

HydroBond 109-LM

Seamless Rubber Waterproofing Membrane

 Revision: 6.3 - 9th February 2023
 Code: 109MV

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

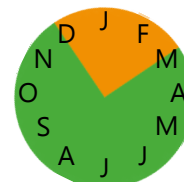


Single component

COVERAGE



OUTDOOR SEASON



KEY BENEFITS

- Fully-bonded seamless membrane
- Good elasticity with no shrinkage
- Membrane is instantly rain tight when sprayed with HydroBond 109-LM Catalyst
- Vapour barrier
- Solvent-free, non-toxic and odourless
- Non-flammable - No VOCs
- High radon gas resistance



HydroBond 109-LM

Seamless Rubber Waterproofing Membrane

TECHNICAL DATA

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 to coats - Detailing	3.2					Litres/m²
Application rate in 2 coats - Ground moisture - No water pressure -BS EN 15814	4.8					Litres/m²
Application rate in 2 coats - Waterproofing - BS EN 15814	6.4					Litres/m²
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					
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 - Detailing		2.0	mm			
Membrane thickness - Ground Moisture - No water pressure		3.0	mm			
Membrane thickness - Waterproofing		4.0	mm			
Density / Specific gravity (no reinforcement)		1.1				
Softening temperature		> 130°C			Ring & Ball	
Adhesion to concrete		0.62	N/mm²		DIN 53232	
Tensile strength & elongation at break (reinforced)		0.68	N/mm²		EN ISO 527-3:1995	
Tensile strength & elongation at break (reinforced) (aged)		0.58	N/mm²		EN ISO 527-3:1995	
Loading capability (no reinforcement) - Class 1		0.06	MN/mm²		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 – Sd value		72.4	m		BS EN 1931	
Water vapour diffusion resistance - μ value		36200	μ		Calculation from Sd value	
Water vapour diffusion resistance		362	MNs/g		Calculation from Sd 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	m²/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.

HydroBond 109-LM

Seamless Rubber Waterproofing Membrane

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.

TYPICAL APPLICATIONS

- Detailing as part of 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 coating 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.

CLEANING

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

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.

HydroBond 109-LM

Seamless Rubber Waterproofing Membrane

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

As application rates confirmed within Data Table and section below.

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.

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

Where concrete or screed are aged, very dry and have an open surface, the surface should be primed prior to application with the Newton HydroBond 2k-Flex Primer. 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 109-LM.

- 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.

HydroBond 109-LM

Seamless Rubber Waterproofing Membrane

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 SYSTEM MEMBRANES

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.

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

HydroBond 109-LM must be protected prior to back-fill, with either:

- [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

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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Seamless Rubber Waterproofing Membrane

			Newton Waterproofing Systems Newton House 17-20 Sovereign Way Tonbridge Kent TN9 1RH	109-LM EN 15814:2011+A2:2014 1211 / 0797 Polymer modified bituminous thick coatings for waterproofing	
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](https://www.newtonwaterproofing.co.uk) for the latest versions.