

CDM 508R

8mm Cavity Drain Membrane & Gas Barrier

Revision: 11.0 - 29th September 2022
Codes: M1R, M2R

INTRODUCTION

Newton CDM 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 ground gases and hydrocarbons. The membrane is installed within the [Newton CDM System](#), our internally applied waterproofing system that also includes drainage and pumping systems.

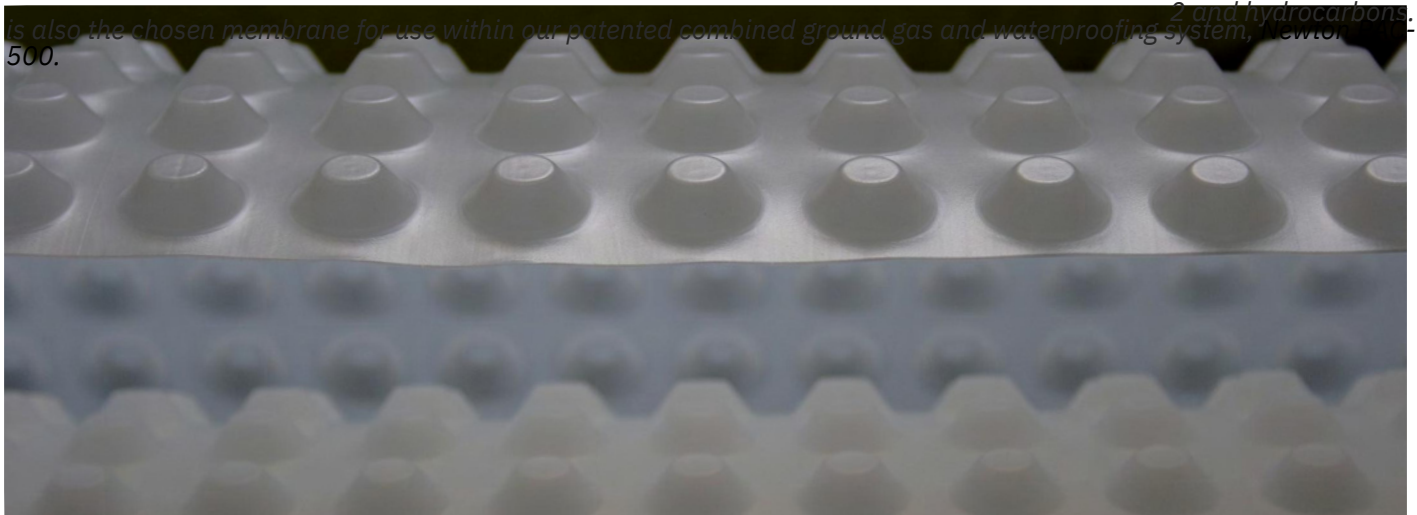
CDM 508R is suitable for the waterproofing of earth retained walls, vaulted soffits and floors and is guaranteed against deterioration for 30 years, with a life expectancy of the design life of the building (DIN 9001:2000), and supported by BBA Certification Number 94/3010.

CDM 508 eco Floor 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 CDM 508R is independently tested as an effective barrier to radon ground gases, methane, CO

is also the chosen membrane for use within our patented combined ground gas and waterproofing system, [Newton CDM 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 hydrocarbon gases, radon, methane and CO
- 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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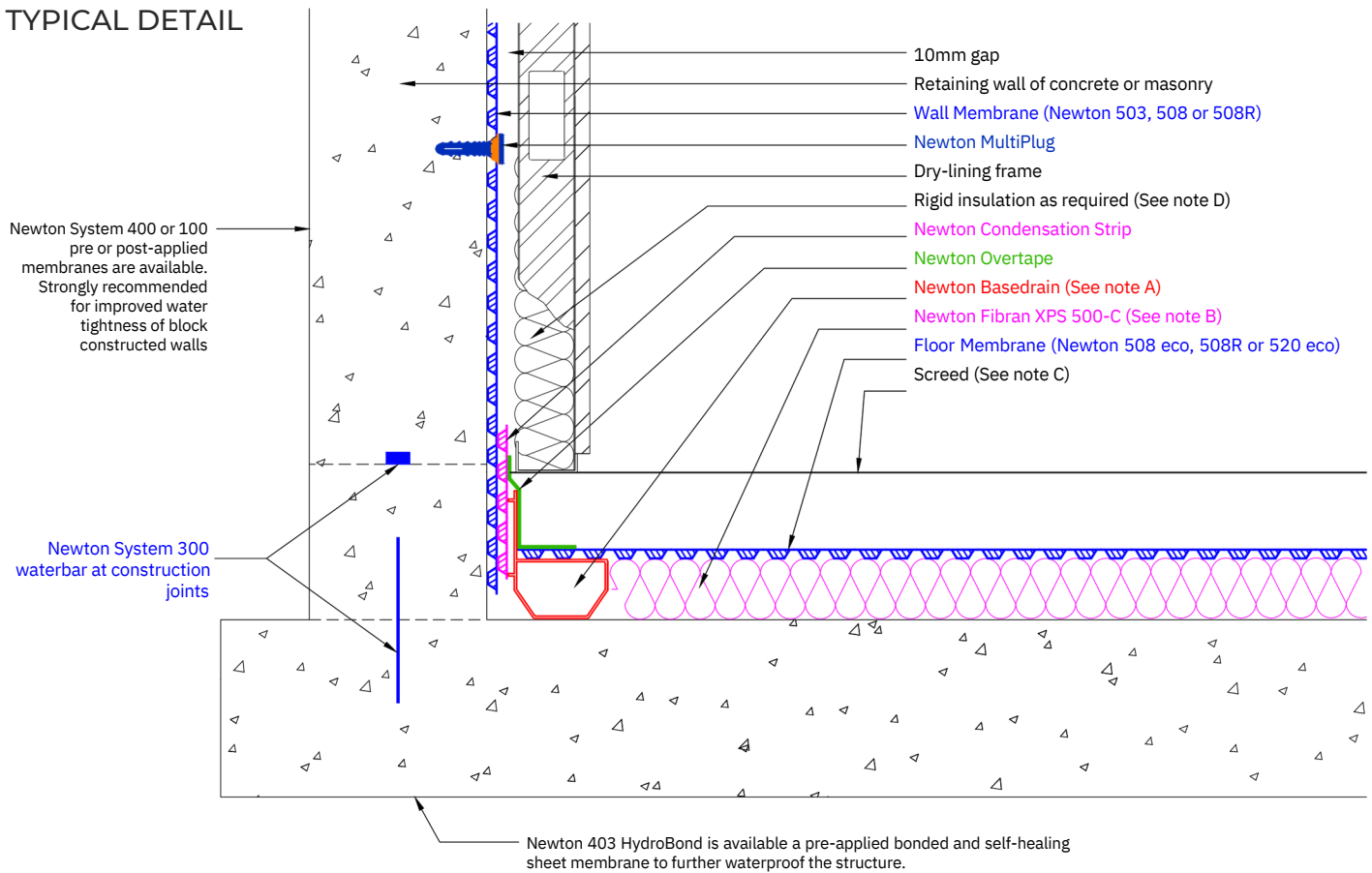
TECHNICAL DATA			
Features	Result	Units	Test Standard
Material	HDPE		
Colour	White		
Density	700	g/m	
Width	2.0 / 2.4	2 m	
Length	20	m	
Area	40 / 48	m ²	
Height	8.0	mm	
Membrane thickness	0.8	mm	
Stud depth	7.2	mm	
Vicat softening temperature	126	°C	
Packaged weight	28.0 / 33.6	kg	
Service temperature	-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 - with studs filled with C16 screed	800	kPa	EN 25619-1
Thermal conductivity	0.461	W/mK	EN 12667
Water vapour resistance – Sd value	>604	m	BS EN 1931
Water vapour resistance – μ value	>1208000	μ	Calculated from Sd value
Water vapour diffusion resistance	>3020	MNs/g	Calculated from Sd 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	3.1 x 10 ⁻¹²	m ² /s	K124/02/95
Radon gas resistance - Joints	2.7 x 10 ⁻¹²	m ² /s	K124/02/95
¹ Resistance to liquid hydrocarbons**	Passed		EN 16140:2011
Carbon dioxide permeability**	1.36 x 10 ⁻⁸	m ² /s	See note***
Methane permeability**	1.42 x 10 ⁻⁸	m ² /s	See note***
Carbon dioxide transmission rate	318	ml/(m ² .d.atm)	ISO 15105-1
Methane transmission rate	63.1	ml/(m ² .d.atm)	ISO 15105-1

The above data, even if carried out according to regulated tests are indicative and they may change when specific site conditions vary. ¹After 14 days immersion in petrol and engine oil. *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. **At time of testing the membrane was called Newton 508. Name changed to CDM 508R to reflect the gas and liquid hydrocarbon capabilities. The current Newton CDM 508 has not been tested for resistance to gas or liquid hydrocarbons. ***The test was carried out in accordance with Vinci In-House Test Procedure TP950/05/13569, issue 1, and Rilem Report 12, Performance Criteria for Concrete Durability, E & FN Spon, London, UK, pp 226-230. All test certificates are available by request.

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TYPICAL DETAIL



TRAINING AND COMPETENCY OF THE USER

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

Newton CDM 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 CDM 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

C OLOUR

Translucent white

PRODUCT WARRANTY

Newton CDM 508R is supplied with a product warranty of 30 years, and has a life expectancy of at least 100 years (DIN 9001:2000). 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](#).

SPECIFIC ATION

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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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:

- Screed
- 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: Newton CDM 508R 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 also provide fire-resistant membranes that are tested and classified to a fire rating of B-s2.d0. Get in touch with the Newton Technical Team directly for more information.

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.

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 508 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 508 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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22		Newton Waterproofing Systems Newton House 17-20 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 resistance	EN 12317-2	NPD		
Reaction to fire	EN 13501:2019	Euroclass F		

Newton Waterproofing Systems reserve the right to update product literature at any time. Please always refer to our [website](#) for the latest versions.