System 500

NEWTON 508 MESH

Meshed Cavity Drain Waterproofing Membrane

NEWTON WATERPROOFING SYSTEMS
Protecting buildings since 1848

Rev 5.0 - 21 January 2015

PRODUCT CODE - M3

INTRODUCTION

Newton 508 Mesh is a high quality meshed cavity drain waterproofing membrane, suitable for use internally below the ground to retaining walls and vaulted soffits. Newton 508 Mesh is a membrane option within Newton System 500, a waterproofing system that includes Newton drainage and pumping systems.

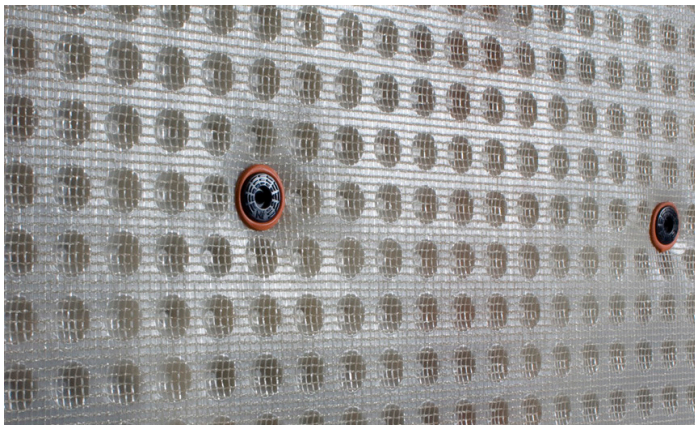
Newton 508 Mesh is typically used where space prevents the use of a dry-lining frame or block wall as the wall finish or where a direct rendered or plastered finish is preferred to vaulted ceilings.

Its high quality meshed surface provides an excellent 'key' for lime mortars, renders, plasters or dabbed plasterboard.
Newton 508 Mesh is guaranteed against deterioration for 30 years, and has a life expectancy of at least 50 years (DIN 9001:2000) and is supported by BBA Certification Number 94/3010.

Newton 508 Mesh is inert, highly resistant to water, alkalies, saline solutions and organic acids, and it is not effected by minerals. It is also resistant to bacteria, fungi and other small organisms.

NEWTON 508 MESH	
Width (m)	2.07
Length (m)	20.00
Area (m^2)	40.00
Weight (kg)	28.00
Colour	White
Raw material	High Density Polyethylene
Thickness (mm)	0.60
Stud height (mm)	8.00
Compressive strength	N/A Wall & Soffit membrane only
Vapour permeability	0.046g/m^2 x hr x mmHg
Thermal resistance	0.078m^2 K/W
Thermal conductivity	0.461 W/m K
Air volume between studs	5.51 litres/m^2
Drainage capacity	4.61 litres/sec/m^2
Vicat softening temperature	126 °C

All technical data stated herein is based on tests carried out under laboratory conditions.



KEY BENEFITS

- BBA Certified as a waterproofing membrane as part of Newton System 500
- Does not require extensive and damaging preparation to the wall surface
- Polyethylene netting is 'welded' to the surface of the membrane during the manufacturing process producing an incredibly well bonded surface mesh
- Superb 'key' for renders, plasters or for Dot & Dab Plasterboard
- Waterproofing that is guaranteed to work when used as part of our System 500 installed by approved contractor within our NSBC registered contractor scheme

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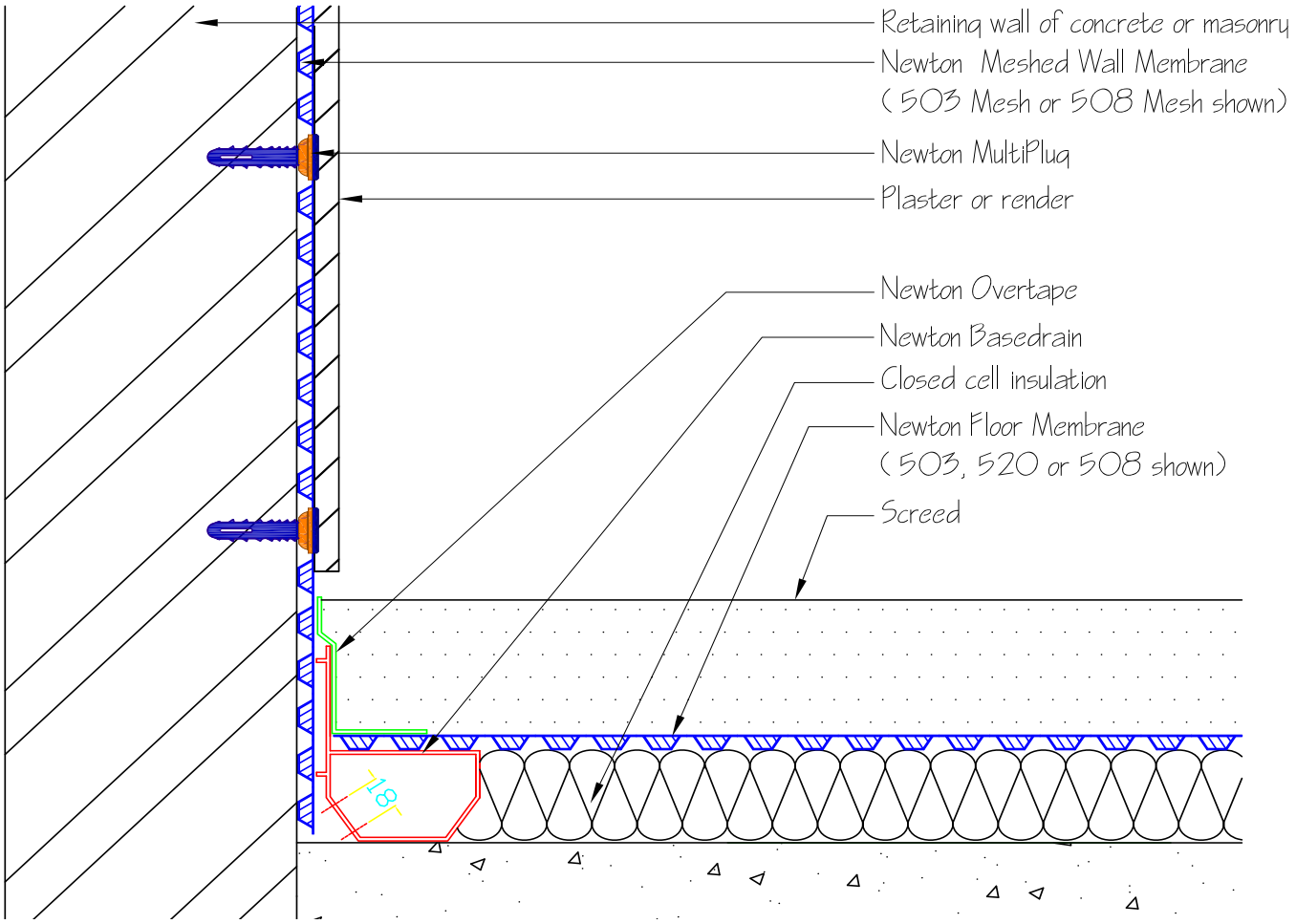

TYPICAL APPLICATIONS

- As a damp-proof base for renders, plasters or dot & dab plasterboard within Newton System 500 waterproofing system.
- Areas where space is limited such as stairways.
- As a render base to external areas of the waterproofing scheme such as light-well walls.
- Vaulted soffits or curved walls where a dry-lining frame may not be appropriate.

INSTALLATION OF NEWTON SYSTEM 500

Newton 508 Mesh is a waterproofing membrane, a component of Newton System 500 ,for the waterproofing of basements, cellars and retaining walls. Newton 508 Mesh, as well as the other products within Newton System 500, is a professional fit waterproofing product that should be installed by Newton trained waterproofing contractors. Newton NSBC registered contractors have been trained by John Newton in the use and installation of all the membranes, drainage systems and pumping systems that when correctly used together become Newton System 500.

The BBA Certificate for Newton 508 and System 500 require that the system is installed by trained operatives. The installation instruction that follow are for information purposes to assist specifiers and are not intended to be a training reference for untrained contractors.

SURFACE PREPARATION

- Clean the substrate to remove all loose debris and organic matter. Plaster should be removed as it can soften over time, which will weaken the fix of the membrane to the wall. If the wall render is in good condition, it does not have to be removed and the 508 Mesh can be fitted directly over. If the render is damaged, local repairs may be required.
- Loose or crumbling render should be removed and local repairs made. If the render is in very poor condition, all of it may need to be removed.
- Obtain as flat a surface as possible. If the wall is undulating, better results are produced if the wall surface is dubbed-out flat with sand & cement prior to installation of the membrane rather than dubbing out over the top of the 508 Mesh. A flat uniform surface to the substrate means that the plaster or render above the 508 Mesh will be uniform also and less likely to have cracking caused by differential thicknesses.
- If evidence of bacterial growth can be seen, use a fungicidal product prior to the fitting of the membrane.

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- If any evidence of wet rot or dry rot is seen, have it dealt with by a qualified remedial specialist.
- Treat concrete walls with Newton 106 Lime Inhibitor as part of the overall treatment to the whole concrete structure. This is not required if the concrete includes a waterproofing admixture.

CUTTING TO SIZE

- 508 Mesh can be cut with a sharp utility knife, scissors or shears.
- Decide whether the membrane is to be fitted horizontally or vertically.

FIXING TO THE WALL

- Cut the membrane to size. Ideally, 508 Mesh should be continued up past the DPC at 150 above external ground level If this is not possible, cut the membrane so that it finishes tightly to the soffit. Leave a gap at the bottom of the membrane of about 10-20mm.
- Newton 508 Mesh is fitted to the wall with the studs to the wall and the flat meshed surface facing inwards towards the applicator.
- Fix the membrane to the wall with the Newton MultiPug to all substrates except for vaulted ceilings where the Newton Nuseal Plug together with Waterseal Rope gasket should be used.
- Newton 508 Mesh can be fitted horizontally or vertically. Fit the membrane as level as possible - best results are achieved when a long builders level or a rotating laser level is used. Care must be taken to ensure that the 508 Mesh is pulled tight and square while fixing as this will avoid sagging or bulging which can cause problems when plastering or rendering.
- Using a 10mm drill bit for MultiPlug and a 11mm drill bit for Nuseal Plug
- Drill through the membrane into the wall to a depth of at least 70mm.
- Use a small number of fixings to initially fit the membrane to the wall as level as possible.
- Once the section of membrane is on the wall add the further fixings.
- Hammer the plugs home using a wide headed hammer such as a lump hammer or mallet.
- Fixing centres must not be greater than 250mm.
- On curved or uneven surfaces, closer fixings should be used.
- 508 Mesh can be taken into reveals. Where space is tight, Newton 503 Mesh should be used instead.
- Fixing should not take place above 30°C and below -5°C.

MEMBRANE JOINTING

- Joints may be made horizontally or vertically.
- Position fixings close to the edge of all joints to reduce the risk of shrinkage cracks.
- There is a area along the length of one side of 508 Mesh that is free of mesh. This permits easy lap jointing and should be used to ensure a continuous key for plaster or render.
- Fit the edge of the next length of membrane over the un-meshed edge of the earlier fitted sheet of membrane.
- Use Newton Waterseal Tape to seal the lapped edges of the membrane.
- The joint can be reinforced with Newton Mesh Tape.

SEALING AROUND PROTRUSIONS

Where the membrane has to be cut around anchor bolts, pipes or other protrusions, carefully cut the membrane around the protrusion and then seal around the protrusion with Newton Waterseal Rope. Over seal with Newton Mesh Tape.

PUNCTURE REPAIRS

Care should be taken to avoid puncturing of the membrane. Repairs should be made with a plug of Newton Waterseal Rope with a patch of Newton Mesh Tape above.

FINISH (GENERAL)

- Newton 508 Mesh designed to be used internally as part of Newton System 500. It can also be used externally to light-well walls as part of the System 500 waterproofing system. Internally the wall finish can be plaster, render, hydraulic lime or plasterboard bonded to the membrane with a propriety adhesive

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compound. Externally the wall finish can be render or hydrolic lime.

- Whilst any cement rendering is prone to cracking, careful application can reduce or avoid this.
- Problems occur when the scratch coat has not been allowed to fully cure prior to the float coat being applied, but the most common problem we see is where the render has not been allowed to fully cure due to accelerated drying. It is extremely important that the render is slowly cured for a period of 7-10 days, longer if possible. The render gets its strength from the chemical processes that take place between the cement content and the added water. The cement needs the correct amount of water to be available to it during the whole of the curing period. If the render dries too quickly due to exposure to sunlight, wind or even dehumidification, the cement will not be able to react with water producing a weak render that will be prone to cracking.
- The render should be dampened regularly during the curing process and when applied externally, should be protected from the elements with damp hessian with plastic sheeting over.
- Hairline cracking can be made good with fine fillers or alternatively a high-build masonry paint can be applied.

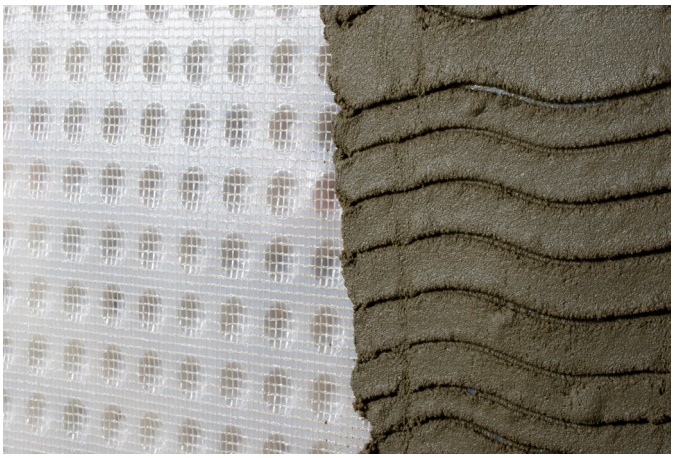
DO NOT APPLY DECORATIONS UNTIL PLASTERS OR RENDERS ARE THOROUGHLY DRY.

PLASTERING (INTERNAL ONLY)

- The recommended plaster for Newton 508 Mesh is Tarmac Whitewall One Coat. Please note that we do not recommend that this product is used in one single coat to Newton Mesh membranes.
- The application of the plaster should be in two coats: 6mm scratch coat, 6mm second or float coat.
- If a finish coat is required this should be of 3mm.
- Tarmac Whitewall should be applied in accordance with good plastering practice as described in BS8481 : 2006, BS EN 13914-2:2005.
- Always allow 24 hours drying time between coats of plaster. For a high impact resistant finish, use Whitewall High Impact Backing Plaster.
- NOTE: Tarmac Whitewall and Tarmac Whitewall High Impact Backing Plaster are not suitable for areas of high humidity and wet areas such as swimming pool surrounds.

RENDERING (INTERNAL & EXTERNAL)

- Render with a mix of sand, cement and lime should be applied in two coats using the procedures defined within BS EN 13914-1 :2005 to a total thickness of 14mm.
- A 3mm skim coat of finishing plaster of can be added once the render is fully cured.
- The scratch coat should be a mix of 1 part lime: 1 part cement: 5 parts clean well-graded sharp sand and the second or float coat should be a mix of 1 part lime: 1 part cement: 6 parts clean well-graded sharp sand. The scratch coat should be 7mm and the second or float coat should be 7mm.
- To lessen incidence of cracking , it is best to mix the lime and sand a day or more before use. Cement can then be added at the time of rendering.
- The work should be of two coats of render and if required, a third coat of finishing plaster. The purpose of the 7mm scratch coat is to stiffen up the lath and to provide rough and absorbent, backing for subsequent coats.
- Work this scratch coat well into the mesh.
- Each 7mm coat of render should be allowed to dry for a period of not less than seven, preferably ten days, longer if possible. Cracking may occur if shorter time is allowed between coats.



- It is important that the render coats are allowed to cure correctly over the 7 to 10 day period with the render dampened as required. If the scratch coat has not fully cured, slumping of the render can result.
- Before applying the second or float coat, carefully drill or scratch out a small area into an area behind the mesh, within the membrane stud, to confirm that it is fully cured. The surface will cure quite quickly but the area behind the mesh must be fully cured also.
- In warm periods the render should be protected from excessive drying out by covering with damp hessian sheets with plastic sheeting over.
- Dampened down the scratch coat before application of the float coat.
- A smooth finish is not recommended.
- Expansion joints should be trowelled in through the render to the membrane. These joints must be filled with a suitable flexible polymer-based sealant.
- Expanded metal angle beads and stop beads can be fixed where appropriate using dabs of the same material mixed as for the scratch coat.

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HYDRAULIC LIME (INTERNAL & EXTERNAL)

- NHL (Natural Hydraulic Lime) 3.5 should be used to a combined depth of 20mm with a 10mm scratch coat and a 10mm second or float coat.
- The mix ratio is 2.5 parts sand to 1 part NHL 3.5 mixed as per manufacturers instructions.
- The 10mm scratch coat is pushed firmly into the membrane mesh.
- Check the application the day after and rub out any cracks.
- The surface should be thoroughly scratched without breaking the surface of the mesh.
- The scratch coat has to be left for a minimum of 7 days to set. It should be protected from draughts and extremes of temperature.
- Before applying the second or float coat, carefully drill or scratch out a small area into an area behind the mesh, within the membrane stud, to confirm that it is set and reasonably hard. The surface will cure quite quickly but the area behind the mesh that has to be set.
- The second coat is the float coat and is applied then ruled off to flatten the wall surface. The mix ratio is 2.5 parts sand to 1 part NHL 3.5 mixed as per manufacturers instructions.
- The scratch coat has to be dampened down before application of the float coat.
- The work has to be protected and tended as for the scratch coat. The second coat is floated or trowelled as the finished coat.

PLASTERBOARD ON DABS

Plaster board panels can be fixed to 508 Mesh by the dot and dab method, giving a dry surface ready for immediate decoration.

'Dabs' should be applied to the heads of the fixing plugs, board edges and membrane to cover 50% of the 508 Mesh.

NOTE: We do not recommend that laminated or insulated plasterboard is dot & dabbed to Newton meshed membranes.

Laminated boards have to be fixed to the wall with a mechanical fixing at each side of the board, just above half way up, so that the board does not come apart and block exits during a fire. This is a requirement of UK building code. It is not possible to mechanically fix through the laminated board without puncturing the membrane. If insulation is required to the wall build, use Newton 803, which is not meshed, with an independently supported wall frame.

DO NOT APPLY DECORATIONS UNTIL PLASTERS OR RENDERS ARE THOROUGHLY DRY.

LIMITATIONS

- Newton 508 Mesh is not a tanking membrane. It has no capability to hold back or withstand water pressure. Always use in conjunction with appropriate drainage channels and pump systems.
- Newton 508 Mesh is a waterproofing membrane for use with our professional fit System 500 waterproofing system. If the requirement is for damp-proofig of walls that are not earth retaining in any way, one of our System 800 damp-proofing products should be used instead.
- Not UV stable - Ensure the membrane is rendered within 7 days of external application.

PACKAGING

2.0m x 20m - Product code M3

COVERAGE

37 to 40m^2 depending on number of laps

Tarmac Whitewall: *1.7m^2 per 25kg bag*

3.5 NHL mixed with sand at 1:2.5: *3.5m^2 25kg bag*

STORAGE

Newton 805 Mesh should be stored with the rolls standing up on end and away from direct sunlight

HEALTH & SAFETY

Product should only be used as directed. Although 508 Mesh poses no health hazards usual protective clothing and goggles should be worn in accordance with current health and safety regulations.

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 John Newton or online via our web site. Please see contact details below.

System 500 Membranes
Newton 503
Newton 503 Mesh
Newton 508
Newton 508 Mesh
Newton 520

System 500 Drainage
Newton Basedrain
Newton Floordrain
Newton Baseboard

System 500 Pumping Systems
Newton Titan-Pro White
Newton Trojan
Newton Titan

Pumping Options
Control Panel-Pro 2
1200W Power Converter Battery Back Up System
3000W Power Converter Battery Back Up System
Text & Speech Dialer
50mm & 63mm pressure rated pipe and fittings

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