520 eco

20mm Recycled Cavity Drain Floor Membrane

Revision: 5 - 23 January 2026
Code: M4

INTRODUCTION

Newton 520 eco is a high quality and 100% recycled cavity drain floor membrane, for use within the Newton CDM System, our internally applied waterproofing system that also includes drainage and pumping systems.

With its 20 mm deep stud profile, Newton 520 eco is used within the Newton CDM System as a high drainage capacity floor membrane, and is generally specified where it is anticipated that there may be a risk of severe water penetration.

Newton 520 eco is guaranteed against deterioration for 30 years, with a life expectancy of at least the design life of the building and is supported by BBA Certification Number 94/3010.

Newton 520 eco is inert and non-polluting to drinking water. Certified for use as a radon barrier, the membrane is also highly resistant to alkalies, saline solutions, organic acids, and not affected by minerals and hydrocarbons. It is also impervious to root penetration, is rot-proof, and resistant to bacteria, fungi and other small organisms.

KEY BENEFITS

- Third-party tested for long-term compressive load to ISO 25619-1 (2% compression over 50-years)
- Speed of installation
- High performance radon barrier
- Made from 100% recycled HDPE
- Provides vapour control and, when used with humidity control systems and is capable of delivering an environment to all levels within a Grade 3 environment to BS 8102:2022
- Resistant to rot, chemically aggressive groundwater, acids and alkalines, efflorescing salts and hydrocarbon contamination
- Product waste is recycled when returned to Newton Waterproofing by Newton Registered Contractors

TYPICAL APPLICATIONS

Floor membrane as part of the Newton CDM Type C waterproofing system.

COLOUR

Black.

SUITABLE SUBSTRATE

- Concrete raft or slab
- Newton Fibran XPS 500-C closed cell extruded polystyrene insulation

TRAINING AND COMPETENCY OF THE USER

Newton 520 eco is part of the Newton CDM System, our Type C, internal waterproofing system.

Newton 520 eco 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.

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

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TECHNICAL DATA

Features	Result	Units
Material	HDPE	
Colour	Black	
Density	1000	g/m^2
Width	2.07	m
Length	20.0 & 10.0	m
Area	40 & 20	m^2
Height	20	mm
Membrane thickness	1.0	mm
Stud depth	19.0	mm
Vicat softening temperature	126	ºC
Packaged weight	37.62 / 18.35	kg
Service temperature	-40 to +80	ºC

Installed Performance	Result	Units	Test Method
Compressive strength – Temporary loading	240	kPa	EN ISO 25619-2
Compressive strength – Permanent loading	4	kPa	EN ISO 25619-1
Compressive strength - Permanent - load transferred through a C16 screed*	800	kPa	EN ISO 25619-1
Thermal conductivity	0.461	W/mK	EN 12667
Colour	Black		
Water vapour diffusion resistance – Sd value	>604	m	BS EN 1931
Water vapour diffusion resistance – μ value	>1208000	μ	Calculated from SD value
Water vapour diffusion resistance	>3020	MNs/g	Calculated from SD value
Resistance to fire	Euroclass E**		BS EN 13501-1
Chemical resistance – Excellent	100	%	EN14030
Oxidation resistance – Excellent	100	%	EN ISO 13438
Radon gas resistance - Membrane	3.3 x 10^{-12}	m^2/s	K124/02/95
Radon gas resistance - Joints	4.4 x 10^{-12}	m^2/s	K124/02/95

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 3.
**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.

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 520 eco has a service life that is equal to the design life of the structure.

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.

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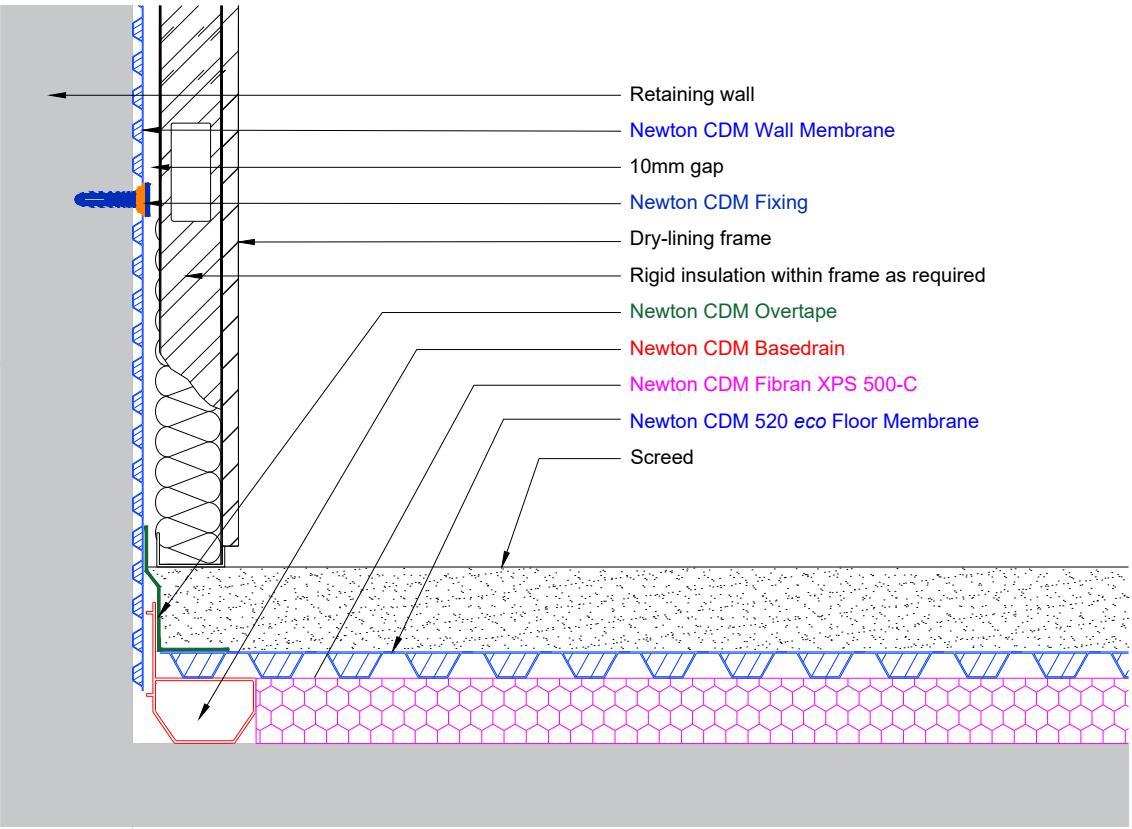
TYPICAL DETAIL



PRODUCT WARRANTY

Newton 520 *eco* 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.

APPLICATION ABOVE INSULATION SPACER

Where the membrane is installed above a spacer of 50 mm of insulation:

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 520 *eco*, tested to EN 25619-1 for use within construction are:

- Membrane only: 4 kPa = 0.4 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 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 520 *eco* 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.

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LIMITATIONS

- 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 K301 (available from Newton Waterproofing Systems)
- Newton 520 eco is not a standalone product and has no capability to withstand water pressure. It 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 520 *eco* 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

PACKAGING

Newton 520 eco - Code M4 - 2.07m x 20m

ANCILLARY PRODUCTS

Please refer to the Newton CDM Installation Manual.

STORAGE

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

HEALTH & SAFETY

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

CE 2 2	JN NEWTON WATERPROOFING	Newton Waterproofing Systems Newton House 17-19 Sovereign Way Tonbridge Kent TN9 1RH	M4 BS EN 13967:2012 + A1:2017 Waterproofing sheet for damp proof sheets, type V

Essential characteristics to BS EN 13967:2012 + A1:2017	Test Standard	Result	Unit of measure
Water tightness, 60 kPa; 24h	EN 1928	Waterproof	
Compressive strength	EN ISO 25619-2	240	kN/m^2
Tear resistance	EN 12310-1	MD - npd CMD - npd	
Tensile strength	EN ISO 10319: 1996	MD - npd CMD - npd	kN/m
Elongation	EN ISO 10319: 1996	MD - npd CMD - npd	%
Compressive creep (resistance to static load)	EN 13967 Annex B	npd	
Impact resistance	EN 12691	npd	
Durability against ageing	EN 1296 / EN 1928	npd	
Durability against chemicals	EN 1926 / EN 1928	npd	
Fire resistance	EN 13501-1	E	
Hazardous substance	Less than limited by national regulations.		National regulations valid in EU member states.

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