HydroCoat 105 1K

Cementitious Waterproofing Slurry and Mortar

Revision: 2.6 - 30th January 2023
Code: 105

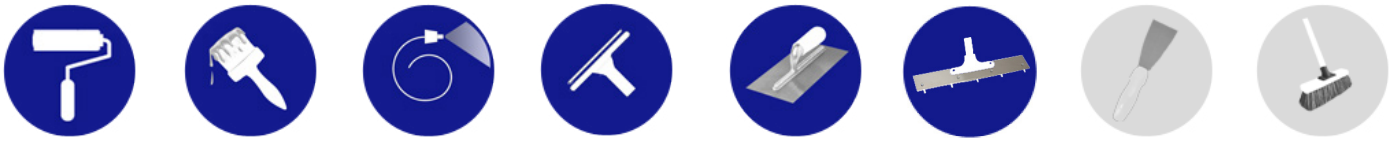
INTRODUCTION

Newton HydroCoat 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.

HydroCoat 105 1K 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.

HydroCoat 105 1K 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

Dependent on use.
Please see table on page 2.

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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Opening Hours:
Monday to Thursday 8:00am - 5:30pm
Friday 8:00am - 5:00pm

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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	ºC
Service temperature	-15 to +180	ºC
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.
[1]Two coats to walls and soffits. One or two coats to floors. [2]Figures 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.

FULLY BONDED MEMBRANES

Type A (barrier) protection membranes should be designed and installed to try to overcome defects as outlined in BS 8102:2022 Section 4.3.2 'Defects and remedial measures'. The requirements for the specific properties of the Type A barrier membrane are outlined in Section 8 of the British Standard, on 'Type A (barrier) protection', including Table 3 – 'Waterproofing barriers'.

EXTERNAL pre- and post-applied membranes are resisting a positive hydrostatic head, therefore it is essential that these systems form a full homogenous tank around the structure. Consequently, the membrane itself and all edge and end laps should be tested for resistance to water pressure.

The membrane should also be fully bonded to prevent water entering from a defect and tracking between the membrane and the structure; also known as lateral migration of water from a defect as per BS 8102:2022, Figure 9 – 'Effect of bonded or partially bonded barriers'.

This can be tested by BS EN 1928, Method A. The level of full bond and suitability of use is relevant to both the water depth/pressure tested for both lateral migration and watertightness of the membrane and the laps.

INTERNAL post applied membranes are resisting a negative hydrostatic head, therefore have to form a full homogenous tank that will achieve a sound enough bond to the structure to withstand counterthrust water pressure without the need for a loading structure. This can be tested to DIN 1048/BS EN 1542 and the level of full bond and suitability of use is relevant to both the water depth/pressure tested for both lateral migration and watertightness of the membrane and the laps.

TRAINING AND COMPETENCY OF THE USER

HydroCoat 105 1K 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, HydroCoat 105 1K has a service life that can be equal to the design life of the structure.

HydroCoat 105 1K 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.

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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

HydroCoat 105 1K 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

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 HydroCoat 105 1K using a bag rubbing technique.

Large holes or indentations should be filled HydroCoat 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 HydroCoat 912-RT
- Use the more flexible HydroCoat 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 HydroCoat 203-RM mixed at 2-parts HydroCoat 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 HydroCoat 105 1K using a bag rubbing technique.

Slabs/rafts - Prime with HydroCoat 903 Primer.

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.

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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. HydroCoat 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. HydroCoat 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.

POT LIFE & FURTHER USE

HydroCoat 105 1K has an approximate pot life of 30 minutes at 20ºC.

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

- HydroCoat 903 Primer - Purchase Code 903-P. Primer for concrete
- HydroCoat 905-CM - Purchase Code 905-CM. Curing membrane to prevent accelerated drying during hot or very windy conditions
- HydroCoat 912-RT - Purchase Code 912-RT. Reinforcement Tape for reinforcing changes in direction and static joints
- HydroCoat 203-RM - Purchase Code 203-RM. Fast setting repair mortar for repairs and for forming the smoothing fillet at internal changes of direction.

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 SDS.

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CE 15	JN NEWTON WATERPROOFING	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 < 0.1kg.m^{-2}.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	

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