

# HydroCoat 104 Super

## Crystalline Waterproofing

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Code: 104

### INTRODUCTION

*Newton HydroCoat 104 Super* is a cement-based, crystallized waterproofing material that suitable for both positive and negative side waterproofing.

Newton HydroCoat 104 Super is applied to the surface of concrete to provide in-depth protection against moisture movement through the capillaries and hairline cracks in the concrete. It consists of Portland cement, specially selected fine aggregates and a compound of active chemicals and is supplied as a powder that is either sprinkled onto fresh concrete or is mixed with water as a carrier and brush applied as a slurry for application to fully cured or older concrete and vertical surfaces.

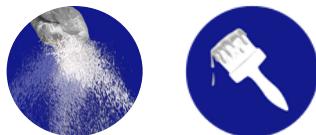
The active chemicals within HydroCoat 104 Super combine with the free lime and moisture present within the capillaries to form insoluble crystalline complexes which effectively block the capillaries and any minor shrinkage cracks to prevent any further movement of moisture to provide a totally dry surface to the concrete.

Large areas can be quickly treated with HydroCoat 104 Super. The speed of application and the low material application rate makes HydroCoat 104 Super a very low-cost option for a large number of scenarios.



Because HydroCoat 104 Super penetrates deep into the concrete, it is suitable for applications where a physical membrane between adjoining concrete element is not allowed and is completely unaffected by loadings imposed by further elements of the build, allowing new concrete elements to be placed 'concrete to concrete' with no potential for slip or separation as is the case with physical membranes. This makes HydroCoat 104 Super particularly useful as a means of isolating moisture within pile caps, ring beams and kicker joints.

### APPLICATION

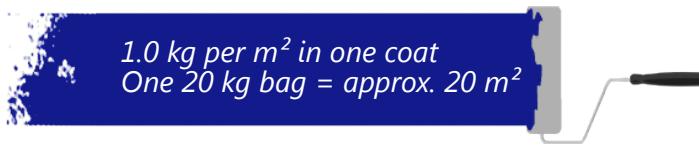


### PACKAGING



Single-component

### COVERAGE



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# HydroCoat 104 Super

## Crystalline Waterproofing

### PACKAGING & STORAGE

Packaging size: 20kg - Single Component

Storage & shelf life: HydroCoat 104 Super should be stored at room temperature (min 10°C and max 38°C), kept dry and out of direct sunlight.

If these conditions are maintained and the product packaging is unopened, then a shelf-life of up to 12 months can be expected. Stack no more than ten high.

### QR CODES & HYPERLINKS

Please use the links below to access the relevant web pages. If reading in paper format, please scan the QR Code to access the HydroCoat 1 web landing page on your mobile device.

[Web page for Newton HydroCoat 104 Super](#)

QR Code for Newton  
HydroCoat 104 Super  
Web Landing Page



### MIXING & APPLICATION RATES

| Application                                | Form          | Powder                | Water                          |
|--|---------------|-----------------------|--------------------------------|
| Pile heads/Pile caps/Plinths               | Weak slurry   | 1 kg/m <sup>2</sup>   | 7 – 8 litres / 20 kg of powder |
| Green concrete                             | Dry Sprinkled | 2kg/m <sup>2</sup>    | None                           |
| Waterproofing – Negative and positive side | Slurry        | 2.5 kg/m <sup>2</sup> | 7 – 8 litres / 20 kg of powder |
| Cold joint waterproofing                   | Paste         | 3 kg/m <sup>2</sup>   | 5 – 6 litres / 20 kg of powder |

### TECHNICAL DATA

| Features  | Result     | Units             |
|---|------------|-------------------|
| Form – Single Component                         | Powder     |                   |
| Colour  | Grey       |                   |
| Density   | 1.2        | kg/litre          |
| Pack size                                       | 20         | kg                |
| Shelf life                                      | 12         | Months            |
| Application rate – Pile heads/Pile caps/Plinths | 1.0        | Kg/m <sup>2</sup> |
| Green concrete                                  | 3.0        | Kg/m <sup>2</sup> |
| Waterproofing slurry                            | 2.5        | Kg/m <sup>2</sup> |
| Paste for cold joints                           | 3.0        | Kg/m <sup>2</sup> |
| Water requirement – Slurry – per 20kg of powder | 7 - 8      | Litres            |
| Water requirement – Paste – per 20kg of powder  | 5 - 6      | Litres            |
| Resting period before application               | 3 - 5      | Minutes           |
| Pot life  | 20 - 40    | Minutes           |
| Application temperature                         | +5 to +35  | °C                |
| Service temperature                             | -20 to +70 | °C                |
| Odour   | None       |                   |
| VOC Content                                     | None       |                   |

# HydroCoat 104 Super

## Crystalline Waterproofing

### CURING

|   | 5°C | 10°C | 15°C | 20°C | 25°C | Units |
|---|-----|------|------|------|------|-------|
| To not be adulterated by rain                 |     |      |      |      |      |       |
| Ready for temporary traffic/protection boards |     |      |      |      |      |       |
| Initial set                                   |     |      |      |      |      |       |
| Fully cured                                   |     |      |      |      |      |       |

### CURED PERFORMANCE

| Features                          | Result                 | Units | Test Standard |
|-----------------------------------|------------------------|-------|---------------|
| Colour                            | Grey                   |       |               |
| Membrane thickness                | Various                |       |               |
| Loading capability                | As concrete applied to |       |               |
| Water permeability                | ??                     | ??    |               |
| Water penetration                 | ??                     | ??    |               |
| Fire testing – non-combustibility | Non-combustible        |       | BS 476-4      |

All technical data stated herein is based on test results carried out under laboratory conditions.

NOTE: HydroCoat 104 Super is not a decorative material. When applied as a weak slurry at 1kg/m<sup>2</sup>, the slurry residue can be unsightly. Where applied as a dry powder to green concrete and trowelled or power floated, uneven colouring or blotching may be apparent.

### ACCREDITATIONS & APPROVALS

HydroCoat 104 Super is independently tested by BSI to confirm performance data to the requirements of EN 1504-2:2004 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

#### Negative Water Pressure:

- Internal waterproofing of concrete retaining walls, slabs and rafts of basement, foundations, tunnels, tanks and lift-pits
- Sealing of construction joints

#### Positive Water Pressure:

- Retaining and curtain walls
- Water tanks, swimming pools, irrigation canals, concrete pipes, tunnels and culverts and dams

#### Pile caps and ring beams:

Pile caps and ring beams support structural elements that impart too much force for conventional membranes. At the correct application rate of 1 kg/m<sup>2</sup>, HydroCoat 104 Super is fully absorbed into the surface of the concrete that prevents moisture from the pile cap or ring beam from transferring to the floor slab or structural wall; and does so without creating a potential slip surface between the two building elements.

#### Support plinths:

Where a steel or concrete column is to be supported from a plinth, conventional membranes are often not suitable due to the point loading transmitted through the column. HydroCoat 104 Super will seal deep into the surface of the concrete to produce concrete that is unaffected by the loading of the column.

#### Surfaces subject to high impact or abrasion:

HydroCoat 104 Super will provide a dry surface to walls, rafts and slabs to car parks, garages and plant rooms, where a physical membrane is not suitable because of potential damage or where a physical membrane requires covering with a finish that is not required for the intended end use of the space.

# HydroCoat 104 Super

## Crystalline Waterproofing

### KEY BENEFITS

- Applied from the direction of both positive and negative hydrostatic pressure
- Ease of application - sprinkled onto new concrete and applied as a simple slurry to vertical and cured concrete
- Permeates deep into the concrete to form a barrier against moisture that cannot be damaged or punctured
- With an application rate of 1kg/m<sup>2</sup>, no physical membrane is created so that subsequent concrete placement is 'concrete to concrete' with loading capabilities only limited by the strength of the concrete
- Concrete treated with HydroCoat 104 Super remains vapour permeable
- Very cost-effective alternative to conventional physical membranes
- Sealing of cracks up to 0.5mm resulting in dry concrete with less reinforcing steel requirement
- Continues to react with water molecules throughout the life of the reinforced concrete and provides waterproofing during the service life of the structure
- Dry-sprinkle onto green concrete can be carried out in any weather condition where concrete can be placed
- No priming required
- Protects the concrete from chemical and physical damage caused by aggressive groundwater to protect the concrete against corrosion of the steel reinforcement
- No protection required prior to backfilling
- Can be applied to green concrete, new concrete and old concrete
- Is not affected from UV and oxidation
- Resistant to freeze - thaw cycle
- Suitable for potable water tanks

### CAUTIONS & LIMITATIONS

- Application at temperatures between +5° C and +35° C
- Avoid application where there is a risk of freezing within 24 hours
- Avoid application to open areas during very dry and windy conditions. If unavoidable, utilise extreme curing methods that include spraying to dampen and cover with wet/hessian and protect with plastic sheeting
- Stir frequently to maintain the consistency of the mortar during application
- Do not add powder and water to already mixed and used mixes
- Since water pressure accelerates the formation of crystals and the penetration of the product into the concrete, delay filling of water retaining structures until 24 hours after the last layer of slurry. Complete waterproofing is usually achieved after 5 – 7 days
- Wait at least 7 days before backfilling with soil
- The formation of minerals in the concrete and the depth of their penetration into the concrete depends on the quality of the concrete, the capillary void ratio in the concrete and the absorbency of the surface. Enhanced curing measures increases the penetration depth into the concrete
- Do not use any other curing liquid other than water
- If a decorative finish is required, apply a sand/cement render when the last application of the slurry is still wet. The render coat may be painted as desired
- Where tiling is the final finish, apply the ceramic adhesive directly on the freshly applied HydroCoat 104 Slurry. If the slurry is fully cured, the crystals at the surface will need to be removed with diluted hydrochloric acid or bleach. This process only removes the crystals on the surface, does not damage the crystals that have penetrated into the concrete
- Use protective glasses and gloves during application

### LIFE EXPECTANCY

The active ingredients of Newton HydroCoat 104 Super are fully taken into the surface porosity of the concrete. Life expectancy is the same as the concrete is it applied to.

# HydroCoat 104 Super

## Crystalline Waterproofing

### PRODUCT WARRANTY

Newton HydroCoat 104 Super is supplied with a product warranty that confirms its suitability and fitness for purpose for the uses confirmed within this data sheet. Defective product will be replaced under the terms of the warranty. Please note that the warranty is not an installation guarantee. The waterproofing guarantee is provided by the specialist waterproofing contractor who installs the waterproofing system.

### SUITABLE SUBSTRATE

Concrete only.

### SUITABLE SURFACES

Walls, floors, & soffits.

### METHOD OF APPLICATION

HydroCoat 104 Super seals concrete by being absorbed approximately 40mm into the surface via the capillaries and hairline cracks. Moisture is required for this to occur. The product can be applied in the following 2 ways:

#### Green Concrete - Dry sprinkled

The moisture still resident in the concrete acts as the carrier, allowing the active chemicals to be fully absorbed. HydroCoat 104 Super can be applied as a powder prior to the initial set of the concrete (when you walk on the concrete you leave an imprint of approximately 10mm).

#### Cured Concrete - Slurry

If the concrete is old or cured beyond the initial set, HydroCoat 104 Super is mixed with water to create a slurry to allow the absorption into the concrete to take place.

### SPECIALIST TOOLS REQUIRED

Mixing equipment will be needed when applied as a slurry or a paste. Please see the Mixing section on page 5.

### ANCILLARY PRODUCTS

Concrete repair: [Newton HydroCoat 203-RM](#)

Active leak sealing: [Newton HydroCoat 313-WP](#)

Smoothing fillet: [Newton HydroCoat 203-RM](#)

### TRAINING & COMPETENCY OF USER

HydroCoat 104 Super should be used by those with an understanding of the requirement to waterproof retained structures and the knowledge and training to use the product as part of a coordinated approach to the waterproofing of the structure, which in most cases will require further waterproofing products so as to achieve the required habitable grade as defined by BS 8102:2022.

### HEALTH & SAFETY

HydroCoat 104 Super should only be used as directed. We always recommend that the Safety Data Sheet (SDS) is carefully read prior to application of the material. Our recommendations for protective equipment should be strictly adhered to for your personal protection. The SDS is available upon request from Newton Waterproofing Systems or online via our website.

As with all chemical products, avoid contact with food, skin, eyes and mouth during usage and storage. During the application, use work clothes, protective gloves, goggles and mask in accordance with the occupational and worker health regulations. Consult a doctor if accidentally swallowed. In case of contact with skin, rinse with water. Keep out of reach of children.

### 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](#).

# HydroCoat 104 Super

## Crystalline Waterproofing

### CONSTRUCTION

The construction should conform with current Building Regulations, British Standards and relevant Codes of Practice.

### SURFACE PREPARATION

All concrete to be treated with HydroCoat 104 Super must be clean and have an open capillary system. Remove laitance, loose material, dust, dirt, oil, grease, general grime and contaminants by jet washing, grit blasting or scabbling.

Where there is evidence of fungus or mould growth, a suitable fungicide should be used prior to application.

Spalled concrete should be removed back to good concrete, treated with HydroCoat 104 Super and filled flush with HydroCoat 203-RM. If the reinforcing steel is exposed, abrade back to clean steel and coat with a suitable treatment to prevent the steel from further corrosion. Honeycombed concrete should be removed back to good concrete, treated with HydroCoat 104 Super and filled flush with HydroCoat 203-RM. Holes and indentations in the concrete should be cut out to a depth of at least 20mm. Treat with HydroCoat 104 Super and fill flush with HydroCoat 203-RM repair mortar.

Cracks over 0.3mm should be cut out to a depth of at least 20mm. Treat with HydroCoat 104 Super and fill flush with HydroCoat 203-RM. Cracks up to 0.3mm will be sealed by the HydroCoat 104 Super. Leaking non-structural cracks should be cut out to a depth of at least 20mm. Treat with HydroCoat 104 Super and plug with HydroCoat 313-WP. Structural cracks should be repaired by specialists.

### WETTING

The prepared substrate should be thoroughly soaked with clean water until uniformly saturated without any standing water. Apply Newton HydroCoat 1 Render quickly and before the substrate has had chance to dry. On dry and windy days, re-wet the substrate as needed.

### PRIMING

The capillaries at the surface of the concrete are the pathways for impregnation of the active crystalline chemicals into the concrete substrate. The wetter the concrete is, the deeper the product can penetrate the concrete. Fully saturate the concrete with water to saturation point, but not so wet that there is standing water. Apply Newton HydroCoat 104 Super quickly and before the substrate has had chance to dry. On dry and windy days, re-wet the concrete as needed.

No additional priming is required.

### MIXING

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.

HydroCoat 104 Super can be mixed with the DLX (preferred) and KR stirrers, matched to the Xo 1 or Xo 4 Hand Mixers which are suitable for quantities of up to 65 litres. For larger quantities the MKD dual action stirrer is matched to the Xo 55 duo Hand-Mixer.

In all cases, mix at a slow speed for a minimum of 5 minutes. Stand the product for a further 5 minutes before use.

#### Weak Slurry – Waterproofing

- Mix at a ratio of 20 kg of HydroCoat 104 Super to 7 – 8 litres of water

#### Thicker paste/slurry - Construction Joints

- Mix at a ratio of 20 kg of HydroCoat 104 Super to 5 – 6 litres of water

### APPLICATION

#### Weak Slurry – Waterproofing – 2 x coats of 1kg/m<sup>2</sup>

Apply to the surface of the saturated concrete with a brush, with a total consumption of 2 kg/m<sup>2</sup>, 1 kg/m<sup>2</sup> on each layer. Apply the second coat green on green, within approximately 3-4 hours after the first layer, ensuring that the first coat is not pulled by the application of the second coat. Cure for 3-4 days. Please refer to the Curing & Protection section below.

#### Slurry/Paste – Construction Joints – 1 x coat of 3kg/m<sup>2</sup>

Apply to the joint edge with a brush in one coat.

Newton HydroTank 315 WP and HydroTank 302 Injection Hose water bars can be applied once the HydroCoat 104 Super is no longer tacky.

# HydroCoat 104 Super

## Crystalline Waterproofing

Dry sprinkle to green concrete – 2kg/m<sup>2</sup>

Cast or sieve the powder evenly onto the green prior to the initial set of the concrete (when you walk on the concrete you leave an imprint of approximately 10mm).

Float or power-float after application, again before first set.

### CURING & PROTECTION

HydroCoat 104 Super requires controlled curing. Once the HydroCoat 104 Super begins to cure, moisten with a fine fog spray of water 2-3 times a day for three days. In hot or windy conditions water spray should be applied more frequently.

Where practical, cover the application with moist hessian and plastic sheeting during the 3-day curing period. During the curing period the surface of the concrete treated with HydroCoat 104 Super must be protected from frost, rain and standing water.

Where the treated concrete is to support a poured concrete structural element such as a supporting wall and the HydroCoat 104 Super was applied as a weak slurry slurry and has fully cured, the slurry residue must be removed by jet washing, sand blasting or scabbling to ensure a clean interface for the subsequent concrete placement.

### POT LIFE & FURTHER USE

Pot life is 20 - 40 minutes at 20°C. Product must be used before it starts to go off/over thicken.

### CLEANING

Clean all tools and equipment with water after use.

### CE TABLE

|   |   |  |
|---|---|--|
| <br>16 | <br>Newton Waterproofing Systems<br>Newton House<br>17-19 Sovereign Way<br>Tonbridge<br>Kent TN9 1RH | 104<br>BS EN 1504-3:2005 class R1<br>0749<br>Non-Structural Repair |
| Essential Characteristics   | Declared Performance  | Harmonised Technical Standard                                      |
| Compressive strength  | Class R1  | BS EN 1504-3:2005  |
| Chloride ion content  | ≥0.05%  |  |
| Adhesive bond   | ≥ 0.5 MPa (cohesive failure)  |  |
| Impeded contraction/expansion   | NPD   |  |
| Resistance to carbonation   | NPD   |  |
| Modulus of elasticity   | NPD   |  |
| Thermal compatibility   | NPD   |  |
| Skid resistance   | NPD   |  |
| Coefficient of thermal expansion  | NPD   |  |
| Capillary absorption  | NPD   |  |
| Reaction to fire  | Euroclass B - s1, d0  |  |
| Hazardous substances  | > 2500µm (Class A5)   |  |