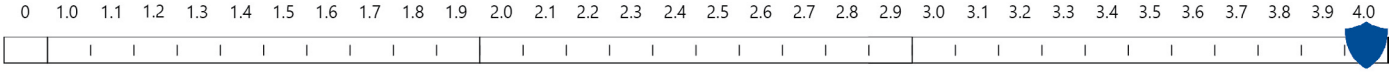


BUILD

WALL CONSTRUCTION:
Reinforced Concrete (RC)

FLOOR CONSTRUCTION:
RC Raft

NWI SCORE



This specification employs 3 forms of waterproofing (Type A - Barrier Protection) and (Type B - Integral 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 A & B systems being effective, especially at the construction joints.

SPECIFICATION

TYPE A APPLIED EXTERNALLY
Waterproof the structure with Newton HydroBond System providing barrier protection.

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
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.

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(a trading name of John Newton & Co. Ltd.)
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Type A, B & C Waterproofing
OVERVIEW
Complete Waterproofing

TYPE A – BARRIER PROTECTION

'Type A' waterproofing systems are barrier membranes which are applied to the structure. The membrane can be applied internally or externally to prevent the ingress of water into the inner building fabric. Barrier membranes applied externally to the "positive" side are either sheet membranes affixed to the permanent form-work prior to the concrete placement or liquid membranes that are post applied after the temporary form-work has been removed. Although fully bonded, the ground water pressure acts positively to push the membranes tighter to the structure. Internally, to the 'negative' side of the structure, and so holding back ground water, stronger, cement-based products are used that exhibit tremendous grip to the substrate. These are generally applied with spray, trowel, brush or roller.

TYPE B – STRUCTURALLY INTEGRAL PROTECTION

'Type B' is a form of waterproofing defined within BS 8102:2009 (Protection of below ground structures against water from the ground), where the structure itself is constructed to be integrally waterproof and the primary resistance against water ingress. These types of structure are usually made of well-designed and well-placed reinforced concrete, with the steel reinforcement limiting flexural movement and crack widths. No additional 'waterproofing admixture' is required for the concrete mix. Concrete specified to EN 1992-3 already contains the admixtures for the concrete to be water resisting.

Concrete structures leak where the concrete isn't, joints allow water to ingress, so these joints need to be waterproofed with either hydrophilic waterbars, which swell on contact with water, or metal waterbars which form an actual physical barrier against water ingress. Injection hose systems can be used as an alternative to conventional waterbars. Resins are injected into the injection hose at a very high pressure, allowing for sealing of defects to a much larger area than can be sealed with conventional waterbars. They have the added benefit of testing the density of the concrete and can be very useful indicator that the concrete is not being compacted as well as it should be.

There are several methods of construction, the most waterproof by design being where concrete walls are supported from a concrete raft foundation, so that the main joint between walls and floor is compressed by the full weight of the building. Design is often dictated by boundary restrictions and so piled walls with in-fill RC slabs are also common. Piles can be concrete or steel.

TYPE C – DRAINED PROTECTION

A 'Type C' System is a below ground, internal waterproofing system, comprising of membranes, drainage and, if required, pumping systems with battery backup ancillary products. With this design, it is accepted that water could enter the building and an internal cavity is provided to depressurise and manage the water, which is why they are sometimes referred to as 'water management systems'. Once collected, water can be discharged from the property either via gravity to open elevations or removed by mechanical means.

Because the waterproofing is not holding back water pressure, it is regarded by most waterproofing professionals as the safest form of waterproofing available. It is also the form of waterproofing that is the most maintainable and repairable.

The only risks to this form of waterproofing are where the drainage cavities become blocked, or where too much water is entering the structure for the system to deal with, or where there is no power for the pumping system.

RECOMMENDATIONS & STANDARDS

With three forms of waterproofing, this specification provides the safest possible waterproofing design of Types A, B & C, as defined within BS 8102:2009, the Code of Practice for the protection of below ground structures against water from the ground.

Where possible we would recommend a reinforced concrete structure designed to BS EN1992 (Eurocode 2) and that it is of sufficient mass and quality to resist heads of water pressure as recommend by BS 8102:2009 (the Code of Practice for the protection of below ground structures against water from the ground), the only place that water will enter is at the joints, basically where the concrete isn't.

The structure should be designed to be as watertight as possible, even where Type C cavity drain membrane system are to be used, as although they are able to deal high levels of water ingress, it is good practice to ensure that they are only dealing with seepage that manages to pass through the structure.

It is a recommendation of BS 8102:2009 that Type C systems are maintainable. Because all Newton Type C waterproofing specifications include perimeter drainage channels, the whole system is maintainable.

In accordance with our BBA certificate we will always recommend that a Newton Specialist Basement Contractors (NSBC) install the system as they are trained by Newton Waterproofing Systems in the correct specification and installation of Newton waterproofing products and will provide the client with a meaningful insurance backed guarantee for the system installed.

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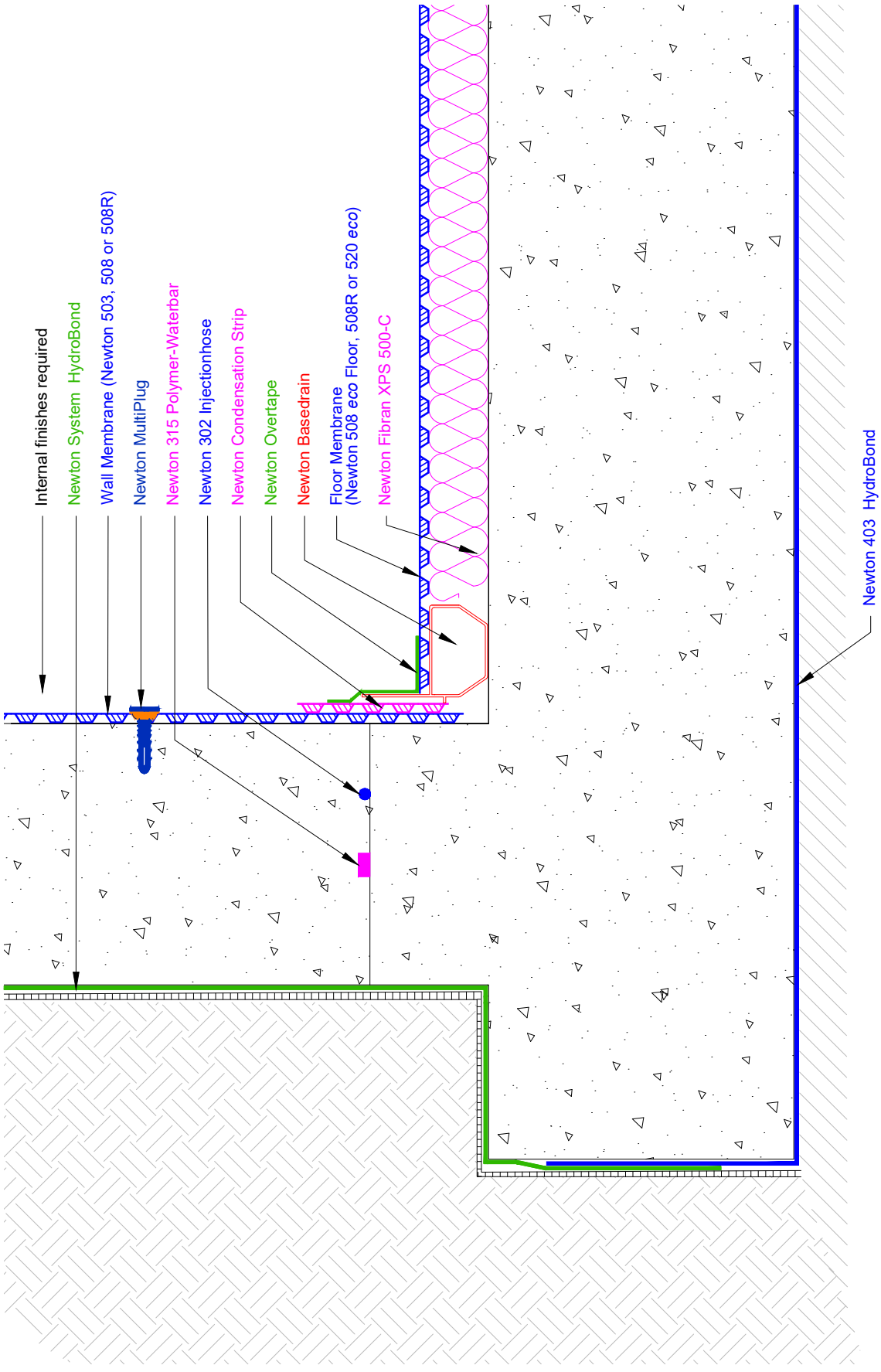
Section



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Type A, B & C Waterproofing
JN-02 OUTLINE SPECIFICATION
Complete Waterproofing of RC Basement

INTRODUCTION

The following specification provides the highest degree of waterproofing to a structure of the following build:

Wall material	Reinforced Concrete
Floor type	Raft
Gas protection required	No.
Required Habitable Grade - BS 8102	Grade 3.
Weaknesses of this structure	This type of structure has two inherent weaknesses as an earth retaining structure that is designed to be water-excluding: Cracks within the concrete due to poor compaction and water leaving the concrete during the curing stage leaves behind a complex capillary matrix through the whole concrete, an externally applied Type A membrane will further protect from these defects. Non-compressed joints that promotes ingress of water between raft joints.
Newton Specification Type	Structural Waterproofing.
Specification	JN-02
Description	Complete 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
Primary Product(s)/System(s)	Newton HydroBond Type A waterproofing System. Newton CDM Type C waterproofing system. Newton 315 Polymer-Waterbar waterproofing all joints Newton 302 InjectionHose waterproofing al joints
Third-party Accreditation	Primary Waterproofing Elements
Newton HydroBond System.	KIWA BDA Agrément Certificate BAB 17-031/04/A.
Newton CDM System.	BBA Agrément Certificate 94/3010
Newton 315 Polymer-Waterbar	KIWA BDA Agrément Certificate BCAC 17-002
Acceptance By Insurance Companies	
Newton HydroBond System.	NHBC
Newton CDM System.	NHBC
Newton 315 Polymer-Waterbar	NHBC

NEWTON HYDROBOND SOLUTION	The Newton HydroBond System provides a complete and continuous waterproof barrier to the external surface of any below ground structure
Newton 403 HydroBond®	Newton 403 HydroBond is a mechanically bonded and self-healing membrane that is pre-applied ready for the placement of the concrete raft to a suitable smooth sound substrate such as a concrete blinding, closed cell insulation, void former system or drainage membrane such as Newton 410 GeoDrain.
Preparation	See J40/112 NBS Clause for Newton 403 HydroBond
Application	Install the membrane as described in the product Installation Manual Lap the vertical membrane down onto the suitable substrate, ready for the horizontal application
Place Raft	Pay particular attention not to damage the 403 HydroBond membrane during vibration of the concrete.

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NEWTON HYDROTANK SOLUTION	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 data sheet
	Fix waterbars at the centre dimension of joints
Place Raft	Pay particular attention not to damage the 315 Polymer-Waterbar during vibration of the concrete.
Newton 302 InjectionHose	Newton 302 Injection Hose is mechanically fixed with Hose Clamps to the in-place element, ready for concrete placement of the second element of the joint.
Preparation	None required
Application	Newton injection hose clips every 100/150mm.
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
Ancillaries	
Newton 315 Polymer-Waterbar	Hydrophilic Waterbar for sealing the joint between the slab and the wall.
Newton 302 InjectionHose	Maintainable Injection Waterbar System
Newton XPS 500-C insulation	Insulated drainage spacer, or externally applied insulation, or protection for externally applied membranes.

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Type A, B & C Waterproofing
JN-02 NBS CLAUSE
Complete Waterproofing of RC Basement

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

J40 Flexible sheet waterproofing/ damp proofing

To be read with Preliminaries/ General conditions.

112 HARDCORE BEDS

- Preparation: Substrate must be regular and smooth with ngaps or voids greater than 12mm

Substrate can be:

Compacted Type 1 Hardcore

Concrete blinding

Compacted sand

- The following can be placed above the blinding or hardcore prior tthe installation of 403 HydroBond:

Void former

Clay Heave Board

Closed cell flooring grade insulation

Newton 410 Geodrain

297A WATERPROOFING MEMBRANE

Manufacturer: Newton Waterproofing Systems Ltd

- Web: www.newtonwaterproofing.co.uk
- Email: info@newtonwaterproofing.co.uk
- Tel: +44 (0)1732 360095
- Address: Newton House, 17-19 Sovereign Way, Tonbridge, Kent TN9 1RH.

Product reference: Newton 403 HydroBond™

Product code: [HB-2]

Product thickness: [1.7mm]

Bonding: Fully bonds to the poured in-situ structural concrete by means of a locking fleece.

Laps: Side and end laps 75mm minimum.

Substrate:

Vertically: Permanent formwork, such as protection boards, rigid insulation king post walls, secant plied walls, contiguous piled walls with stable fill between joints, sheet piles and the adjoining structure or as recommended by the manufacturer.

Horizontally: as recommended by the manufacturer.

Compacted Type 1 Hardcore

Concrete blinding

Compacted sand

The following can be placed above the blinding or hardcore prior to the installation of 403 HydroBond:

Void former

Clay Heave Board

Closed cell flooring grade insulation

Newton 410 Geodrain

Accessories: to be used in conjunction with HydroBond System as per literature.

Newton HydroBond Tape

Newton 106 FlexProof (J30)

Newton 314-BP Bentonite Powder

Newton System 300 Range of passive or active waterbars (E40)

Newton 410 Geodrain (J40 295)

WORKMANSHIP

310 WORKMANSHIP GENERALLY

• Condition of substrate:

- Clean and even textured, free from voids and sharp protrusions.
- Moisture content: Compatible with damp proofing/ tanking.

• Air and surface temperature: Do not apply sheets if below minimum recommended by membrane manufacturer.

• Condition of membrane at completion:

- Neat, smooth and fully supported, dressed well into abutments and around intrusions.
- Completely impervious and continuous.
- Undamaged. Prevent puncturing during following work.

• Permanent overlying construction: Cover membrane as soon as possible.

335A PRIMERS

Not required. The Newton 403 HydroBond is loose laid horizontally and mechanically fixed vertically. The product is hydrophilic and swells to seal around the fixings.

350A ANGLES IN BONDED DAMP PROOFING/ TANKING

• Internal, external corners and wall to slab details are formed by creasing and folding/ cutting and splicing the 403 HydroBond membrane ensuring a close fit to the substrate profile avoiding hollows. See manufacturers information.

360A JUNCTIONS WITH PROJECTING DPCS/ CAVITY TRAYS

Continuity with DPC's or Cavity Trays may be achieved by using Newton 109-LM, Newton 106 FlexProof or as recommended by the manufacturer.

370A PREFORMED COLLARS FOR PIPES, DUCTS, CABLES, ETC

Newton 106 FlexProof or Bentonite Paste BP-14, Newton HydroBond Tape, Newton System 300. Membrane to be scribed tight to the penetration, alternatively apply pre-cut overlying patches to ensure a minimum 75mm bonded overlap with underlying membrane. Newton 106 FlexProof to be applied around penetration, forming a fillet to provide a watertight seal between HydroBond membrane and penetration.

380A PROTECTION BOARDS FOR DAMP PROOFING/ TANKING

• Coated surface: clean and free from contaminants.

• Protection:

- Newton 410 Geodrain (J40 295) - drainage membrane
- Newton Fibran 500C (Closed cell insulation)
- Protection board (contractor's choice)

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E40 Designed joints in in situ concrete

To be read with Preliminaries/General conditions.

120A CONSTRUCTION/ MOVEMENT JOINTS GENERALLY

- Accuracy: Position and form joints accurately, straight, well-aligned and truly vertical or horizontal or parallel with setting out lines of the building.
- Concrete structures should be designed by a Structural Engineer to EN 1992 (Formally BS8110 & BS8007). Placed 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 3mm. Submit proposals.

132A ADDITIONAL REQUIREMENTS FOR CONSTRUCTION JOINTS

- Limitations:

20 mm x 10 mm waterbar - Minimum of 80 mm

20 mm x 5 mm waterbar - Minimum of 50 mm

20 mm x 2 mm waterbar - Minimum of 50 mm

230A PREPARATION OF CONSTRUCTION JOINTS

- Roughening of joint surfaces: Select from:
- The surface of the concrete should be clean, correctly compacted and uniform. Jet wash & hard brush the surface to reveal clean aggregate. The surface must be free of ice. Condition of joint surfaces immediately before placing fresh concrete: Clean and damp

320A HYDROPHILIC WATERSTOPS

- Manufacturer: Newton Waterproofing Systems (a trading name of John Newton & Co. Ltd.)
- Newton House, 17-20 Sovereign Way, Tonbridge, Kent, TN9 1RH

T: +44 (0)1732 360 095

W: www.newtonwaterproofing.co.uk

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Product reference: Newton 315 Polymer-Waterbar

Location: Horizontal and vertical construction joints,

New to existing concrete, irregular surfaces and puddle flanges around through wall and slab penetrations.

- Method of fixing:A choice of adhesives are available:

Newton 309-M - Adhesive with very high bond characteristics

To concrete and mortar, the application can be enhanced by the use of masonry nails at approximately 250mm centres.

Condition of concrete surface at time of fixing: Clean and free from ponded or running water.

- Protection: Prevent wetting of exposed sections of waterstop.

530A SEALANTNewton Newton 309-M

Manufacturer: Newton Waterproofing Systems (a trading name of John Newton & Co. Ltd.)

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W: www.newtonwaterproofing.co.uk

E: tech@newtonwaterproofing.co.uk

Product reference: 309-M

E40 Designed joints in in situ concrete

To be read with Preliminaries/General conditions.

120 CONSTRUCTION/ MOVEMENT JOINTS GENERALLY

• Accuracy: Position and form joints accurately, straight, well-aligned and truly vertical or horizontal or parallel with setting out lines of the building.

• Modifications to joint design or location: Submit proposals.

• Placing concrete to form movement joints:

- Maintain effectiveness of joints. Prevent concrete entering joints or penetrating or impregnating compressible joint fillers.

Do not place concrete simultaneously on both sides of movement joints.

132A ADDITIONAL REQUIREMENTS FOR CONSTRUCTION JOINTS

• Limitations: minimum cover of 100mm.

230A PREPARATION OF CONSTRUCTION JOINTS

• Substrate: Uniform and free of dirt and debris

- Remove surface irregularities.

- Surface damage, cracks, holes and depressions: Repair with Newton 203-RM.

310A FLEXIBLE WATERSTOPS

• Manufacturer: Newton Waterproofing Systems.

- Product reference: Newton 302 Injection Hose.

• Termination: Hose ends overlap. The overlap must be parallel and of 150mm with a 30-50mm gap between the two parallel ends.

• Placing concrete: Fully compact concrete around waterstops with no voids or porous areas.

540 INJECTION RESINS

Manufacturer: Newton Waterproofing Systems

Product reference: Newton 322-SP or Newton 323-SA

J30 Liquid applied tanking/ damp proofing

To be read with Preliminaries/General conditions

TYPES OF TANKING/ DAMP PROOFING

110A SEAMLESS RUBBER WATERPROOFING MEMBRANENewton 108 HydroBond-LM

• Substrate: Concrete of at least 20kN.

• Primer: For a porous substrate. Water catalyst side turned off on spraying machine between 0.1 and 0.3 litres per m2, depending on the porosity.

• Coating: Rubber.

- Manufacturer: Newton Waterproofing Systems Ltd.

Product reference: HBLM-1/ HBLM-2.

- Application: Newton 108 HydroBond-LM sprayed to walls, terminated at DPC at ground level. Where it is not possible to spray due to space or other constraints, Newton 109-LM should be applied by brush or roller.

• Reinforcement: Reinforce static joints with Newton 914-RT.

EXECUTION

205A SUITABILITY OF SUBSTRATE

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- Substrates generally:
- Smooth, even textured, clean, dry and frost free.
- Within tolerances for level and surface regularity.
- Vertical and horizontal surfaces: Correctly prepared and free from irregularities.
- Curing period for concrete substrates (minimum): 7 days.
- Moisture content and stability of substrate: Must not impair integrity of finished tanking/ damp proofing.
- Preliminary work: Internal changes in direction: Smoothed with a 45°smoothing fillet of at least 25mm x 25mm, alternatively, changes in direction can be reinforced with Newton 914-RT adhered with 1mm coat of product in preparation for main application of the membrane.
- Construction joints: Bed Newton 914-RT into a coat of 1kg/m2 coat of the product ready for the main application of the membrane.
- Movement joints: Where slight contraction only is to be expected, Bed Newton 914-RT into a coat of 1kg/m2 coat ready for main application of membrane. Where an open joint exists, this should be designed to suit the extent of expected movement.
- Penetrations/ Outlets: Pipe or cable ducts should be reinforced with Newton 914-RT tape or a Newton PipeCollar bedded into 1mm of 108 HydroBond-LM

207A PRIMERS Not required unless applied to horizontal surfaces.

- Primer: With porous substrate, the operative may apply a mist coat of the product without the salt catalyst to seal the surface prior to the main application.

Coatings: Apply in dry atmospheric conditions when substrate is dry/damp.
Uniform, continuous coverage. Do not allow to pool in hollows.
Firmly adhered to substrate and free from imperfections.
Prevent damage to finished coatings.
Penetrations: Seal using preformed sealing products and tapes as described above.
Final covering: Apply as soon as possible after coating has hardened.

260A JUNCTIONS WITH DPCS

- Dpcs: Flashing overlaps Newton 108 HydroBond-LM to protect from UV damage.
- UV stable finishing: Band of Newton 109-LM Protect or coloured quartz sand within a further tack coat.

Cavities: Newton 108 HydroBond-LM overlapped with Newton 109-LM, terminating at the cavity tray.

COMPLETION

330A PROTECTION OF EXTERNAL COATINGS

- Coated surface: Clean and free from contaminants.
- Board manufacturer: Newton Waterproofing Systems.

Product reference: Newton 410 GeoDrain or Newton 500-C Fibran.

340A BACKFILLING TO EXTERNAL COATINGS

- Timing: Carry out as soon as possible after tanking and protection are complete.

Newton 410 GeoDrain: Graded stone placed in controlled layers of no more than 600mm so as to prevent slump to the membrane.
Newton 500-C Fibran: Ensure removed soil is compacted every 600mm.

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J30 Liquid applied tanking/ damp proofing

To be read with Preliminaries/General conditions

TYPES OF TANKING/ DAMP PROOFING

110A SEAMLESS RUBBER WATERPROOFING MEMBRANENewton 109-LM

- Substrate: Concrete of at least 20kN.
- Primer: Not required unless applied to horizontal surfaces. Where concrete or screed are aged, very dry and have an open surface, the surface should be dampened prior to application. In some cases, a very thin first coat should be applied prior to the main application.
- Coating: Rubber.
- Manufacturer: Newton Waterproofing Systems.

Product reference: 109MV/ 109LV.

- Application: Newton 109-LM applied to walls, terminated at DPC at ground level. Where it is not possible to spray due to space or other constraints, Newton 109-LM should be applied by brush or roller.
- Reinforcement: Reinforce static joints with Newton 914-RT.

EXECUTION

205A SUITABILITY OF SUBSTRATE

- Substrates generally:
- Smooth, even textured, clean, dry and frost free.
- Vertical and horizontal surfaces: Correctly prepared and free from irregularities. Surface porosity should be filled by bag/sack rubbing with a suitable bag/sack rubbing mix or dry sand & cement, Remove all snots and surface irregularities.
- Moisture content and stability of substrate: Must not impair integrity of finished tanking.
- Preliminary work: Internal changes in direction: Smoothed with a 45°smoothing fillet of at least 25mm x 25mm, alternatively, changes in direction can be reinforced with Newton 914-RT adhered with 1mm coat of product in preparation for main application of the membrane.
- Construction joints: Bed Newton 914-RT into a coat of 1kg/m2 coat of the product ready for the main application of the membrane.
- Movement joints: Where slight contraction only is to be expected, Bed Newton 914-RT into a coat of 1kg/m2 coat ready for main application of membrane. Where an open joint exists, this should be designed to suit the extent of expected movement.
- Penetrations/ Outlets: Pipe or cable ducts should be reinforced with Newton 914-RT tape or a Newton PipeCollar bedded into 1mm of 108 HydroBond-LM

207A PRIMERS Not required unless applied to horizontal surfaces.

-

210A COATING APPLICATION

- Coatings: Apply in dry atmospheric conditions when substrate is dry/damp.

Surface porosity should be filled by bag/sack rubbing with a suitable bag/sack rubbing mix or dry sand & cement Uniform, continuous coverage. Do not allow to pool in hollows.
Firmly adhered to substrate and free from imperfections.
Prevent damage to finished coatings.

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- Penetrations: Seal using preformed sealing products, tapes and mastics as described above.
- Final covering: Apply as soon as possible after coating has hardened.

260A JUNCTIONS WITH DPCS

- Dpcs: Flashing overlaps Newton 109-LM to protect from UV damage.
- UV stable finishing: Coloured quartz sand within a further tack coat.

Cavities: Newton 109-LM terminating at the cavity tray.

COMPLETION

330A PROTECTION OF EXTERNAL COATINGS

- Coated surface: Clean and free from contaminants.
- Board manufacturer: Newton Waterproofing Systems.

Product reference: Newton 410 GeoDrain or Newton XPS 500-C Fibran.

340A BACKFILLING TO EXTERNAL COATINGS

- Timing: Carry out as soon as possible after tanking and protection are complete.

Newton 410 GeoDrain: Graded stone placed in controlled layers of no more than 600mm so as to prevent slump to the membrane.

Newton 500-C Fibran: Ensure removed soil is compacted every 600mm.

J40 Flexible sheet waterproofing/ damp proofing

To be read with Preliminaries/ General conditions.

290A HIGH DENSITY POLYETHYLENE/ POLYPROPYLENE STUDDED CAVITY DRAIN MEMBRANE

- Substrate: Wide range of substrates in varying situations (Installation manual 3.1).
  - Preparation: Lime inhibitor.
- Manufacturer: Newton Waterproofing Systems Ltd.
  - Web: www.newtonwaterproofing.co.uk
  - Email: info@newtonwaterproofing.co.uk
  - Tel: +44 (0)1732 360095.
  - Address: Newton House, 17-20 Sovereign Way, Tonbridge, Kent TN9 1RH.
  - System reference: Newton cavity drainage system 500
- Product reference: Wall Membrane
  Newton 503 (M5). - 2 x 20 mNewton 508 (M1). - 2.4 x 20 mNewton 508 (M1R/M2R). – 2.4/2.07 x 20 m
- Stud height: M5 - 3mm, M1/M2 - 8mm.
- Colour: White.
- Fixing: Mechanically fix walling sheets.
  - Fasteners: In accordance with manufacturer's recommendations.
  - Fixing centres: Battens 400mm horizontal, 600mm vertical, Curtain hung 500mm centres along the top edge of the wall membrane
  - Sealing: Taped flush with the membrane.
- Joints: Lapped minimum 100 mm.
  Sealing: Flange joint - Newton WaterSeal Tape (A5), Stud into stud between last two rows of studs, Stud over stud joint - Newton WaterSeal Rope (A6),
- Product Reference: Floor Membrane
  Newton 503 (M5). - 2 x 20 m, Newton 508 (M1R/M2R). – 2.4/2.07 x 20 m, Newton 508 Eco Floor (M2). – 2.5 x 20 m, Newton 520 (M4/M13). – 2.07 x 20m/10m
- Fixing: Loose lay flooring membrane
- Sealing: Newton WaterSeal Tape, A5, Newton Overtape, A7/A8 – 150mm x 20m/100mm x 20mm, Waterseal Rope (A6) – 4.75lm

- Drainage components: Cavity drainage channels.
- Accessories: Newton MultiPlug, A1/A32Newton NuSeal Plugs, A2/A3, Newton Helifix wall ties, WT155,170, 195, 220, 245, 270, 295, 325.Newton Insulation fixings, IF90, Newton Waterseal Tape, Newton Overtape, A7,A8,A9, Newton Waterseal Rope, A6, A6W, Newton Mesh Tape, A25, Newton Condensation Strip M14, Newton SDS drill bit, DB2 & DB3, Newton joist liner, BX4, Newton pipe sleeve, BX3

WORKMANSHIP

310 WORKMANSHIP GENERALLY

- Condition of substrate:
  - Clean and even textured, free from voids and sharp protrusions.
  - Moisture content: Compatible with damp proofing/ tanking.
- Air and surface temperature: Do not apply sheets if below minimum recommended by membrane manufacturer.
- Condition of membrane at completion:
  - Neat, smooth and fully supported, dressed well into abutments and around intrusions.
  - Completely impervious and continuous.
  - Undamaged. Prevent puncturing during following work.
- Permanent overlying construction: Cover membrane as soon as possible.

360 JUNCTIONS WITH PROJECTING DPCS/ CAVITY TRAYS

- Adjoining surfaces: Clean and dry.
- Dpcs/ Cavity trays: Lap and fully bond/ seal with sheeting.
  - Laps (minimum): 100 mm.
  - Bonding/ Sealing: Double-side tape.

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