Newton 508R

8mm Cavity Drain Membrane & Radon Barrier

Revision: 11.5 - 22 January 2026
Codes: M1R, M2R

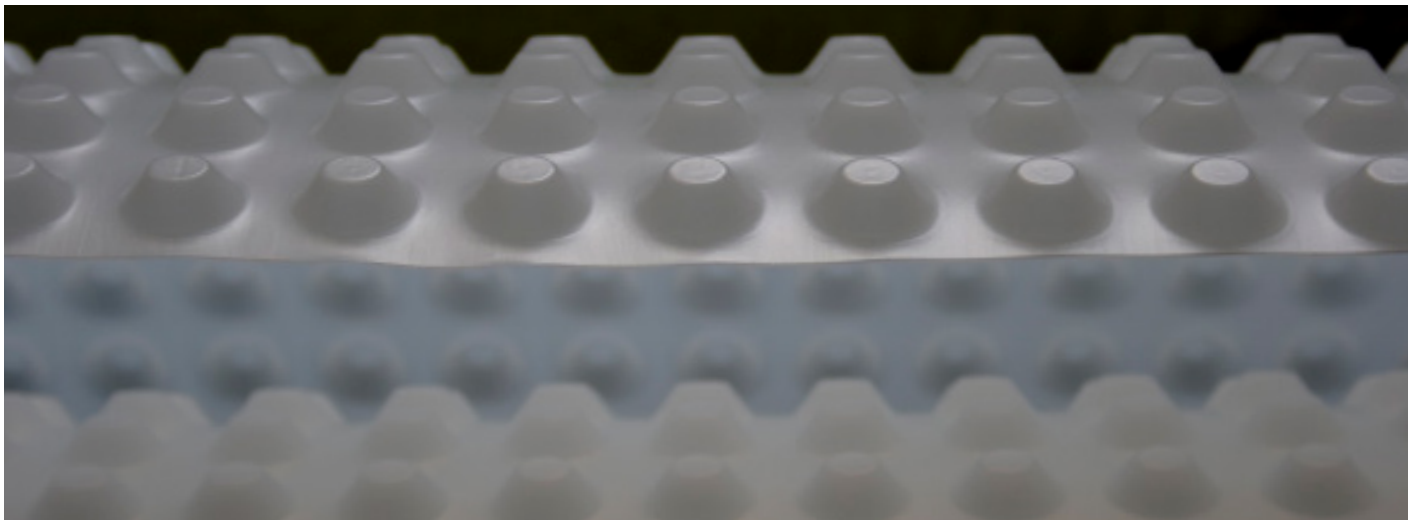
INTRODUCTION

Newton 508R is a high quality cavity drain waterproofing membrane that is heavier and stronger than standard 8mm membranes, and is certified for use as a barrier to radon gases and hydrocarbons. The membrane is installed within the Newton CDM System, our internally applied cavity drain waterproofing system that also includes drainage and pumping systems.

508R is suitable for the waterproofing of earth retained walls, vaulted soffits and floors and is guaranteed against deterioration for 30 years, with a life expectancy of the design life of the building, and supported by BBA Certification Number 94/3010.

508R is inert and non-polluting to drinking water, resistant to water, alkalines, saline solutions and organic acids, and not affected by minerals and hydrocarbons. It is also rot-proof, and resistant to bacteria, fungi and small organisms. The membrane also holds test data that exhibits its high compressive loading stability.

Newton 508R is independently tested as an effective barrier to radon ground gases and hydrocarbons. It is also the chosen membrane for use within our patented combined ground gas and waterproofing system, Newton PAC-500.



KEY BENEFITS

- Third-party tested for long-term compressive load to ISO 25619-1 (2% compression over 50-years)
- Does not require extensive and damaging preparation to the wall surface
- Speed of installation
- Provides vapour control used with humidity control systems, capable of delivering an environment to all levels within a Grade 3 environment to BS 8102:2022
- Independently certified as a barrier to hydrocarbons and radon gas
- Resistant to rot, chemically aggressive groundwater, acids and alkalines, efflorescing salts and hydrocarbon contamination

TYPICAL APPLICATIONS

Wall and floor membrane as part of the Newton CDM Type C waterproofing system.

SUITABLE SUBSTRATE - WALLS

- Concrete
- Brick
- Concrete block
- ICF - With special longer fixing plugs

SUITABLE SUBSTRATE - SOFFITS

- Concrete - To fall
- Brick - Arched or vaulted

SUITABLE SUBSTRATE - FLOOR

- Concrete raft or slab
- Newton Fibran XPS 500-C closed cell extruded polystyrene insulation (see section on page 5 for further information)
- Slab/raft - 508R & 508 *eco* Floor

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Newton House, 17-19 Sovereign Way
Tonbridge, Kent, TN9 1RH

www.newtonwaterproofing.co.uk
tech@newtonwaterproofing.co.uk
+44 (0)1732 360 095

Opening Hours:
Monday to Friday 8:00am - 5:00pm

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TECHNICAL DATA

Features	Result	Units	Test Standard
Material	HDPE		
Colour	White		
Density	700	g/m^2	
Width	2.0 / 2.4	m	
Length	20	m	
Area	40 / 48	m^2	
Height	8.0	mm	
Membrane thickness	0.8	mm	
Stud depth	7.2	mm	
Vicat softening temperature	126	°C	
Packaged weight	28.0 / 33.6	kg	
Service temperature	-40 to +80	°C	
Installed Performance	**Result**	**Units**	**Test Standard**
Compressive strength - Temporary	280	kPa	EN 25619-2
Compressive strength - Permanent	7	kPa	EN 25619-1
Compressive strength - Permanent - load transferred through a C16 screed*	800	kPa	EN 25619-1
Thermal conductivity	0.461	W/mK	EN 12667
Water vapour resistance – S_d value	>604	m	BS EN 1931
Water vapour resistance – μ value	>1208000	μ	Calculated from S_d value
Water vapour diffusion resistance	>3020	MNs/g	Calculated from S_d value
Resistance to fire - Euroclass	Not tested - F**		BS EN 13501-1
Chemical resistance – Excellent	100	%	EN 14030
Oxidation resistance – Excellent	100	%	EN ISO 13438
Radon gas resistance - Membrane	3.3×10^{-12}	m^2/s	K124/02/95
Radon gas resistance - Joints	3.4×10^{-12}	m^2/s	K124/02/95
[1]Resistance to liquid hydrocarbons**	Passed		EN 16140:2011

The above data, even if carried out according to regulated tests are indicative and they may change when specific site conditions vary.
*Screeds placed above non-bonded materials such as sheet HDPE membranes are categorised as floating screeds within BS 8204 & BS 13318 and require a section thickness of 65 mm or more for sand and cement, or 35–40 mm for proprietary liquid screeds. Check load capability with proprietary liquid screed supplier. Further information is included within the Protection Of The Membrane and Compressive Load sections on page 4.
**Newton Waterproofing Systems can provide fire-resistant membranes that are tested and classified to a fire rating of B-s2.d0. Get in touch directly for more information.

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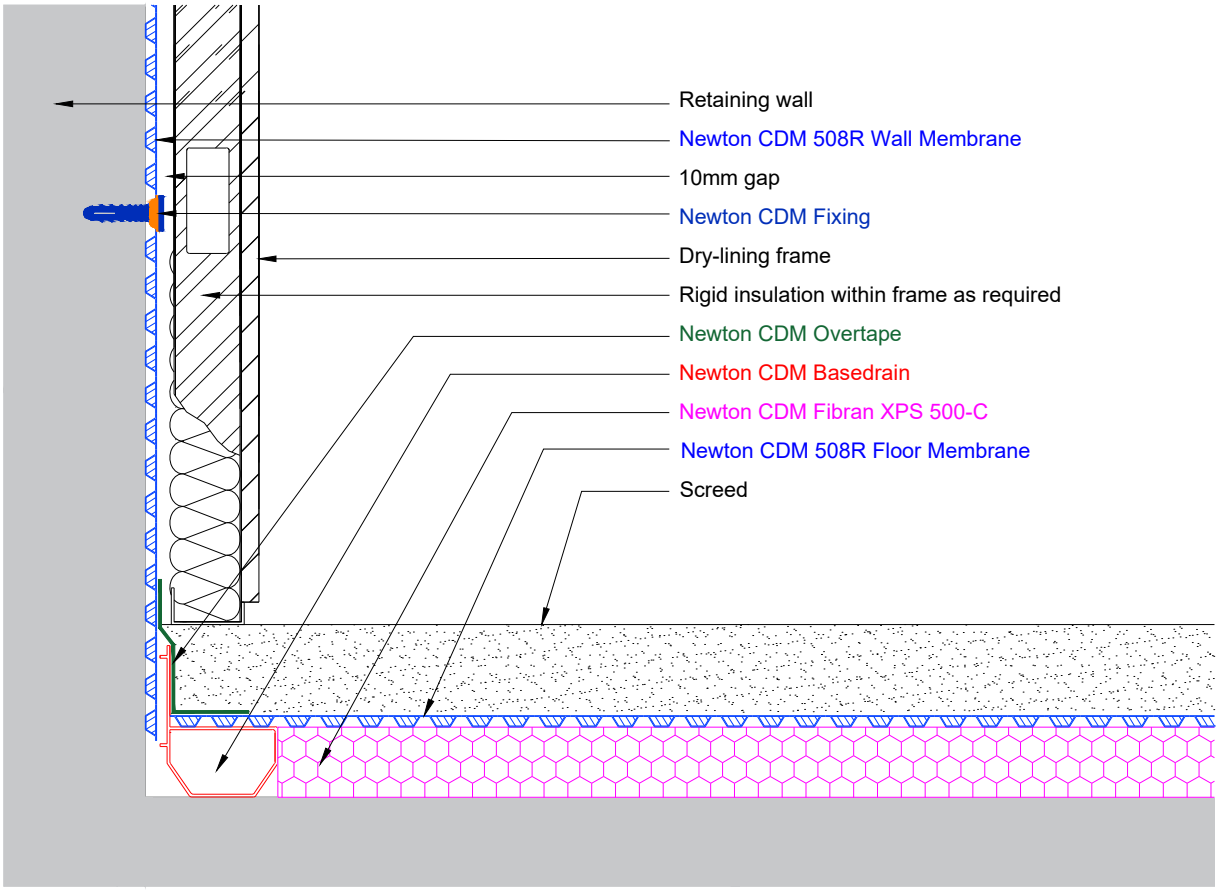
TYPICAL DETAIL



TRAINING AND COMPETENCY OF THE USER

Newton 508R is part of the Newton CDM System, our Type C, internal waterproofing system.

Newton 508R should be installed by those with experience of structural waterproofing.

Newton recommends that the CDM System is installed by Newton Specialist Contractors who are trained by Newton in the correct design and installation of the system. This is also a requirement of the BBA Certificate.

LIFE EXPECTANCY

When specified, installed and protected in accordance with the Data Sheet and Installation Manual, and fully and permanently isolated from UV light, physical damage or wearing, and only to those substrates confirmed within, Newton 508R has a service life that is equal to the design life of the structure.

SPECIALIST TOOLS REQUIRED

- High quality SDS drill and drill bits
- Heat gun
- Rotating laser level is recommended but not required

COLOUR

Translucent white

PRODUCT WARRANTY

Newton 508R is supplied with a product warranty of 30 years, and has a life expectancy of at least 100 years. Please note that this is not a guarantee. The waterproofing guarantee is provided by the specialist waterproofing contractor.

INSTALLATION INSTRUCTIONS

Please refer to the Newton CDM Installation Manual.

SPECIFICATION

Newton Waterproofing Systems work in partnership with RIBA NBS who publish our products on NBS Source. The platform integrates seamlessly into project workflows, providing all product data from Newton's NBS BIM Objects, NBS Plus Clauses and RIBA Product Selector into one single source of product information.

NBS Source also hosts a large selection of Newton case studies, as well as product literature and certifications.

A wide range of drawings are available on our website.

STORAGE

Store upright in dry conditions at temperatures between 5°C and 25°C. Do not expose to freezing conditions or direct sunlight.

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APPLICATION ABOVE INSULATION SPACER

Where the membrane is installed above a spacer of 50 mm of insulation, please ensure the following:

Newton Fibran XPS 500-C has been tested for use as the Basedrain spacer below the floor membrane. Loading data can be found on page 2 of the Newton Fibran XPS 500-C data sheet.

Where designed loadings too high, please contact Newton Waterproofing for further advice.

COMPRESSIVE LOADING

The long-term compressive loadings (less than 2% creep over 50-years) for Newton 508 R, tested to EN 25619-1 for use within construction are:

- Membrane only: 7 kPa = 0.7 t/m^2
- With C16 floating screed over: 800 kPa = 80 t/m^2

NOTE: In accordance with BS 8204 & BS 13318, a sand/cement floating screed must be a minimum of 65 mm. Whilst it is possible that filling studs with a non-compressible material such as sand may indeed allow the load to be distributed through the membrane and increase load capability, this has not been tested.

PROTECTION OF THE MEMBRANE

The membrane should always be protected by suitable surface finishes.

Protection methods to walls and vaulted soffits include:

- Floor supported dry-lining frame and plasterboard
- Timber battens fixed into Newton MultiPlugs as a support for plasterboard or wooden sheeting

Protection methods to floors include:

- Floating screeds to BS 8204 & BS 13318*
- T&G Chipboard
- Timber floor supported by a fixed lattice of timber supports
- Insulation with screed or T&G chipboard above
- Under floor heating tray with screed above

***NOTE:** Screeds placed above non-bonded materials such as sheet HDPE membranes are categorised as floating screeds within BS 8204 & BS 13318 and require a section thickness of 65 mm or greater for sand and cement, or 35–40 mm for proprietary liquid screeds. Check load capability with proprietary liquid screed supplier.

FIRE RATING

Newton 508 R is Fire Rated to Euroclass F, the same as plastic based insulation. As such, the membrane must always be protected from fire by surface finishes, as would be the case with insulation.

Newton Waterproofing Systems can supply fire-resistant membranes that are tested and classified to a fire rating of B-s2.d0. Please contact the Newton Technical Team directly for more information.

PACKAGING

Code M1R - 2.4m x 20m

Code M2R - 2.07m x 20m

LIMITATIONS

- Do not apply to flat soffits unless the soffit is at least 400 mm narrower than the membrane to be used and then only by very experienced contractors
- When installing the Newton CDM System to floors, all concrete rafts and slabs should first be flood tested to ensure that they are flat and level. Deviation from the slab height at the point where the drainage channel is adjacent to the sump chamber (the datum point) may not be more than -5mm at any point between the datum and the furthest point on the floor to which the waterproofing system extends. Equally, deviation from the datum may be up to +15mm as long as this is at the furthest point from the datum. Any irregularities should be made good by planing, grinding or by the use of a suitable levelling compound such as Ardex Arditex NA (available from Newton Waterproofing Systems)
- Newton 508R is not a standalone product and has no capability to withstand water pressure. Must be used as part of a Type C cavity drain waterproofing system that safely removes water from the building
- The Newton CDM System, of which Newton 508R is a constituent part, is a professional fit waterproofing system that should be designed and installed by those trained and registered by Newton Waterproofing and registered within our NSBC scheme

ANCILLARY PRODUCTS

Please refer to the Newton CDM Installation Manual

HEALTH & SAFETY

Use product only as stated within the Application Guides. Read the Newton CDM System Installation Manual before use.

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CE 22	JN NEWTON WATERPROOFING	Newton Waterproofing Systems Newton House 17-19 Sovereign Way Tonbridge Kent TN9 1RH	M1R, M2R BS EN 13967:2012 + A1:2017 Waterproofing sheet for damp proof sheets, type V	
Essential characteristics to BS EN 13967:2012	Test Standard & Conditions	Result	Unit of measure	Harmonised Technical Specification
Water tightness	BS EN 1928 Method A Water pressure: 60 kPa Test period: 24 hrs	Watertight		EN13967:2012
Resistance to tearing (nail shank)	BS EN 12310-1 Lengthwise Across	 NPD NPD		
Tensile properties	BS EN 12311-2 Lengthwise Across	 NPD NPD		
Elongation (%)	BS EN 12311-2 Lengthwise Across	 NPD NPD		
Compressive creep (resistance to static load)	EN 13967 Annex B	NPD		
Impact resistance	EN 12691-2 Method A	NPD		
Durability against aging	EN 1296 / EN 1928	NPD		
Durability against chemicals	EN 1296 / EN 1928	NPD		
Joint tensile resist-ance	EN 12317-2	NPD		
Reaction to fire	EN 13501:2019	Euroclass F		

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