



JOHN NEWTON

**SYSTEM 300**  
WATERPROOFING OF  
CONCRETE STRUCTURES

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# Complete Protection

## Waterproofing of Concrete Structures



Newton System 300

Waterproofing of Concrete Structures

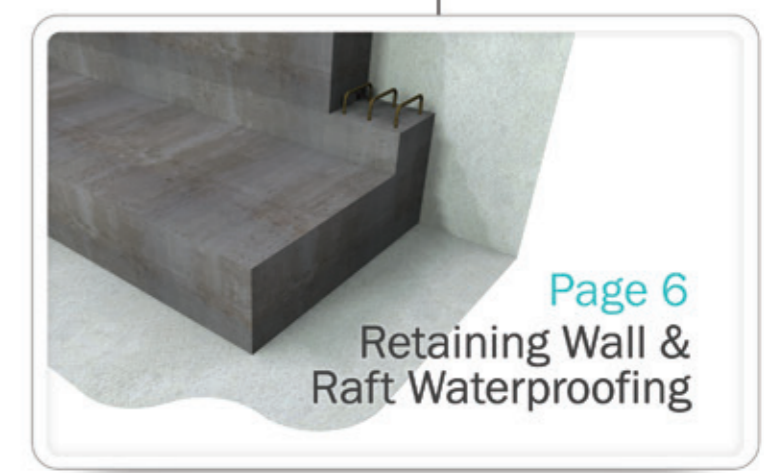
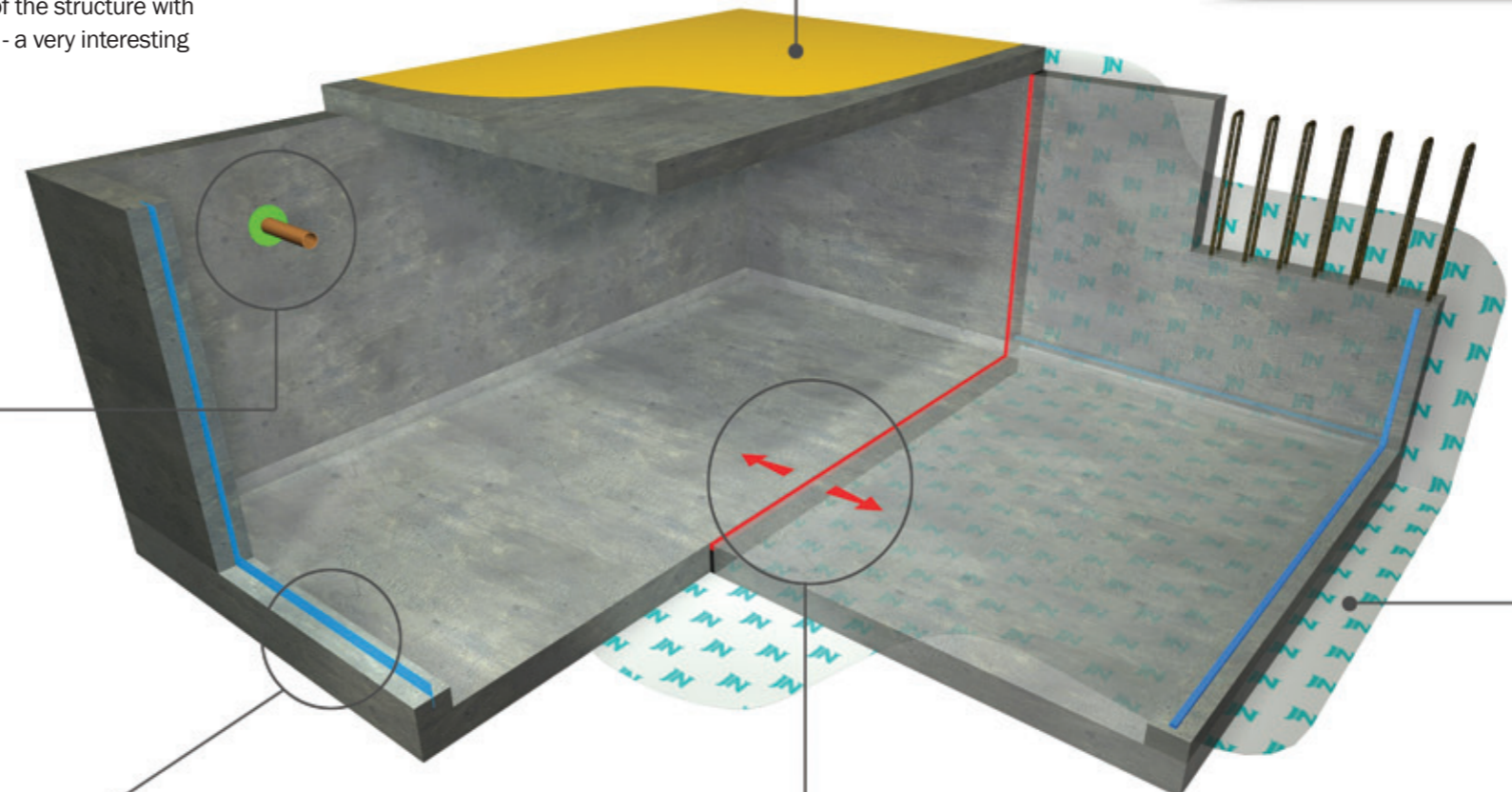
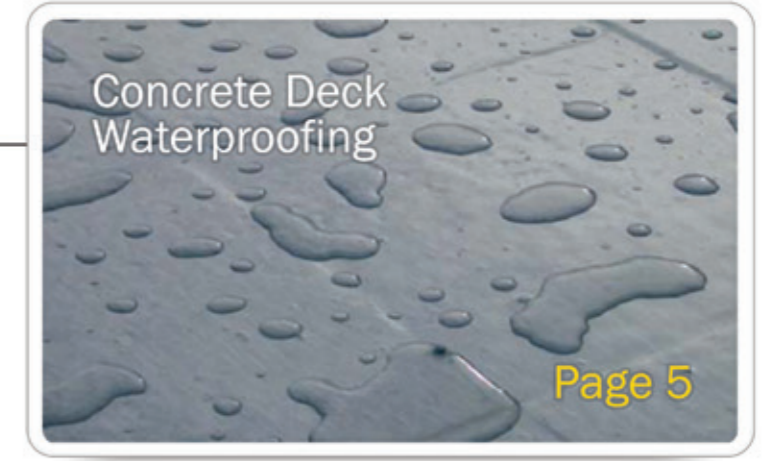


# Newton System 300

## Waterproofing of concrete structures

Founded in 1848, John Newton and Company are the longest established independent supplier to the UK waterproofing industry. Newton System 300 is a range of innovative products used to waterproof joints and service penetrations to concrete elements, to provide Type B integrally waterproof retained structures that require no further waterproofing to be completely watertight. System 300 has a proven track record worldwide, protecting retained reinforced concrete structures including tunnels, basements, water tanks, and podium decks. Range highlights include **301 AquaProof**, a metal water bar which gives instant protection to construction joints and injectable waterbars that allow for post construction grouting and resin injection of leaking joints. Construction joints can be further waterproofed with **Newton FlexProof-X1**, a very flexible polymer that is applied over the completed construction joint, either externally or internally.

In support of System 300, further waterproofing of the reinforced concrete deck can be achieved with Newton System 200 products whilst Newton System 400 provides waterproofing options for the outside of the structure with **Newton 403 HydroBond**, an externally applied fully bonded and swelling membrane - a very interesting alternative to conventional externally applied membranes.



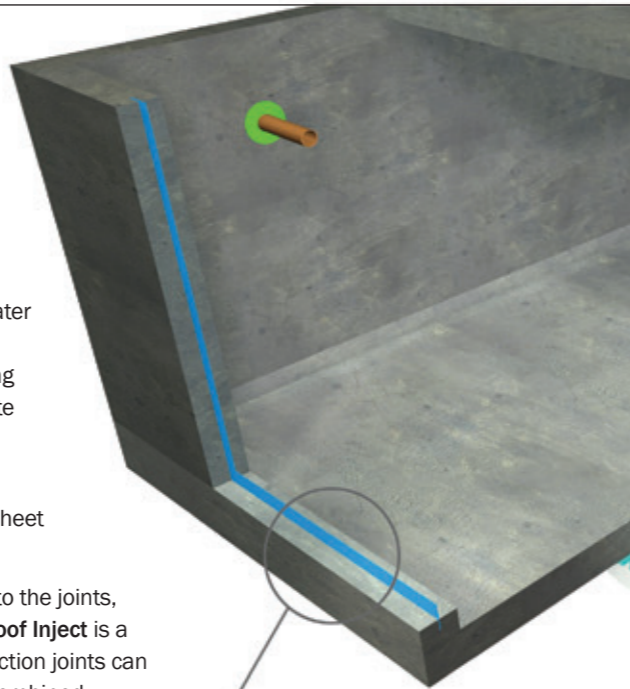


# Construction Joint Waterproofing

Newton have a comprehensive portfolio of waterbars for the waterproofing of construction joints between elements of the reinforced concrete structure. **Newton 301 AquaProof** is a unique coated metal water bar which is secured to the reinforcing steel prior to the concrete pour. This results in a physical barrier to water with the special coating gripping to the concrete so as to remain completely watertight even after concrete shrinkage.

**Newton 303 PolyProof** is a range of swelling (hydrophilic) waterbars that are suitable for all types of joints such as the kicker, slab pours to sheet piles, compression, settlement and movement joints.

**Newton 302 InjectionHose** can be utilised to inject grouts and resins into the joints, should a defect be identified post construction and **Newton 304 PolyProof Inject** is a hybrid product that has both swelling and injection capabilities. Construction joints can be further reinforced with a band of **Newton FlexProof-X1** to provide a combined waterproofing approach.



## Newton 301 AquaProof

*Metal Construction Joint Water Bar*

A coated metal water bar system used for the sealing of construction joints within retained concrete structures.



## Newton 302 InjectionHose

*Maintainable Injection Water Bar System*

A high performance injectable water bar system used for the sealing of construction joints within retained concrete structures.



## Newton 303 PolyProof

*High Grade Hydrophilic Water Bar*

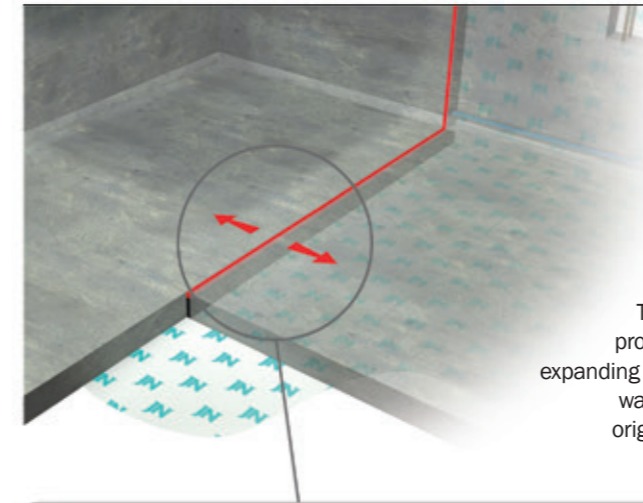
A high grade hydrophilic water bar which seals gaps in construction joints by swelling up to 400 times its original size.



## Newton 304 PolyProof-Inject

*Combined High Grade Hydrophilic and Injection Water Bar*

Unique construction joint water bar that combines the high performance swelling capabilities of **Newton 303 PolyProof** and the post-construction injection of grouts and resins provided by **Newton 302 InjectionHose**.



# Movement Joint Waterproofing

Newton have two products for the waterproofing of movement joints in concrete structures ranging from 20mm to 45mm.

**Newton 305 ActiveJoint** compresses when physically driven into the joint. The innovative 'V' shape design has barbs that allow for easy installation yet provide tremendous grip when water pressure pushes up from below the joint, expanding the profile to form a very watertight seal to the joint. **Newton 303 PolyProof** waterproofs movement joints of up to 20mm and expands up to 400 times its original size when in contact with water to completely seal the movement joint.

## Newton 305 ActiveJoint

*Physical Movement Joint Water Bar*

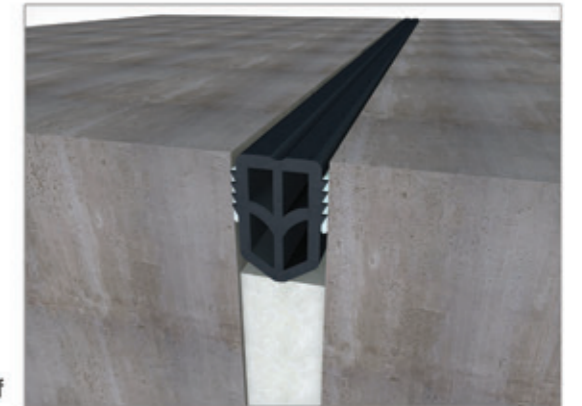
This water bar has a unique 'V' shape with a number of barbs so that water pressure expands the joint, creating more grip to the concrete joint as the pressure increases.



## Newton 303 PolyProof

*High Grade Hydrophilic Water Bar*

For additional protection the **305 ActiveJoint** can be used in conjunction with **Newton 303 PolyProof**



## Newton 201 RubberFlex

*Podium Deck and Flat Roof Waterproofing System*

BBA Certified single part liquid waterproofing material, which forms an elastomeric polyurethane membrane resisting UV rays and capable of handling severe building movements.

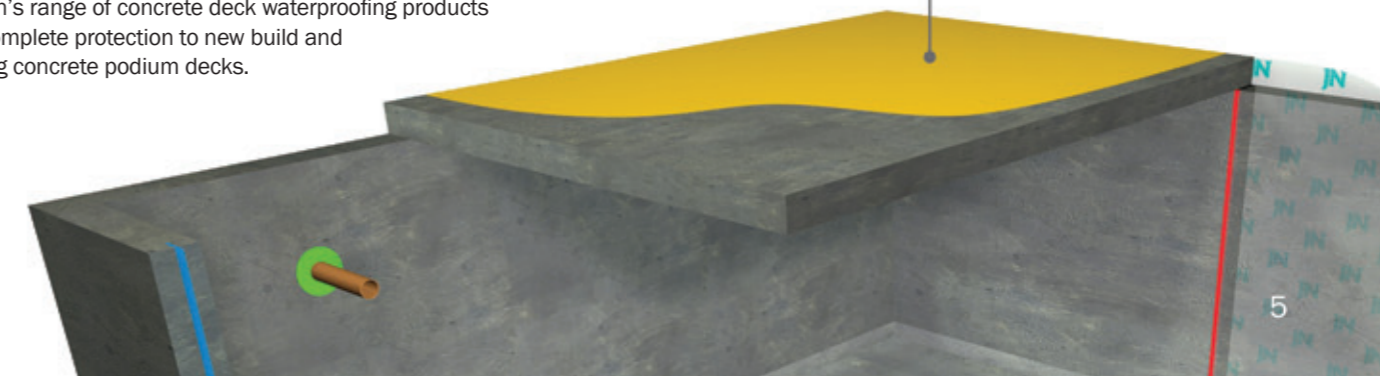
## Newton 210 FlexProof-NV

*Advanced Single Component Liquid Waterproofing Material*

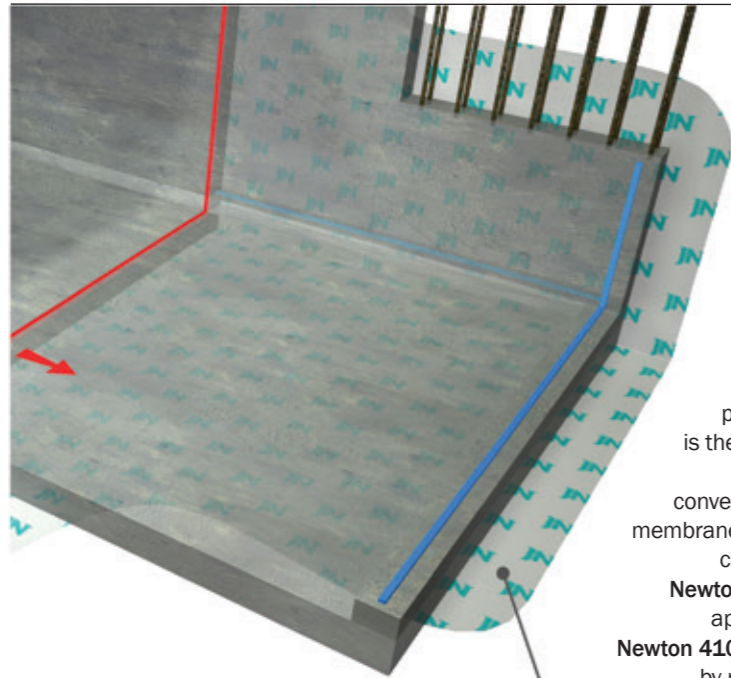
Forms an elastomeric polymer membrane that is rainproof in minutes and capable of handling severe building movements and deformations. Can be used as the primary waterproofing membrane below a number of hard finishes and drainage options.

# Concrete Deck Waterproofing

Newton's range of concrete deck waterproofing products give complete protection to new build and existing concrete podium decks.







## Retaining Wall & Raft Waterproofing

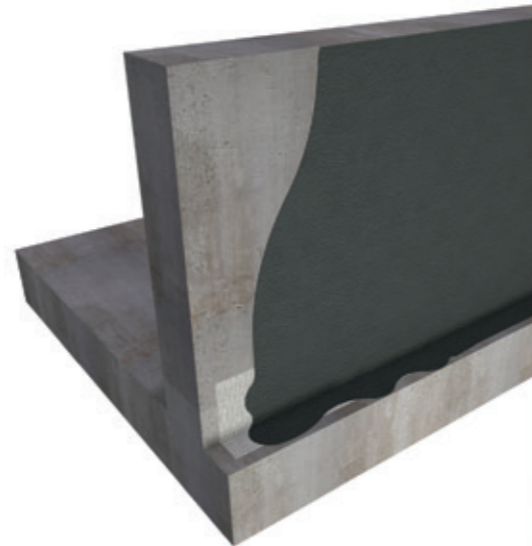
Newton supply a number of products for the external waterproofing of new structures built from either raft or conventional foundations. **Newton 403 HydroBond** is a unique sheet membrane that is laid to the oversite prior to the placing of the concrete raft and then subsequently to the shuttering prior to the placing of the concrete walls. **Newton 403 HydroBond** is the only waterproofing membrane available that self-heals and fully engages into the concrete. Where retained walls are built from conventional foundations, Newton have a number of externally applied membranes that will waterproof the retained wall: **Newton 403 HydroBond** can also be applied to in-situ walls. **Newton 401 Flexproof-X1** and **Newton 402 Aquabit** are liquid membranes that can be trowel or spray applied to provide a very flexible waterproof barrier. The addition of **Newton 410 GeoDrain** can supplement all of the methods mentioned above by removing water pressure to carefully designed drainage systems.



### Newton 403 HydroBond

*Hydrophilic and Bonding Membrane*

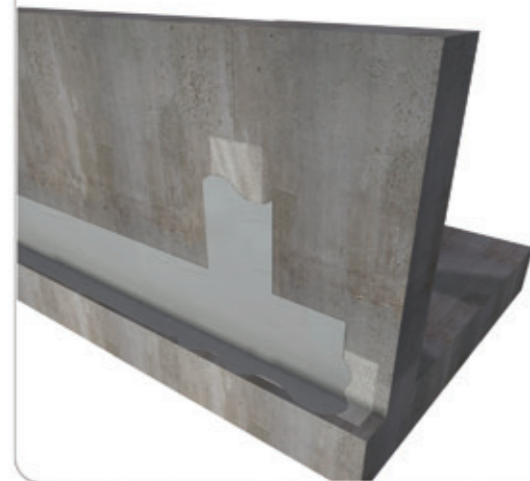
A very high performance composite sheet membrane that features a locking fleece to one side and a polymer hydrophilic coating to the other side.



### Newton 402 Aquabit

*Flexible Membrane for Retaining Walls*

A single component water-based bituminous waterproofing mortar applied to a level of thickness up to 3mm, with high elasticity, crack bridging ability and good salt resistance. It can be applied both on old and new walls.



### Newton 401 FlexProof-X1

*(Can be used in full or to construction joints only)*

When applied by trowel or squeegee to retained walls **Newton 401 FlexProof-X1** provides a continuous highly flexible membrane that is resistant to water pressure, even over construction joints.



### Newton 303 PolyProof

*High Grade Hydrophilic Water Bar*

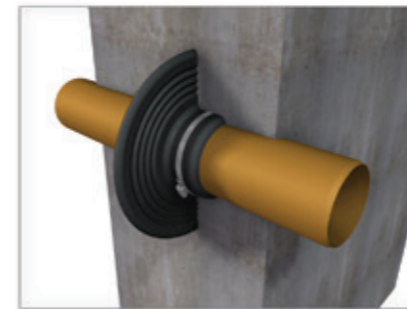
A high grade hydrophilic water bar which seals gaps in construction joints by swelling up to 400 times its original size.



### Newton 306 SwellMastic

*Swelling Adhesive*

A high performance mastic used to adhere **Newton 303 PolyProof** and **Newton 305 ActiveJoint** to the concrete joint. Can also be used to seal around protrusions such as pipes and conduits and should be used to reinforce **Newton 307 PipeSeal** being fitted to pipes passing through the structure.



### Newton 307 PipeSeal

*Pipe Collar*

**Newton 307 PipeSeal** is a preformed MDPE seal that creates a physical, flanged joint around pipes passing through the structure. **Newton 306 SwellMastic** should be used to reinforce the joint.



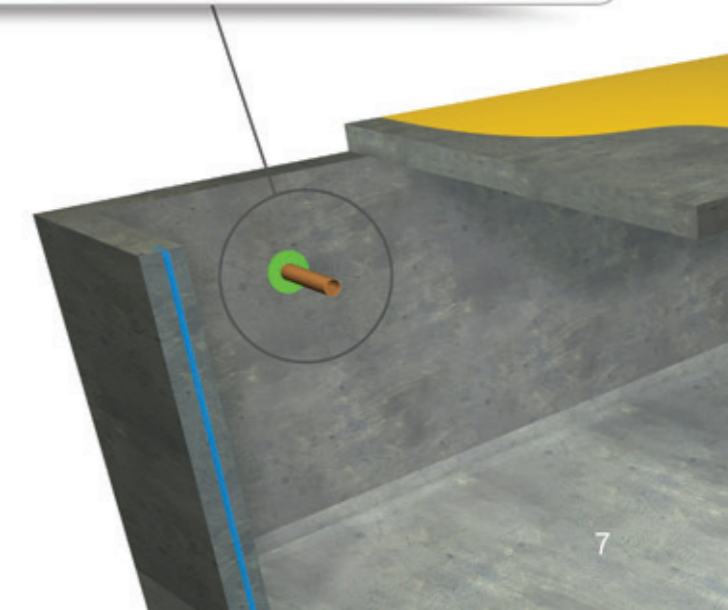
### Newton 308 Stopaq

*Hydrophilic Polymer Sealant*

A swelling sealant compound system which provides a waterproofing solution for the notoriously difficult-to-seal service pipe penetrations through retaining walls.

## The Sealing of Service Penetrations

The waterproofing of service penetrations is a critical part of a total structural waterproofing solution. Newton have a portfolio of service penetration products which can work as part of an integrated waterproofing approach or operate in their own right to deal with sealing around notoriously difficult-to-seal cables, conduits, ducts and pipe entries through structures.





# Case Studies

## Stuttgart Library

**Project Details:**

The Stuttgart Library is a recently completed and high profile reinforced concrete structure with a significant basement area being utilised for the storage of highly sensitive and historical information. The structural waterproofing design incorporated 500 linear metres of **302 InjectionHose** to all construction joints to the basement and interconnecting tunnels running beneath the development.

**Benefits:**

- Once installed the **302 InjectionHose** gives the professional waterproofing contractor the ability to maintain the construction joint in the event of any defects. The hexagonal internal parameters of the **302 InjectionHose** gives an unimpeded flow for injection grouts and resins and can accommodate most commercially available injection materials.
- **302 InjectionHose** is designed for multiple injection use and can inject joints of up to 30 linear metres. An additional benefit of the hexagonal design of the hose means it lies flat to the surface, providing a very good seal to the joint.

*Stuttgart Library*



# Case Studies

## Marina Coastal Expressway (MCE) Tunnel, Singapore

**Project Details:**

Singapore is massively expanding its transportation network to cope with the constantly rising traffic volume. One of the biggest challenges was the construction of the MCE tunnel which has a 3.6km section that lies under water. The risks associated with salt water being directly adjacent to the structure required particularly effective sealing of the construction joints. In addition, the solution had to be installed within a very short construction period and in tropical temperatures. **302 InjectionHose** was ideal for sealing the tunnel and dealing with these challenges. Following the success of installation to the MCE Tunnel, **302 InjectionHose** was also used for the tunnel on the Downtown Line of Singapore's Metro.

**Benefits:**

- **303 PolyProof** water bar is able to expand up to 400 times its original size providing a robust barrier against water ingress.
- With this injection hose technology, large concrete sections can be constructed and safely injected with the appropriate injection material.

*Marina Coastal Expressway (MCE) Road Tunnel, Singapore*



*The Porsche Museum*

## Porsche Museum

**Project Details:**

The new Porsche Museum was designed to the highest specification to reflect the status and prestige of the Porsche brand. The futuristic building includes an expansive basement area that required an integrated waterproofing solution to the highest possible grade of waterproofing to protect the unique and expensive collection of Porsche cars on display. **303 PolyProof** hydrophilic waterbar was placed across all construction joints, supplemented with **302 InjectionHose**. Further protection was provided by a band of **FlexProof-X1** across the external face of all the joints.

**Benefits:**

- **303 PolyProof** water bar is able to expand up to 400 times its original size providing a robust barrier against water ingress.
- The application of **FlexProof-X1** to the construction joints prevents water ingress at source



*Mercedes Benz Museum*

## Mercedes Benz Museum

**Project Details:**

The Mercedes Benz Museum is one of the most prestigious buildings in Stuttgart. As an element of the striking architectural concrete design, 1,800 customised concrete cones were commissioned to form a feature within the main showroom areas of the museum. The specialist concrete cones needed to be fixed to vertical and soffit elevations with no chance of them falling and injuring visitors, or damaging the priceless Mercedes vehicles on display. With this in mind the engineer designed dowel bars which protruded out of the new RC structure ready to fix the concrete cones to. To reinforce the mechanical fix provided by the dowel bars **309 Contact Adhesive** was applied to the adjoining surfaces to form a super-strong bond to the substrate.

**Benefits:**

- The cost effective **309 Contact Adhesive** was applied in a single coat application. The rapid curing rate meant the architectural cones could be secured quickly and safely.



# Waterproofing Options

## The combined waterproofing approach

### BS8102:2009: The Implications

When tasked to waterproof retaining structures in accordance with BS8102:2009 "Code of Practice for Protection of Below Ground Structures Against Water from the Ground", professional waterproofing designers should now consider using more than one type of waterproofing to provide enhanced protection of the structure to achieve the necessary environmental grade. Newton provide waterproofing products for all three types of waterproofing as defined within BS8102:2009:

**Type A (barrier) protection** - Newton System 100, Newton System 200 and Newton System 400

**Type B (structurally integral) protection** - Newton System 300

**Type C (drained) protection** - Newton System 500

Combination strategies provide increased waterproofing protection to the structure. The provision of a maintainable waterproofing system is recommended within BS8102:2009 and Newton can provide maintainable options for all three types of waterproofing defined by the British Standard. Installation of **Newton 302 InjectionHose** or **Newton 304 PolyProof-Inject** allows for re-grouting and resin sealing of defects that may appear post construction and Newton System 500, incorporating **Newton Basedrain**, provides a maintainable waterproofing system that can be accessed without detriment to internal finishes.



System 300 Concrete Waterproofing products use the latest technologies to protect the entire envelope of the structure

## Registered Installers

### Guaranteed waterproofing solutions

Newton Specialist Basement Contractors are an elite group of professional basement waterproofing contractors who work in partnership with John Newton to provide the specifier and their clients with the highest quality products, design and installation available in all aspects of domestic and commercial waterproofing. The NSBC scheme was implemented as a response to poor and worthless contractor schemes. With the NSBC scheme, all members adhere to very strict membership criteria and they are required to demonstrate quality workmanship resulting in a meaningful scheme where all members provide a level of superior technical excellence unsurpassed within the industry.

Our NSBC scheme is evolving as our product line advances and far more sophisticated methods of waterproofing are specified. The need for a quality waterproofing system installed by quality contractors is vitally important. We are extremely proud of our contractors and their ability to deliver quality on any waterproofing project presented.

**NSBC contractors can offer peace of mind to the designer and the client by taking full design liability on the project, even fulfilling the role of 'waterproofing specialist' as recommended by BS8012:2009. In addition they provide a meaningful guarantee for their work, which can be insured on request.**

For further information on our NSBC program, or for a list of NSBCs in your area, please ring 020 7237 1217, e-mail [info@newton-membranes.co.uk](mailto:info@newton-membranes.co.uk), or fill out our online form on [www.newton-membranes.co.uk](http://www.newton-membranes.co.uk).



# Newton Waterproofing Systems

## Complete structural waterproofing solutions

### System 100 Cementitious Products

Comprehensive portfolio of cementitious products to complement and complete our basement waterproofing designs in areas where Newton System 500 would not be suitable. Such details include - lift shafts, flat soffits and externally to retained slabs and ring beams.

### System 200 Deck and Roofing

A complete range of externally applied elastomeric high performance liquid membranes and ancillaries for balconies, terraces, flat and inverted roofs, podium decks, car parks and reservoirs. This portfolio of seamless and robust liquid membranes gives a quick and cost effective solution to protect external areas from water ingress.

### System 300 Waterproofing of Concrete Structures

Newton System 300 is a range of products, some unique to John Newton, used to waterproof construction joints and movement joints of retained concrete structures so that they become integrally waterproof without the need for additional waterproofing products, defined within BS8102:2009 as Type B waterproofing.

### System 400 External Waterproofing

System 400 is a range of products for the waterproofing of the outside of earth retained structures. Products include sheet membranes for the complete envelopment of the raft and walls, flexible liquid products for the waterproofing of retained walls and composite drainage membranes for preventing the build up of ground water to the walls or below the raft. Newton System 400 products can provide Type A and Type B waterproofing to Grades 2 & 3 as defined within BS8102:2009

### System 500 Cavity Drain Waterproofing

Newton System 500 is an internally applied waterproofing system based upon our range of cavity drain membranes, drainage conduits and sophisticated pumping and control systems. Unlike conventional 'tanking', Newton System 500 is not attempting the almost impossible and trying to hold water back, but places designed maintainable depressurisation voids at known weaknesses in the structure so that ingressing water is simply captured and diverted out of the property. Defined by BS8102:2009 as Type C waterproofing

### System 600 Flooring Membranes

Newton System 600 is a range of HDPE and HDPP flooring membranes offering a complete damp proof solution for both commercial and domestic flooring applications. The membranes 'de-couple' the floor finish from the substrate preventing damage due to substrate movement.

### System 700 Liquid Applied Floor Coatings

System 700 is a range of liquid applied protective and decorative internal flooring products. These products are fast curing and available in a variety of colours. Typically used for refurbishment and protection of commercial and domestic floors.

### System 800 Damp Proofing

Newton System 800 is a range of BBA approved damp proof membranes and ancillaries which are quick and clean to install offering a permanent solution for damp proofing walls.

### System 900 Liquid Primers and Sealers

Newton's high performance range of liquid applied products are used in conjunction with System 200 and 700 liquid membranes. They act as priming agents for a variety of substrates prior to the application of our specialist waterproofing and flooring membranes.

### Newton FlexProof Construction Joint Waterproofing

Newton FlexProof-X1 forms an elastomeric polymer membrane that is rainproof in minutes and capable of handling severe building movements and deformations. FlexProof-X1 has amazing characteristics allowing it to be used without a primer, without mixing and in weather conditions that preclude the use of alternatives.

### Newton Diathonite Insulating Plaster

Newton Diathonite is a premixed plaster, fibre-reinforced with cork (granular 0-3 mm), clay powders and NHL 3.5 natural hydraulic lime. The resulting natural compound produces a plaster with unrivalled thermal and acoustic properties that is both hard wearing and flexible which is ideal for both internal and external applications.

### Sump and pump

Newtons have an extensive range of submersible pumps and pumping ancillaries. We supply the highest quality pumps available in each class, for the control of clean ground water, grey water, effluent or sewage.



System 300 Concrete Waterproofing products protect many road tunnels across the world, including Singapore, Germany and Holland

### Newton Waterproofing Systems

Newtons offer an extensive range of waterproofing and damp proofing products. Our range of structural waterproofing products offer solutions for basements, cellars, car parks, stadiums, reservoirs, lift shafts, decks and roofs. This provides the professional waterproofing contractor with all the products required to achieve a maintainable and easily repairable internal waterproofing solution which complies with all current codes of practice within the structural waterproofing industry.

'Our new product range is the culmination of years of testing, development and research to find the best waterproofing products available.'

Warren Muschialli  
Managing Director

We would be delighted to assist with your waterproofing project. For further information please contact John Newton & Company

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## JOHN NEWTON

### *WATERPROOFING SYSTEMS*

*Protecting buildings since 1848*

John Newton & Co Ltd, Est 1848, is the UK's leading independent supplier of structural waterproofing systems, water control, drainage products and damp proofing membranes.

Newton offer the best available, BBA certificated solutions for waterproofing and damp proofing applications in new build and refurbishment projects. Our range of structural waterproofing systems, including cementitious products, deck and roofing membranes and liquid applied floor coatings enable us to offer full waterproofing solutions for a wide variety of projects. Newton's portfolio of concrete waterproofing products gives specifiers the tools to provide full building envelope protection to reinforced concrete structures.

Newton Waterproofing Systems control and remove unwanted water from leaking tunnels and underpasses, railway arches, wet basements, flooded cellars and damp vaults to make warm habitable environments or areas suitable for dry storage in both commercial and domestic projects.

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