

## Nucem Heavy Duty Floor Screed

### Self Smoothing Cementitious Floor Screed

#### Description

A polymer modified flow applied self smoothing floor topping designed to be laid with minimum effort. Nucem Heavy Duty Floor Screed has been formulated to provide an accelerated cure, facilitating rapid turn around with minimum disruption. Compressive strengths develop quickly enabling the acceptance of light traffic the same day. The cured material provides good abrasion resistance, tolerating vehicular and forklift traffic.

#### Advantages


- Rapid setting characteristic enables acceptance of light foot traffic after 8 hours
- Self-smoothing highly fluid consistency
- Material can be poured or pumped
- Low odour
- Excellent adhesion to sealed concrete and steel etc
- Contains no added chlorides, the total chloride ion content is less than 0.05%
- Provides a smooth matt surface with a slip resistant finish
- Suitable for pedestrian, vehicular and forklift traffic
- Resistant to vibration and impact
- Manufactured under BSI QA Scheme, ISO 9001, EN 29001
- Low chromate (Cr (VI) <2ppm)

#### Applications

- Repair of damaged/uneven internal floors.
- Upgrading of concrete floor to industrial grade floor, suitable for vehicular and forklift traffic.

#### Technical Information

|                        |                               |
|------------------------|-------------------------------|
| Working life           | 20 Minutes                    |
| Water addition         | 4.75-5.25 Litres              |
| Density                | 2050 - 2150 kg/m <sup>3</sup> |
| Yield                  | 14.3 Litres                   |
| Maximum aggregate size | 1.0mm                         |

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| Nufins, Kingston House,<br>3 Walton Road, Pattinson North, District 15,<br>Washington, Tyne & Wear. NE38 8QA<br>13<br>0086-CPD-594215 |                    |
| EN 1504-3<br>Concrete repair product for structural repair<br>PCC Mortar (based on polymer modified hydraulic cement)                 |                    |
| Compressive strength  | Class R3 (>25 MPa) |
| Chloride ion content  | ≤0.05 %            |
| Adhesive bond strength  | >1.5 MPa           |
| Adhesion after freeze/thaw  | >1.5 MPa           |
| Elastic modulus   | >15 GPa            |
| Dangerous substances  | Complies with 5.4  |

#### Surface Preparation

All surfaces should be clean, dry, free from oil, grease and chemical contamination. Oil and grease can be removed using *Desolve*. Concrete surfaces should be free from laitance which should be removed by grit blasting or scarifying. It is recommended that concrete substrates should not have more than 75% RH. This can be assessed using a hair hygrometer covered with polythene for 24 hours as recommended by BS8203.

Steel surfaces should be prepared by grit blasting or grinding to remove all loose scale and rust.



## Technical properties of Nucem Heavy Duty Floor Screed.

| Properties  | Standard  | Performance Requirement                   | Declared Value   |
|---|-----------|---|--|
| Appearance  |           |   | Grey Powder  |
| Chloride-ion content                                | EN1015-17 | ≤ 0.05%                                   | ≤ 0.05%  |
| Maximum aggregate size                              |           |   | 1.0 mm   |
| Water/cement ratio                                  |           |   | 0.45   |
| Cement content                                      |           |   | ≥ 400 kg/m <sup>3</sup>  |
| Layer thickness<br>minimum<br>maximum               |           |   | 5 mm<br>25 mm  |
| Density   |           |   | 2050-2150 kg/m <sup>3</sup>  |
| Working time  |           |   | 20 Minutes   |
| Temperature for application                         |           |   | 5°C to 30°C  |
| Compressive strength<br>@ 20°C                      | EN 12190  | ≥ 25 MPa                                  | 18 MPa @ 1 Day<br>21 MPa @ 3 Day<br>25 MPa @ 7 Day<br>35 MPa @ 28 Days |
| Modulus of elasticity,<br>In compression            | EN13412   | ≥ 15 GPa                                  | 20 GPa   |
| Flexural strength                                   | BS6319-3  |   | 7 MPa  |
| Modulus of elasticity,<br>in flexure                | BS6319-3  |   | 16 GPa   |
| Tensile strength                                    | BS 6319-7 |   | 3.3 MPa  |
| Adhesion - concrete                                 | EN1542    | ≥ 1.5 MPa                                 | ≥ 1.5 MPa  |
| Adhesion after freeze/thaw<br>(50 cycles with salt) | EN13687-1 | ≥ 1.5 MPa                                 | ≥ 1.5 MPa  |
| Adhesion after thunder<br>showers (30 cycles)       | EN13687-2 | ≥ 1.5 MPa                                 | ≥ 1.5 MPa  |
| Adhesion after dry cycling<br>(30 cycles)           | EN13687-4 | ≥ 1.5 MPa                                 | ≥ 1.5 MPa  |
| Skid resistance                                     | EN13036-4 |   | Class 1  |
| Carbonation resistance                              | EN13295   | $d_k \leq \text{ref. concrete}$           | Passes   |
| Capillary absorption                                | EN13057   | $\leq 0.5 \text{ kg/m}^2/\text{Hr}^{0.5}$ | $\leq 0.5 \text{ kg/m}^2/\text{Hr}^{0.5}$                              |

Technical data shown are statistical results and do not correspond to guaranteed minima.

Tolerances are those described in appropriate performance standards.

1 N/mm<sup>2</sup> = 1 MPa

1 kN/mm<sup>2</sup> = 1 GPa

## Priming

The prepared surface should be primed/sealed using *Nucem Heavy Duty Floor Screed primer*. Two applications are required, using a brush or roller, spreading thinly to avoid pooling. The first coat is made up using a diluted primer at a ratio of 1:5 with water. Once dried the second application can be made with the primer diluted at a ratio of 1:3 with water. Each application should be applied at a rate of approximately 1 litre per 10m<sup>2</sup> depending on porosity of concrete. Twenty four hours should be allowed for the primer to completely dry before the screed is laid.

Where no damp proof membrane is present or when applying to damp/new concrete the use of *Epicon DSP* is recommended in place of the *Nucem HD Floor Screed primer*. This is used as per the *Epicon DSP* technical data sheet and followed with a light scatter of dried sand.

## Mixing

Nucem Heavy Duty Floor Screed should be mixed either with a drill and whisk or using a suitable size forced action mixer. First wet out the mixing vessel and drain. Add the entire contents of the bag to 2/3 of the water and thoroughly mix. Add the remaining water to obtain the required flowability.

## Application Instructions

The mixed Nucem Heavy Duty Floor Screed should be poured onto the primed floor and spread out to the required thickness using a pin screed rake or serrated float. Immediately after trowelling, roll firmly using a spiked nylon roller to release any entrained air and remove trowel marks. Expansion joints in the floor must be maintained and filled with an appropriate joint sealant. All equipment should be cleaned immediately after use with clean water.

If required once the screed has cured the surface may be sealed with a suitable coating, i.e. Nufins *Hydrocoat* - water dispersible epoxy coating, (For application instructions and coverage rates refer to *Hydrocoat* technical data sheet).

## Packaging

Nucem Heavy Duty Floor Screed is available in 25kg units. Nucem Heavy Duty Floor Screed Primer is available in 5 litre and 25 litre units.

## Storage

The shelf life is 6 months when stored unopened in dry, normal conditions and away from direct sunlight. Protect from frost.

## Health & Safety

Product Safety Data Sheets (SDS) are available from Nufins. SDS sheets are provided to help customers satisfy their safe handling, use and disposal needs as well as assist with any conformance requirements made locally by health and safety regulations.

SDS are continually updated to provide the latest information to our customers. We therefore recommend contacting our head office to obtain the most recent and accurate SDS before handling and using any product.

## Limitations

Application should not be carried out when the temperature is below 5°C

It is recommended that concrete substrates should not have a moisture content of more than 75% RH.

Not recommended for external use.