

SYSTEM 400

NEWTON 402 AQUABIT

Seamless Waterproofing Paste For Retaining Walls

Rev 1.3 - 15 January 2015

PRODUCT CODE - DN402

INTRODUCTION

Manufactured by Diasen S.R.L. of Sassoferrato, Italy, Newton 402 AquaBit is a single component waterproofing paste that is enriched with polystyrene microspheres, that forms a crack-bridging seamless membrane for the waterproofing of the wet side of foundation walls. Engineered to be extremely workable, 402 AquaBit is applied in a single coat by trowel or airless spray allowing for large surface areas to be waterproofed quickly and economically.

The polystyrene microspheres enable 402 AquaBit to be applied to a level thickness up to 2.5mm. In this way it becomes possible, with just one coat, to fill and perfectly level the surface irregularities, typical on concrete foundation walls. The material is also characterised by high elasticity, crack bridging of up to 2mm and good salt resistance. It can be applied to both old and new retained walls.



Diasen S.R.L. have been manufacturing high quality waterproofing products since 1985. John Newton are proud to be the sole UK distributor of Diasen products.

KEY BENEFITS

- Easy application: trowel or airless spray in just one coat.
- No mixing or stirring required.
- Crack-bridging and elastic.
- Seamless highly waterproof membrane.
- Single coat application.
- 100% waterproof up to 5 bar (50m) of water column.
- No primer required.
- Solvent free. Neither toxic or flammable.

TYPICAL APPLICATIONS

Waterproofing to the positive pressure side of foundation

NEWTON 402 AQUABIT		
Colour	Black	
Specific Gravity	0.56	
Yield (kg/m ² @ 2.5mm thickness)	1.12	
Mixture Consistency	Semi dense Paste	
Application Temperature	5°C to 35°C	
Service Temperature	-15°C to 40°C	
Watertightness (bar)	5.0	Internal Test
Crack-bridging Capability (mm)	2.0	ASTM C1305-00
Elongation	105%	Internal Test
Elongation (5000 hrs accelerated ageing)	56%	Internal Test
Weathering - 1000 hours	No change	Internal Test
Freeze/Thaw (50 cycles -5°C to 35°C)	No change	UNI EN 202
Salt Resistance (80 days immersed in NaCl)	No change	Internal Test

and retained walls.

SUITABLE SUBSTRATE

- Concrete or masonry retained walls.
- Insulated concrete formwork (ICF) retained walls.

SPECIFICATION

Newton Waterproofing Systems are in partnership with RIBA NBS who publish details of our products and systems within their specification clause library to allow Architects ease of specification through their NBS Plus interface.

NBS clauses can be accessed via the technical resources area of the web site where a live NBS Feed is available at [NBS Plus Live Feed](#)

Our website has drawings available for download here [Technical Drawings](#) and a selection are also available via [FastrackCAD](#)

TOOLS REQUIRED

- Trowel.
- Airless spraying machine - option.



NEWTON 402 AQUABIT

Retaining Wall Waterproofing

TRAINING & COMPETENCY OF USER

Newton 402 AquaBit 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 so as to achieve the required habitable grade as defined by BS8102:2009.

CONSTRUCTION

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

CONSTRUCTION - NEW CONCRETE

New concrete should be designed by a Structural Engineer to EN 1992 (Formally BS8110). A shuttered finish to vertical surfaces is suitable for Newton 402 AquaBit. Poured concrete rafts 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. A U5 power floated finish with no float marks is also suitable but not required. U1 (Abrupt irregularities permitted) or U2 (Tamp marks of up to 10mm) finishes are not suitable and should be avoided.

Concrete should be cured to at least 28 days.

CONSTRUCTION - MORTAR

Walls should be designed by a Structural Engineer to withstand the load of the retained earth as well as the expected water pressure as defined by BS8102:2009. The mortar joints should be pointed flush to the surface of the wall.

SURFACE PREPARATION

Cracks, substrate damage and deterioration should be repaired prior to installation of the waterproof membrane.

Generally the surfaces to be waterproofed must be structurally stable, clean, dry and free from release agents, dust, laitance, oils, paints or other forms of contamination. Grit blasting or jet washing can be used to remove laitance and surface contamination. Adding mild detergents to the jet wash water will improve effectiveness.

- Holes or indentations should be filled with a suitable concrete repair product.
- Deep or structural cracks should be inspected to confirm if they are live or dormant. Suitable repair by qualified personnel is recommended.
- Hairline surface cracks will be filled by the application of Newton 402 AquaBit.



WALL TO FOUNDATION JUNCTION

The change of direction at the base of the wall where it meets the wall foundation should have a fillet of Newton 107 to ensure a smooth transition of the product from the vertical to the horizontal.

MOVEMENT JOINTS

Movement joints should be waterproofed with a suitable movement joint product. Please speak to Newton Waterproofing regarding the detailing of Newton 402 AquaBit to the specific movement joint product to be used.

PRIMING

Newton 402 AquaBit does not require a primer.

MIXING

Stir with a low speed paddle mixer for 2 - 3 minutes until an even consistency is formed.

APPLICATION

The substrate temperature should be dry and at a temperature between 5°C to 35°C.

- Open the bucket.
- Scoop out the product on to plasterers hawk.
- Use trowel to spread the product to a uniform thickness of 2.5mm (2 litres or 1.12 kg/m²).

CURING

Curing is dependent on temperature and humidity. At 20°C & 40% R/H Newton 402 AquaBit is touch dry in about 3 hours and completely dry in 12 hours. After application, protect the product until completely dry.

PROTECTION DURING BACKFILLING

Newton 402 AquaBit should be protected during the back filling operation. This can be achieved with the use of protection boards. Alternatively, Newton 410 Geodrain can be used as a drainage and protection layer. Please see 410

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Retaining Wall Waterproofing

Geodrain data sheet for more information.

COVERAGE

Newton 402 AquaBit should be applied to a uniform thickness of 2.5mm to give a coverage rate of 2 litres or 1.12 kg per square metre.

LIMITATIONS

Newton 402 AquaBit is not UV stable and must be protected from direct sunlight within 5 days of application. Where the product extends up from the external ground level, protect with one of the following options:

- A flashing.
- By broadcasting a decorative stone of about 3-5mm into the still tacky surface of the material.
- Broadcasting clean building sand into the surface of the still tacky material and rendering once full cured.

Alternatively, create a shallow French Drain of clean graded stone and terminate within the depth of the French Drain.

POT LIFE

Newton 402 AquaBit has a pot life of approximately 8 hours.

Once the lid is reapplied to the container, the product has a useful life of up to 3 months, but this is hugely dependent on how long the container is opened before resealing. If a skin has formed, simply remove the skin and stir with a slow paddle for about 2 minutes.

CLEANING

Product that has not cured can be simply wiped off tools with a rag or cloth. Clean with water. A mild detergent can be added to the water to aid cleaning.

DRAINAGE - OPTIONAL

The waterproofing system can be further reinforced with the addition of Newton 410 Geodrain.

Newton 410 Geodrain is a two-core drainage sheet consisting of a nonwoven geotextile filter layer thermally welded to a water impermeable HDPE (High Density Polyethylene) drainage membrane. Newton 410 Geodrain provides outstanding drainage and protection to the outside face of basement walls, preventing the build-up of water pressure and protecting the structure from aggressive water, chemicals and toxins.

For further information, please see the Newton 410 Geodrain Data sheet.

PACKAGING

Plastic bucket of 25 litres/14 kg.

STORAGE

Store in dry conditions at temperatures between 5°C and 35°C. Do not expose to freezing conditions.

Newton 402 AquaBit has a 12 month shelf life when

stored in original, unopened containers in accordance with manufacturers instructions.

HEALTH & SAFETY

Product should only be used as directed. We always recommend that the Material Safety Data Sheet (MSDS) 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 or online via our web site. Please see contact details below.

ANCILLARY PRODUCTS

Newton 107 - For the forming of fillets to changes in direction where the retaining wall meets the foundation.

ASSOCIATED PRODUCTS

Newton 410 Geodrain - Drainage membrane for preventing the build up of ground water against the structure.

NEWTON SYSTEM 300 - WATERPROOFING OF CONCRETE STRUCTURES

Newton 301 AquaProof - Physical metal waterbar system for the immediate waterproofing of construction joints in concrete.

Newton 302 InjectionHose - Injection hose waterbar for the grouting and sealing of construction joints in concrete.

Newton 303 PolyProof - High grade hydrophilic waterbar used to waterproof joints in concrete.

Newton 304 PolyProof-Inject - Hybrid of Injection Hose and PolyProof hydrophilic waterbar providing a maintainable swelling water bar for maximum security to concrete construction joints.

Newton 305 ActiveJoint - MDPE physical waterbar able to resist high water pressure at active movement joints.

Newton 306 SwellMastic - Hydrophilic mastic to adhere 303 PolyProof and 305 ActiveJoint to concrete joints. Can also be used to seal around protrusions through the concrete structure such as pipes and conduits.

Newton 307 PipeSeal - Preformed MDPE seal that creates a physical, flanged joint around pipes passing through the structure. 304 SwellMastic should be used to reinforce the joint.

Newton 308 Stopaq - Hydrophilic polymer used for the sealing of services through the structure even when leaking with considerable water pressure.

OTHER NEWTON WATERPROOFING SYSTEMS

Newton System 100 - Cementitious waterproofing and repair products.

Newton System 200 - Waterproofing of decks and flat roofs.

Newton System 500 - Internal cavity drain waterproofing of earth retained structures.