HydroBond 109-LM

Seamless Rubber Waterproofing Membrane

Revision: 6.4 - 24th November 2023
Code: 109MV

INTRODUCTION

Newton HydroBond 109-LM is a flexible, single-component, cold-applied, seamless rubber membrane, which can be used for 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

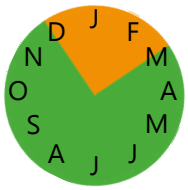
H - Hardness and Durability; E - Elasticity and Flexibility; V - Vapour Permeability; C - Curing and Drying; W - Working Time; U - UV Stability

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

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Opening Hours:
Monday to Thursday 8:00am - 5:30pm
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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/m^2
Application rate in 2 coats - Ground moisture - No water pressure -BS EN 15814	4.8	Litres/m^2
Application rate in 2 coats - Waterproofing - BS EN 15814	6.4	Litres/m^2
Application method	Brush, roller & airless spray	
Application temperature	+5 to +40	ºC
Service temperature	-15 to +40	ºC
Odour	Slight resinous odour	
VOC	Does not contain solvents	
pH	11 - 13	

Curing***	5ºC	10ºC	15ºC	20ºC	25ºC	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	> 130ºC		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 @ -10ºC	Pass		EOTA TR008:2004
Dimensional stability at high temperature - no dripping	≥70	ºC	EN 15818
Low temperature flexibility @ -10ºC	Pass		DIN 52123
Flexibility at low temperature @ 0ºC	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 7031
Water resistance - 21 days at 21ºC	Watertight		EN 15817
Impact resistance after UV-ageing - 1000h - 10 mm	Pass		EN 12691:2001
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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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 6, 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 Protection Board - Bitumen protection board
- HydroCoat 914-RT - Textile strengthening tape for changes in direction and static joints
- HydroBond 410 GeoDrain - Protection board or drainage membrane for sloping sites
- Newton PipeCollar - Flexible preformed collar for sealing pipe protrusions to the membrane

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 damp proofing applications the membrane is applied in two coats at a rate of 1.6 litres/m^2 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/m^2 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/m^2 per coat, to a total thickness of 4.0 mm

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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/m^2
    - 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/m^2
    - 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 HydroCoat 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 HydroCoat 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 HydroCoat 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/m^2, 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 this page.

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

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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/m^2 can be expected by spray, or 0.15 litres/m^2 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 this page. In these conditions, the product should be used within three months. There is no practical pot life.

PROTECTION OF THE MEMBRANE

HudroBond 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 HydroBond 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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CE 15	Newton Waterproofing Systems Newton House 17-19 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	

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