

HydroSeal 105 1K

Cementitious Waterproofing Slurry and Mortar

Revision: 1.1 - 14th January 2021
Code: 105

INTRODUCTION

Newton HydroSeal 105 1K is a single-component, polymer-modified, cement-based waterproofing slurry that incorporates advanced micro silica polymer and fibre technology. When cured, it creates a dense matrix with very high adhesion that is impermeable to water to 10 bar of water pressure to both the positive and negative pressure sides of the structure.

HydroSeal 105 is supplied as a single-component system, requiring only the addition of clean water to form a mortar, a suitable bag-rubbing mix, a surface repair product, a fairing coat/thin section bonded screed, and a waterproofing render. Add slightly more water or tanking slurry and apply by spray by airless machine.

HydroSeal 105 is one product with five uses. Keep a bag on the van at all times.

APPLICATION



PROPERTIES

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



PACKAGING



Single-component

COVERAGE



KEY BENEFITS

- 2 mm slurry coat is fully waterproof and resists 10 bar positive and negative water pressure
- Can be applied to damp substrate
- Can be part-mixed
- Can be applied as a mortar to 6 mm thickness and so can be used to waterproof, smooth and/or repair rough and uneven surfaces in just one application
- Environmentally friendly product that is ideal for confined spaces
- Strong with quick strength gain - 13 MPa within 1 day
- Quick drying times - rain tight within 1 hour
- Odourless and VOC free



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TECHNICAL DATA						
Features	Result					Units
Form	Powder					
Colour	Grey					
Mixed density - slurry	1.85					
Mixed yield per pack- slurry	15.8					Litres
Pack size	25					kg
Yield per kg	0.54					Litres
Shelf life	12					Months
Pot life @ 20°C & RH of 40%	30					Minutes
Application rate as two coat tanking slurry ¹	3.7					kg/m ²
Application rate as fairing coat or surface repair	3.7 - 11					kg/m ²
Maximum application thickness (per layer)	6					mm
Application temperature	+5 to +35					°C
Service temperature	-15 to +180					°C
Odour	Odourless					
VOC content	Zero					%
Curing ²	5°C	10°C	15°C	20°C	25°C	Units
Ready for next coat	60-120	45-60	30-40	25-35	20-30	Minutes
To not be adulterated by rain	60-120	45-60	30-40	25-35	20-30	Minutes
Ready for temporary traffic/protection boards	48	36	24	24	24	Hours
Ready for flood/hosepipe test	7	7	7	3	3	Days
Fully cured	28	28	28	28	28	Days
Cured Performance (Typical Values)	Result		Units		Test Method	
Colour	Grey					
Slurry tanking thickness in one or two coats	2		mm			
Adhesion to concrete	2.0		MPa		BS EN 1542	
Elongation	Not elastomeric					
Compressive strength – 1 day	13		MPa		BS 4551	
Compressive strength – 28 days	45		MPa		BS 4551	
Hardness (28 days)	78		Shore D		BS EN ISO 868:2003	
Water vapour resistance - S _D value (2 mm)	0.76		m		BS EN ISO 7783-2	
Water vapour resistance - μ value (2 mm)	380		μ		Calculation from S _D value	
Water vapour resistance (2mm)	3.8		MNs/g		Calculation from S _D value	
Water resistance – Positive and negative	10		Bar		DIN 1048	
Reaction to fire classification	F		Not tested		Euroclass	
UV-resistance	Stable but may discolour					
pH	12					

The above data, even if carried out according to regulated tests are indicative and they may change when specific site conditions vary.

¹Two coats to walls and soffits. One or two coats to floors. ²Figures are influenced by humidity also and so are indicative.

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TYPICAL APPLICATIONS

- Waterproofing of structural concrete
- Waterproofing of structural masonry
- Waterproof smoothing or fairing coat for rough faced surfaces
- Waterproof surface repair
- Waterproof levelling and repair to floors
- Filling surface pinholes to concrete and smoothing rough-faced block walls using bag rubbing technique

SUITABLE SUBSTRATES

- Concrete
- Structural masonry/mortar

SUITABLE SURFACES

Waterproofing of:

- Walls - Positive pressure and negative pressure
- Slab/raft - Negative pressure
- Soffit - Negative pressure

METHOD OF APPLICATION

Slurry Waterproofing

- Brush
- Squeegee
- Roller
- Pin leveller
- Airless spray - Please liaise with our Technical Team for the spraying specification

Surface repair, render, furring coat and screed

- Trowel

Bag Rubbing

- Hessian sack
- Sponge

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

HydroSeal 105 should be installed by those with experience of structural waterproofing.

LIFE EXPECTANCY

When specified, installed and protected in accordance with the TDS and fully and permanently isolated from UV light and physical damage or wearing, and only to those substrates confirmed, HydroSeal 105 has a service life that can be equal to the design life of the structure.

HydroSeal 105 is guaranteed to resist weathering for up to 10 years. The membrane is not UV colour stable and will slightly fade in colour over time, and it may take a few months for the colour to be consistent. Over time, discolouration due to weathering may take place, but the membrane will be serviceable.

The membrane is hard wearing but it is impossible to state how long the membrane will resist a certain type of wear before repair is required. If the wear expectations are high we suggest the O&M manual requests inspection at appropriate intervals. Please speak with the installing contractor or our Technical Team for advice.

PROTECTION OF THE MEMBRANE

The membrane should be seen as an investment and if possible, protected from wear and weathering.

Curing must commence within 10-15 minutes of the completed application of the coating.

APPLICATION RATE

HydroSeal 105 is applied in one, or two coats depending on the application:

Waterproofing walls & soffits - slurry

- Number of coats = 2
- Thickness of each coat = 1 mm
- Total thickness = 2 mm
- Coverage per coat - mixed slurry = 1.85 kg/m²
- Total coverage = 3.7 kg/m²
- Coverage per 25 kg container = 7.9 m²

Waterproofing floors - slurry

- Number of coats = 1 or 2
- Thickness of each coat = 1 mm or 2 mm
- Total thickness = 2 mm
- Coverage per coat - mixed slurry = 1.85 kg/m² or 3.7 kg/m² if applied in one coat
- Total coverage = 3.7 kg/m²
- Coverage per 25 kg sack = 7.9 m²

Fairing coat & wall surface repair - mortar

- Maximum thickness per layer = 6 mm
- Mixed coverage per mm = 1.85 kg/m²
- Mixed yield per sack = 15.8 litres

Floor surface repair and levelling - mortar

- Maximum thickness per layer = 6 mm
- Coverage per mm = 1.85 kg/m² = 1 litre
- Mixed yield per sack = 15.8 litres

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SURFACE PREPARATION

The surface must be clean, and free from dust, laitance, oils, paints or other forms of contamination. This may require wall surface preparation such as grit blasting or scabbling.

If the walls are to be slurry tanked, pin holes and non-structural cracks that are between 0.5 mm and 2 mm wide should be filled with HydroSeal 105 using a bag rubbing technique.

Large holes or indentations should be filled [HydroSeal 203-RM](#). Remove snots.

In all cases, laitance to concrete floors should be removed with floor grinding products or industrial power washing (at least 2500 psi) to remove laitance. Vacuum clean after grinding. All structural cracks should be repaired and filled.

JOINTS & CHANGES OF DIRECTION

- Reinforce static joints with [HydroSeal 912-RT](#)
- Use the more flexible [HydroSeal 107 Elastic 2K](#), reinforced with 912-RT, over joints between two forms of construction
- For the waterproofing of shrinkage or movement joints, please contact our Technical Department
- At internal changes of direction, apply a smoothing fillet of 203-RM mixed at 2-parts 203-RM to 1-part clean, washed, medium grade concreting sand



PRIMING

Walls and soffits - Prior to slurry tanking, porous substrate should be sealed with HydroSeal 105 using a bag rubbing technique.

Slabs/rafts - Prime with [Newton 903-P](#).

WATER REQUIREMENT

- Mortar - 3.3 litres/25 kg
- Slurry tanking - 4.5-4.6 litres/25 kg
- Spray mix - 5 litres/25 kg

MIXING

The material should be mechanically mixed in a clean drum using a slow speed drill and paddle.

Mix for a minimum of 2 minutes and use without delay.

Newton Waterproofing supply the full range of [Collomix Mixing Equipment](#) that includes Hand-Mixers, Stirrers, Mixing Stands, Buckets, Transport Carts and the Mixer Clean mixing bucket.

- Slurry tanking and Spray Mix - DLX stirrer
- Screed/render/repair/bag rubbing - WK stirrer

Use with Xo1 or Xo4 Hand Mixers which are suitable for quantities of up to 65 litres. For larger quantities use the MKD dual action stirrer with the Xo55 duo Hand-Mixer.

APPLICATION - SLURRY

The mixed slurry can be applied by Brush, Squeegee, Roller or Pin leveller. Ensure that air is not entrapped into the surface.

Apply as explained within the APPLICATION RATE section which begins on page 3. Ensure that entrapped air is removed with a spiked roller.

With two-coat applications, the second coat can be applied when the first coat is still 'green' and slightly tacky at about 30 minutes after the first coat has been applied. Application over cured product may require a primer. [HydroSeal 908 LB](#) mixed 1:1 with water can be applied to enhance the adhesion of the second coat to the first.

APPLICATION - MORTAR

The mortar can be applied by trowel or by hessian sacking or sponge when bag rubbing. If the mortar is applied in multiple layers, finish by rubbing-up with a sponge so as to leave a mechanical key for the next coat. HydroSeal 908 LB can be used to enhance adhesion between coats

CURING

Normal curing procedures should be strictly adhered to. It is important that the surface of the mortar is protected from strong sunlight and drying winds with polythene sheeting, damp hessian or similar.

CLEANING

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

STORAGE

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

If these conditions are maintained and the product packaging is unopened, a shelf life of up to 12 months can be expected.

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POT LIFE & FURTHER USE

HydroSeal 105 has an approximate pot life of 30 minutes at 20°C.

Provided that they are kept as per the storage instructions, part bags may also be mixed at a later date using the mixing ratios outlined in this Data Sheet.

ANCILLARY PRODUCTS

- Newton 903-P - Purchase Code 903-P. Primer for concrete
- [Newton 115-CM](#) - Purchase Code 115-CM. Curing membrane to prevent accelerated drying during hot or very windy conditions
- HydroSeal 912-RT- Purchase Code 912-RT. Reinforcement Tape for reinforcing changes in direction and static joints

PACKAGING

25 kg bag

COLOUR



Grey.

LIMITATIONS

- Do not apply prior to heavy 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 within this data sheet.

HEALTH & SAFETY

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

		Newton Waterproofing Systems Newton House 17-20 Sovereign Way Tonbridge Kent TN9 1RH	105 EN 1504-2:2004 2797 Surface Protection System for Concrete
Essential Characteristics	Declared Performance	Test Standard	Harmonised Technical Standard
Compressive strength	≥ 35 MPa Class I	BS EN 12190	BS EN 1504-2
Permeability to water vapour	$S_D < 5$ m (Class I Permeable to water vapour)	BS EN ISO 7783-2	
Capillary Absorption	$w < 0.1 \text{ kg} \cdot \text{m}^{-2} \cdot \text{h}^{-0.5}$ (Class III)	BS EN 1062-3	
Adhesive bond	≥ 2.0 MPa	BS EN 1542	
Dangerous Substances	Complies	Clause 5.4	
Reaction to fire	Euroclass F - Not tested	BS EN 13501-1	

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