

## INDUSTRIAL FLOOR HARDENER WITH QUARTZ AGGREGATES

### DESCRIPTION

PENEFLOOR™ HARDENER is a one component, ready-to-use, dry shake industrial floor hardener. PENEFLOOR™ HARDENER consists of cement mix, various active proprietary chemicals, and quartz aggregate hardener, which has been crushed and graded to particle sizes, suitable for concrete floors, floor mortars and industrial troweled floors.

### RECOMMENDED FOR

PENEFLOOR™ HARDENER is applied, by dry shake, on “green” concrete or floor mortars, followed by mechanical or manual trowelling.

- ▶ Parking areas
- ▶ Gas stations
- ▶ Warehouse floors
- ▶ Loading and handling areas
- ▶ Feeding ramps
- ▶ Production sites

### ADVANTAGES

- ▶ One component product
- ▶ Ready-to-use – No mixing errors
- ▶ Easy to apply
- ▶ Satisfactory floor hardening result
- ▶ Excellent resistant to impact and penetration
- ▶ Excellent abrasion resistance
- ▶ Surface absorption decrease
- ▶ Can be mixed with fiber reinforced mortar for improved properties
- ▶ Colour variety
- ▶ Low cost

### TECHNICAL CHARACTERISTICS

Characteristics	Test Result
<i>Composition</i>	Cement-base powder
<i>Color</i>	Dark grey, red, green, etc.
<i>Chemical base</i>	High strength cement mix, graded quartz aggregates, various active proprietary chemicals
<i>Density</i>	93.6 ± 6.2 lb/ft <sup>2</sup> (1,5 ± 0,1 kg/L)
<i>Abrasion resistance</i>	According to DIN EN 13892
<i>Hardness</i>	> 7 (Mohs Scale)
<i>Application temperature</i>	41 °F to 95 °F (5 °C to 35 °C)

### DIRECTIONS FOR USE

**Surface Preparation:** Concrete or floor mortar must be screed with the appropriate means (e.g. Laser screed), using special automatic machinery, which can disperse up to 1.02 lb/ft<sup>2</sup> (5 kg/m<sup>2</sup>) of material. PENEFLOOR™ HARDENER can be dispersed manually, but in two-layer application. Indicatively, 0.61 lb/ft<sup>2</sup> (3 kg/m<sup>2</sup>) on the first layer and 0.41 lb/ft<sup>2</sup> (2 kg/m<sup>2</sup>) on the second, preceded by compaction and leveling with power screed, between layers. Specifically, wait until concrete or floor mortar can be walked on, leaving an indentation of 1/4”-3/8” (6.5-9.5 mm). Concrete or floor mortar should be free of bleed water and be able to support the weight of a power trowel. Float open the surface by power trowel. Then, disperse PENEFLOOR™ HARDENER and proceed with troweling the surface. Continue with the second PENEFLOOR™ HARDENER dispersion and proceed with troweling the surface. If the surface is troweled by lath, do as mentioned above, in two-layer application. Proper vibration and compaction of the concrete or floor mortar is essential for the result. Application time and rates are critical parameters and depend on weather conditions.

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**Concrete / Floor mortar quality:** The underlayment concrete or floor mortar must be stable with compressive strength at least 25 N/mm<sup>2</sup> (Type C 20/25 or higher quality – water/cement test) or equivalent to project specification requirements. Slump must be according to project specification requirements. Curing initial time is a crucial parameter and must be controlled, according to temperature conditions, for better levelling result, without retention time. A polyethylene film and special drainage membranes are needed at most of application procedures.

**Finishing/Curing:** Finishing materials and procedures are essential for an excellent result of PENEFLOOR™ HARDENER. PENESEAL FH™ or PENESEAL™ FH-PS systems can be used for curing, waterproofing, sealing and protection of concrete or floor mortar (See related Product Data Sheets).

**Coverage:** Indicatively, disperse PENEFLOOR™ HARDENER 0.41 – 1.02 lb/ft<sup>2</sup> (2 – 5 kg/m<sup>2</sup>) at 1/12"-1/8" (2-3 mm) layer thickness.

**SPECIAL CONSIDERATIONS**

See the specifications of the concrete or floor mortar and the products used for the production of the product.

DO NOT dry shake material during strong wind. Temperature, relative humidity and ventilation affect application time and results. Deviation can be observed in product performance and colour uniformity, related to cement characteristics and deviations of the water quality, curing, etc.

Maintain uniform dry shake material application. Quality of the application result and "smoothed" levelled floors, are influenced in relation to the time of stress, exposure to external conditions and chemical attack.

Integral action systems, such as PENESEAL FH™ or PENESEAL™ FH-PS, can drastically reduce these negative effects and also ensure a permanent glossy surface (See related Product Data Sheets).

Contact PENETRON HELLAS S.A. for further information, regarding your project.

**PACKAGING**

PENEFLOOR™ HARDENER is available in 55 lb (25 kg) bags.

**STORAGE / SHELF LIFE**

PENEFLOOR™ HARDENER can be stored for at least 12 months in its original packing (unopened container) at 41 – 86 °F (5 – 30 °C) in a cool, dry place. Keep away from wet areas and direct sunlight.

**SAFE HANDLING INFORMATION**

Contains cement, which is alkaline. May cause eyes and skin irritation. Avoid skin and eye contact. If contact is made, flush areas with lots of water and seek medical advice. Protective gloves, mask and goggles should be worn. For further information please refer to Safety Data Sheet. PENETRON HELLAS S.A. has recently updated Safety Data Sheet on the safe use of PENETRON® products. Each Safety Data Sheet contains health and safety information for the protection of your employees and your customers. KEEP OUT OF REACH OF CHILDREN.

**CERTIFICATION**

PENETRON HELLAS S.A.

Thrakomakedonon 50  
GR 13679, Acharnes  
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12.10022.02D090421-06  
EN 13813:2002

Coating and Floor Coatings  
EN 13813: CT-C50-F15-A1.5

Fire behavior: A1

Emission of corrosive substances: CT

Wear resistance BOHME: A 1.5

Compressive strength: C50

Flexural strength: F15

**WARRANTY – DISCLAIMER**

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