

HydroBond 109-LM

Seamless Rubber Waterproofing Membrane

Revision: 5.0 - 19th July 2022
Code: 109MV/109LV

INTRODUCTION

Newton HydroBond 109-LM is a radon gas certified, flexible, single-component, cold-applied, seamless rubber membrane, which can be used for radon, damp and waterproofing applications.

HydroBond 109-LM is also adept as a detailing membrane for the termination and jointing of other Newton waterproofing products, and is used as a primer for the adhesion of butyl products to concrete and mortar.

HydroBond 109-LM is extremely puncture resistant with elasticity of 850% and a 95% recovery memory.

The membrane becomes fully engaged into the substrate to prevent water tracking and, due to compression load testing, is suitable for termination details at ground level providing continuity of Type A and B systems to DPC level as per the requirements of BS 8102:2022.

APPLICATION



PROPERTIES

H - Hardness and Durability; E - Elasticity and Flexibility; V - Vapour Permeability; C - Curing and Drying; W - Working Time; U - UV Stability



PACKAGING

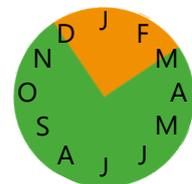


Single component

COVERAGE



OUTDOOR SEASON



KEY BENEFITS

- Fully-bonded seamless membrane
- Good elasticity with no shrinkage
- Medium/Low Viscosity variants to ensure the correct viscosity at differing temperatures
- Membrane is instantly rain tight when sprayed with Newton 109-LM Catalyst*
- Primer not required for most substrates**
- Vapour barrier
- Solvent-free, non-toxic and odourless
- Non-flammable - No VOCs
- High radon gas resistance

*When catalysed with Newton 109-LM Catalyst

**Priming required to horizontal surfaces



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TECHNICAL DATA - Low & Medium Viscosity

Features	Result	Units
Form	Liquid	
Colour	Brown	
Density / Specific gravity	1.03	
Packaging - Bucket	20	Litres
Shelf life	12	Months
Pot life	N/A	
Application rate in 2 coats - Joints in concrete walls - band of 250 mm	3.2	Litres/m ²
Application rate in 2 to coats - Radon barrier and horizontal elements	3.2	Litres/m ²
Application rate in 2 coats - 3 mm cured membrane in accordance with BS EN 15814	4.8	Litres/m ²
Application rate in 2 coats - 4 mm cured membrane in accordance with BS EN 15814	6.4	Litres/m ²
Application method	Brush, roller & airless spray	
Application temperature	+5 to +40	°C
Service temperature	-15 to +40	°C
Odour	Slight resinous odour	
VOC	Does not contain solvents	
Viscosity	Low or medium	
pH	11 - 13	

Curing***	5°C	10°C	15°C	20°C	25°C	Units
Ready for next coat****	24/0.1	12/0.1	2/0.1	0.4	0.2	Hours
To not be adulterated by rain****	24/0.1	12/0.1	1/0.1	0.5	0.5	Hours
Ready for temporary foot traffic / protection boards****	24/4	12/3	2/2	1	1	Hours
Ready for flood / hosepipe test	48	24	4	3	2	Hours
Fully cured	48	24	8	5	3	Hours

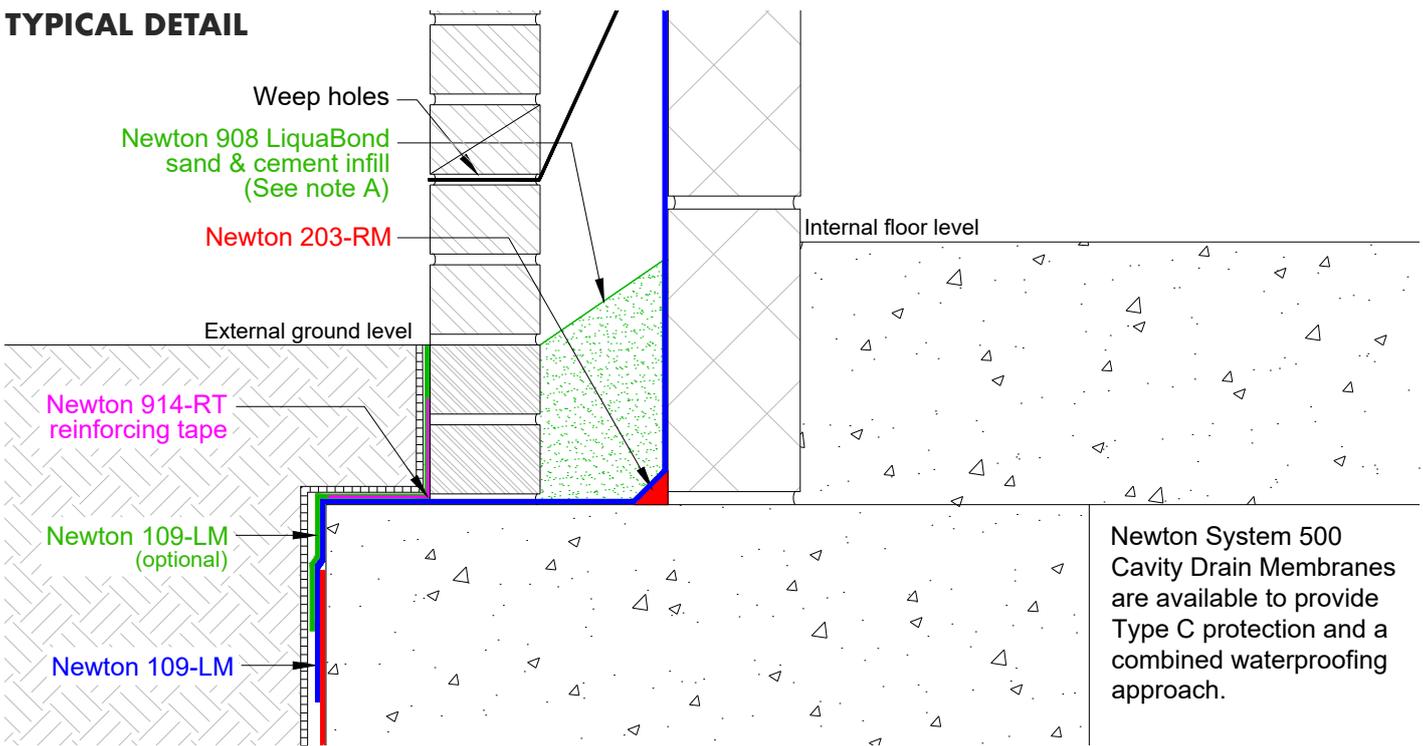
Cured Performance	Result	Units	Test Method
Colour	Black		
Membrane thickness - Damp proofing	2.0	mm	
Membrane thickness - Radon barrier	2.0	mm	
Membrane thickness - Termination details ≤ 0.7m below ground	3.0	mm	
Membrane thickness - Waterproofing ≤ 7m below ground	4.0	mm	
Density / Specific gravity (no reinforcement)	1.1		
Softening temperature	> 130°C		Ring & Ball
Adhesion to concrete	0.62	N/mm ²	DIN 53232
Tensile strength & elongation at break (reinforced)	0.68	N/mm ²	EN ISO 527-3:1995
Tensile strength & elongation at break (reinforced) (aged)	0.58	N/mm ²	EN ISO 527-3:1995
Loading capability (no reinforcement) - Class 1	0.06	MN/mm ²	EN 15815
Resistance to static indentation (reinforced)	250	N	EOTA TR007:2004
Crack bridging ability (no reinforcement) - Class CB2	≥2	mm	
Resistance to fatigue movement - 1000 actions @ -10°C	Pass		EOTA TR008:2004
Dimensional stability at high temperature - no dripping	≥70	°C	EN 15818
Low temperature flexibility @ -10°C	Pass		DIN 52123
Flexibility at low temperature @ 0°C	Pass		EN 15813
Water vapour diffusion resistance – S _d value	72.4	m	BS EN 1931
Water vapour diffusion resistance - μ value	36200	μ	Calculation from S _d value
Water vapour diffusion resistance	362	MNs/g	Calculation from S _d value
Water tightness	7	bar	ISO=DIS 7031
Water resistance - 21 days at 21°C	Watertight		EN 15817
Impact resistance after UV-ageing - 1000h - 10 mm	Pass		EN 12691:2001
Radon gas diffusion resistance (1 mm membrane)	2.1 x 10 ⁻¹¹	m ² /s	K124/0295
Reaction to fire classification	Euroclass B2		DIN 4102-1

The above data, even if carried out according to regulated tests are indicative and may change when specific site conditions vary. ***Figures are for 2 mm coating and are influenced by humidity and are therefore, indicative. First figure is air-cured, second figure is when catalysed by HydroBond 109 Catalyst. ****If HydroBond 109-LM Catalyst is used, the catalyst must be fully removed by washing before further coats are applied. HydroBond 109-LM Catalyst should only be used to make the surface of the membrane rain tight when rain is imminent or expected. In all other cases, allow the product to air-cure.

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TYPICAL DETAIL



ACCREDITATIONS & APPROVALS

HydroBond 109-LM is independently tested by Technische Universität, München to confirm performance data to the requirements of EN 1504-2:2004+A2:2014, in accordance with the EU Construction Products Regulations. Please see CE Label on page 7, or the product [Declaration of Performance](#) for further information.

VARIANTS

HydroBond 109-LM is supplied in two variants. The MV (medium viscosity) variant should be used in higher temperatures, whilst the LV (Low viscosity) variant should be used in lower temperatures.

TYPICAL APPLICATIONS

- As a radon, damp and waterproof membrane to protect structures as part of the Newton HydroBond System
- Used as a detailing membrane as part of the Newton CDM System
- Loading-capable, liquid DPM connecting wall waterproofing membrane to internal skin DPC

METHOD OF APPLICATION

- Brush
- Roller
- Airless Spray

SUITABLE SUBSTRATES

Correctly prepared substrates of:

- Concrete of at least 20 kN
- Block and brick

SUITABLE SURFACES

- Walls - Positive pressure
- Soffits as a primer for Type C tapes
- Horizontally at slab edge toe and other termination details at ground level

SPECIALIST TOOLS REQUIRED

HydroBond 109-LM does not require any specialist tools.

LIFE EXPECTANCY

When fully covered and protected, HydroBond 109-

LM will provide, under normal conditions, a durable waterproof covering for the life of the building to which it is installed.

Where the membrane is exposed to UV and weathering, the life expectancy is 10 years, and we suggest that after 5 years, the membrane is inspected every 2 years and new product applied over as required.

The membrane is not hard wearing and should be protected against wear and whilst backfilling.

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ANCILLARY PRODUCTS

- [HydroBond 109-LM Catalyst](#) - Post-applied catalyst that instantly cures the surface of the membrane
- [HydroBond 2K-Flex](#) - Flexible and reinforced bitumen waterproof coating
- HydroBond 2K-Flex Primer - Fast-drying bitumen emulsion primer and bonding agent
- HydroBond 403 Plus - Self healing and fully-bonded sheet membrane
- [HydroBond SA](#) - Post-applied, self adhesive waterproofing membrane
- [HydroSeal 914-RT](#) - Textile strengthening tape for changes in direction and static joints
- [HydroBond 410 GeoDrain](#) - Protection board or drainage membrane for sloping sites
- [NewSeal 408 DeckDrain](#) - Drainage membrane for the removal of water from horizontal sections or decks to suitable drainage. Can also be used as protection board and as a drainage membrane for sloping sites.
- Newton GeoTex - Non-woven geotextile filter layer for protecting the membrane when applied to covered and loaded decks
- [Newton PipeCollar](#) - Flexible preformed collar for sealing pipe protrusions to the membrane
- [HydroSeal 203-RM](#) - Fast curing repair mortar to fill voids and cracks and to create smoothing fillets

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](#).

TRAINING AND COMPETENCY OF THE USER

HydroBond 109-LM should be installed by those with an understanding of the requirement to waterproof the element to which it is applied. In addition they must have the knowledge and training to use the product as part of a coordinated approach to the waterproofing of the structure, which in many cases will require further waterproofing products in order to achieve the required habitable grade defined by BS 8102:2022.

For priming and externally applied damp proofing, HydroBond 109-LM can be used by competent and experienced personnel who will use it with the necessary care and attention required to ensure preparation and application are carried out correctly, and to specification.

Newton Specialist Basement Contractors (NSBCs) are trained by Newton Waterproofing Systems in the correct specification and installation of Newton waterproofing and damp proofing products. They will provide the client with a meaningful insurance backed guarantee for the system installed.

APPLICATION RATE - RC WALLS

- For radon and damp proofing applications the membrane is applied in two coats at a rate of 1.6 litres/m² per coat, to a total thickness of 2.0 mm
- For HydroBond System termination and continuity details at depths ≤ 0.7 m the membrane is applied in three coats at a rate of 1.6 litres/m² per coat, to a total thickness of 3.0 mm
- For waterproofing applications at depths ≤ 7 m the membrane is applied in four coats at a rate of 1.6 litres/m² per coat, to a total thickness of 4.0 mm

APPLICATION RATE - RADON BARRIER

The membrane is applied to a total thickness of 2.0 mm, which requires an application rate of 3.2 litres/m².

APPLICATION RATE - IN ACCORDANCE WITH BS EN 15814

To comply with standard EN 15814, the product must be applied in multiple layers:

1. When subject to moisture in the ground, but not to water pressure or increasing pressure:
 - Apply the membrane in three layers, with a total application rate of 4.8 litres/m²
 - Cured membrane thickness 3 mm
2. When subject to external water pressure, either from below or horizontally:
 - Apply the membrane in two layers, with a total application rate of 6.4 litres/m²
 - Cured membrane thickness 4 mm

CONSTRUCTION - CONCRETE WALLS

Concrete walls should be constructed to BS EN 1992.

Construction joints should be waterproofed with a [Newton HydroTank System](#) waterbar.

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SURFACE PREPARATION - CONCRETE WALLS

- The surface must be clean and free from dust, laitance, release agents, oils, paints or other forms of contamination. High power jet washing with a mild detergent (which later must be fully removed) may be required. If contaminants are still present, more aggressive preparation, such as grit blasting, will be required
- Holes, cracks, voids and honeycombing should be filled and made good with HydroSeal 203-RM
- Pin holes and non-structural cracks that are between 0.5 mm and 2 mm wide should be filled with sand/cement using a bag rubbing technique

JOINTS & CHANGES OF DIRECTION

- Reinforce static joints with HydroSeal 914-RT
- Apply over shrinkage joints, using 25 mm wide masking tape to create delamination
- Movement joints should be designed out where possible. Where unavoidable, use Newton's standard FlexProof 106 movement joint detail and lap the HydroBond 109-LM over it. Please speak to our Technical department if you require assistance on the correct specification to joints in Type A and B systems
- Internal changes of direction require a smoothing fillet of 25 mm x 25 mm. Consider using HydroSeal 203-RM for the smoothing fillet as the fillet will be cured ready for application in 15-30 minutes

PRIMING

HydroBond 109-LM does not require a primer unless applied to horizontal surfaces. Where concrete or screed are aged, very dry and have an open surface, the surface should be dampened prior to application. In some cases, a very thin first coat should be applied prior to the main application.

PRIMING HORIZONTAL SURFACES

Where HydroBond 109-LM is applied to horizontal surfaces, there is risk of trapped vapour lifting the membrane and also for air bubbles to form. Priming the substrate with [HydroBond 2K-Flex Primer](#) will prevent lift and damage to the membrane due to vapour pressure.

Application rate is approximately 0.2 l/m², depending on the absorbency of the substrate.

The primer should be dry to the touch before application of Newton HydroBond 2K-Flex.

- The primer is ready to use. Stir for a few seconds
- Apply with brush or roller
- Clean tools with water

MIXING & STIRRING

HydroBond 109-LM is a single component product and so does not require mixing. The product should be stirred for at least 30 seconds with a wooden stirrer within its own container.

APPLICATION

HydroBond 109-LM can be applied by brush, roller or by airless spray.

Apply at a rate as explained within the relevant **APPLICATION RATE** sections on pages 4 and 5.

Apply the first coat at the recommended rate for the substrate.

Subsequent coats can be applied when the prior coat is dry to the touch. See the curing table on page 2.

SALT CATALYST

If there is risk of rain damage to the applied membrane, the surface can be skinned to be immediately rain tight if sprayed with HydroBond 109-LM Catalyst.

Conditions for catalyst use:

- Mix six parts water with one part catalyst (6:1) by weight
- Use only when rain is imminent or expected
- Do not use in warm or hot weather or when there is a dry wind; the product will skin quickly without the need of the catalyst
- Use only the recommended catalyst supplied by Newton Waterproofing Systems
- If further coats are required after catalyst use, the catalyst must be removed from the surface of the membrane before subsequent coats are applied. Use clean water and soft rags to remove the catalyst

CATALYST APPLICATION RATE

The catalyst comes in 1kg bags, and when mixed at a ratio of six parts water to 1 part catalyst, an application rate of 0.1 litres/m² can be expected by spray, or 0.15 litres/m² by brush. Be mindful of windy conditions when spraying, as more product may be required.

LAPPING TO HYDROBOND 403 PLUS

When used in conjunction with HydroBond 403 Plus as a full HydroBond System, Overlap the HydroBond 403 Plus membrane by a minimum of 150 mm.

SPRAYING SPECIFICATION

HydroBond 109-LM can be sprayed with an airless spray machine. For information on the machine and configuration, please contact our Training Department.

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POT LIFE & FURTHER USE

HydroBond 109-LM is single-component with no chemical curing reaction, therefore it is reusable if the lid is correctly fitted and the product is stored as confirmed on page 7. In these conditions, the product should be used within three months. There is no practical pot life.

PROTECTION OF THE MEMBRANE

When used to waterproof retained walls, HydroBond 109-LM must be protected prior to back-fill, either with:

- [HydroBond Protection Board](#) - 3mm x 1m x 2m. Product Code HBPB
- [CDM Fibran XPS 500-C](#) insulation
- HydroBond 410 GeoDrain

When used as a detailing membrane for termination to DPC, life expectancy will be greatly improved by protecting the membrane from direct UV exposure.

The simplest, most cost-effective and aesthetically pleasing method is to broadcast sand or grit to a fresh tack-coat of 109-LM. Cast the sand or grit onto the tack coat until no more can be taken by the membrane. Leave to fully dry before lightly brushing off any excess.

Sands and grits can be purchased in a wide variety of colours, sizes and grades.

To horizontal surfaces, the membrane must be both protected and loaded with a screed prior to floor finishes.

If screed/concrete is to be placed above the membrane, 100% broadcast a further tack-coat of HydroBond 109-LM with dry-kiln sand, even if a DPM is used.

COLOUR

- In packaging - Brown
- Cured - Black

CLEANING

Thoroughly clean all tools and equipment with xylene immediately after use.

LIMITATIONS

The product is seasonal, but careful planning and use of the HydroBond 109-LM Catalyst will allow for use during the winter months.

Regardless of the time of year, do not apply prior to rain - please see information within the curing table on page 2.

- Do not apply at temperatures lower than +5°C or higher than +35°C
- Always use the correct preparation and priming of the support substrate as directed above
- Familiarise yourself with the curing table on page 2 and plan the work sequencing accordingly
- Not suitable as a permanent vehicle or pedestrian traffic surface. Where occasional pedestrian traffic is required, apply a further tack coat and 100% broadcast with small aggregate
- Do not apply too much product. Apply to a maximum thickness of 1 mm per coat

STORAGE

Store in dry conditions at temperatures between +5°C and +25°C with containers fully sealed. Do not expose to freezing conditions. Do not allow to freeze.

HEALTH & SAFETY

Use appropriate PPE for the environment the system is installed within. Use products only as stated within this Data Sheet and SDS.

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 CE 15	 <p>Newton Waterproofing Systems Newton House 17-20 Sovereign Way Tonbridge Kent TN9 1RH</p>	<p>109-LM EN 15814:2011+A2:2014 1211 / 0797 Polymer modified bituminous thick coatings for waterproofing</p>	
Essential characteristics	Declared Performance	Test Standard	Harmonised Technical Standard
Crack bridging ability	Class CB2	EN 15812	EN 15814:2011+A2:2014
Resistance to rain	Class R3	EN 15816	
Water resistance	Pass	EN 15817	
Flexibility at low temperature	Pass	EN 15813	
Dimensional stability at high temperature	Pass	EN 15818	
Reaction to fire	Class E	EN 13501	
Watertightness	Class W2B	EN 15820	
Resistance to compression	Class C	EN 15815	
Durability of watertightness and reaction to fire	Pass	as above	

Newton Waterproofing Systems reserve the right to update product literature at any time. Please always refer to our [website](http://www.newtonwaterproofing.co.uk) for the latest versions.