

MADE IN ITALY

Treatment for concrete and cement surfaces in general, permanent, densifier, hardening, anti-dust and anti-salt.



SETTING NEW
STANDARDS



**HYPER
GRINDER**



**SILICATE CONCENTRATED
DENSIFIER FOR HARDENING AND
ANTI-DUST TREATMENT
OF NEW OR EXISTING
INDUSTRIAL FLOORING**

**INNOVATIVE PRODUCT IMPROVES PROTECTION FOR
INDOORS AND OUTDOORS**

CONCRETE HARDENER H35

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PRODUCT DESCRIPTION

Concrete Hardener H35 is a treatment for concrete and cement floors in general, permanent, DENSIFIER, HARDENING, ANTI-DUST and ANTI-SALT.

Concrete Hardener H35 is used in a wide variety of industrial, construction and environmental applications. Its characteristics mean that it can be used as a fire retardant (by increasing the critical temperature of the treated material), as a hardener, as a binder and as an accelerator of chemical reactions in cement, but also as an insecticide, acaricide, fungicide or bleaching agent.

Concrete treated with **Concrete Hardener H35** significantly improves both the appearance and the mechanical properties.

Concrete Hardener H35, penetrating into the porosity of the substrate, reacts chemically with Ca(OH)_2 present in the substrate, forming an extremely solid structure of calcium silicate hydrate, stable over time, resistant to carbonation, to the aggression of acidic water and to the migration of chloride ions.

The impregnation of the pores with **Concrete Hardener H35** reduces the permeability to water but not to steam, increases the surface hardness of the treated substrate, the durability of the concrete, the resistance to acid aggression and reduces the risks due to the freeze-thaw cycle.

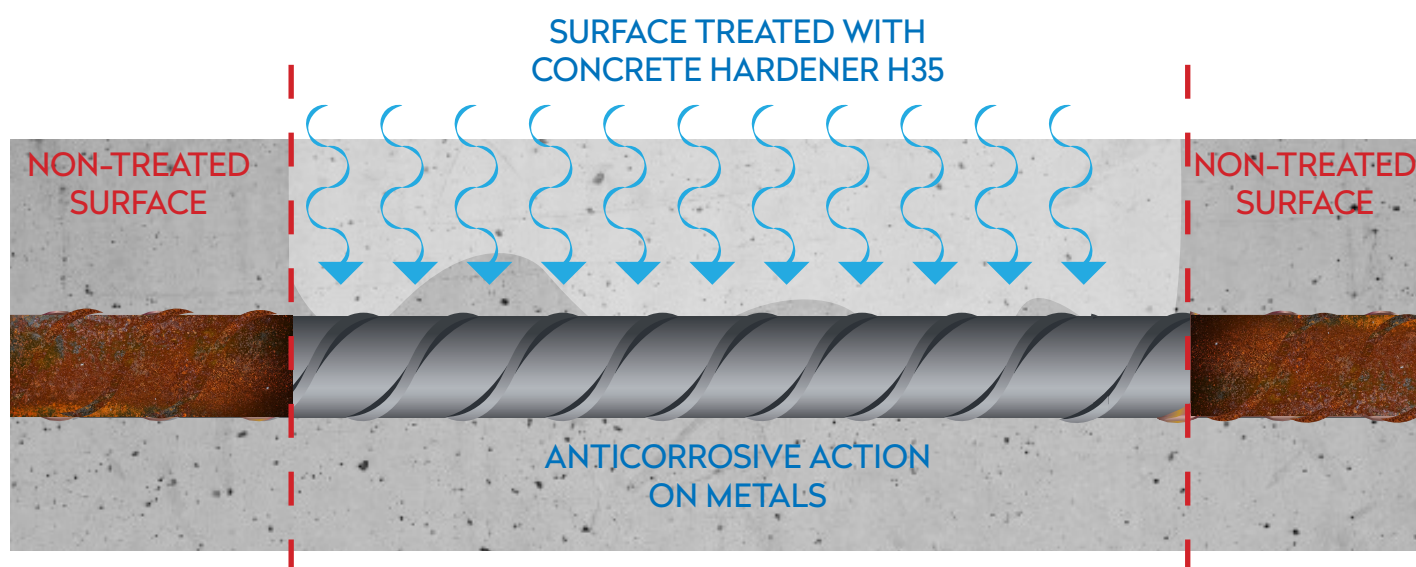
Concrete Hardener H35 is a water-based, odourless and non-hazardous product.

Concrete Hardener H35 Concrete Hardener H35 penetrates into the porosity of the cement and, the very first application completely invades all the porosity, even capillary, reacting with Ca^{++} ions as mentioned above. The formed gel slowly contracts by 20% leaving the pores filled with 80% of the initial volume. After the second application, the pores remain empty for $20 \times 0.2 = 4\%$ and full for 96%. After the third application, the pores remain empty for $20\% \times 4 = 0.8\%$ empty and full for 99.2%, i.e. practically full and therefore inaccessible to liquids. silicate anions contained in Concrete Hardener H35 react with the calcium ions present in the hardened cement, forming a silicate calcium gel resistant to water and other liquids, depending on the reaction: $\text{Ca}^{++} + \text{SiO}_2 \rightarrow \text{CaO} \cdot \text{SiO}_2$. This reaction occurs inside the pores of the cement. The Ca-silicate gel clogs the porosities, making the cement waterproof to liquids and at the same time harder, more resistant to wear, insensitive to carbonation and more resistant to the aggressive action of acids.

ANTI-CORROSIVE ACTION

Concrete Hardener H35 exerts an anti-corrosive action on metals that it comes into contact with, such as concrete reinforcement.

The Concrete Hardener H35 in contact with metals forms monomolecular films of metallic silicates, impervious to oxygen and acids and therefore acts as anticorrosive. The Concrete Hardener H35 is able to penetrate into the capillaries of the concrete thanks to its low viscosity and especially low surface tension that sets it apart from other products that you can find on the market. Thanks to its features, Concrete Hardener H35 penetrates deeper and allows you to achieve excellent waterproofing.

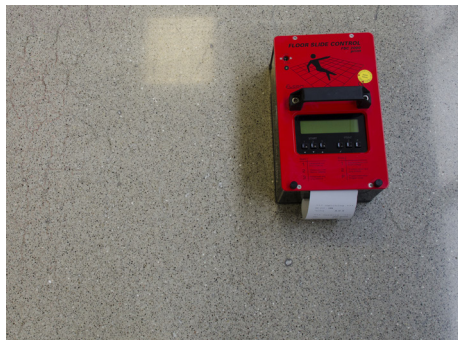


CONCRETE HARDENER H35

BENEFITS

The floors treated with Concrete Hardener H35 acquire: hardness, scratch resistance, greater friction coefficient, resistance to chemical agents due to reduced liquid absorption.

- 1 | Resistance to freeze-thaw cycles, sulphates and chlorides.
- 2 | Reduces the absorption of liquid water (better waterproofness) without altering the passage of water vapour.
- 3 | Increased resistance to chemical aggression, stains and dirt.
- 4 | Protects the surface from tyre tracks or rubber threaded wheel tracks such as forklift trucks.
- 5 | Prevents efflorescence, mould and fungi due to rising damp.
- 6 | COV, almost null.
- 7 | Protects against contamination by mineral and vegetable oils.
- 8 | By acting on the internal cohesion of the concrete, it increases the compression and abrasion strength.
- 9 | In the case of cement colour treatment with Concrete Colour Dye, it protects the applied colour by slightly intensifying the shade and gloss.
- 10 | Area put back into service a few hours after the treatment.
- 11 | Applying Concrete Hardener H35 makes the flooring safe, increasing the surface friction coefficient.



To make the floor resistant, non-slip, hard and aesthetically pleasing

ADVANTAGES



Increases the mechanical resistance of the concrete.



Solvent-free, colourless and odourless.



Reduces shrinkage and drying cracking.



Reduces dehydration of fresh concrete during setting.



Limits the absorption of the substrate by reducing stains and chemical aggressions.



Concentrated product.



Densifier action, impregnating with anti-dust effect

FIELDS OF APPLICATION

EVAPORATING TREATMENT/CURING COMPOUND

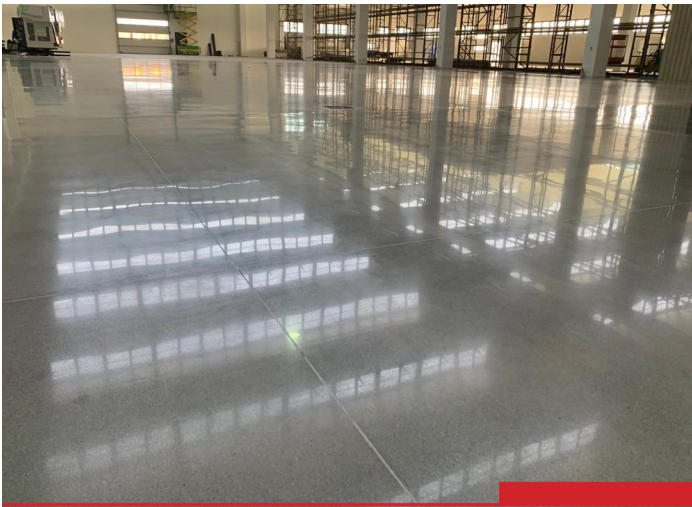
On freshly laid concrete works, it prevents rapid evaporation of water.



CONCRETE HARDENER H35

FIELDS OF APPLICATION

IMPREGNATION INCORPORATED TREATMENT



For indoor, outdoor, new or existing **Concrete or Cement floors** that need to implement resistance to abrasion and hardness, impermeability to liquids, without altering their breathability, offering a stable aesthetic degree. Intended for residential, commercial and production areas such as:

- Densifier for new floors.
- Sealing and anti-dust treatments.
- Densifier for existing floors
- Architectural concrete floors, shops, showrooms, production, packaging and warehouse areas.
- Impregnation and consolidation of garage and parking areas.
- Cement plasters.
- Prefabricated panels or exposed concrete blocks.
- Hardening treatment in grinding and polishing cycles of concrete floors.



HOW TO USE

1 - ON SEASONED CEMENT

The surfaces capable of receiving the treatment must be cohesive, dust free, clean and dry, free of contaminating substances that could jeopardise total or partial absorption of the product.

In case of prior treatments with acid substances, perform a neutralising wash with alkaline products.

The temperature of the surfaces to be treated must range from 5°C to 40°C, avoiding intervening when too hot or sunny.

Dilute CONCRETE HARDENER H35 with Demineralised Water or Distilled Water in the respective ratio 1:2. (In case of poorly absorbent substrates, a greater dilution is possible up to the ratio of 1:3).

On smooth substrates (with low roughness profile), use low pressure nebulizers, spray the product and distribute it evenly with a microfibre cloth, while using industrial mops on surfaces with a rough profile such as brushed concrete.

It is necessary that the product does not dry before it has penetrated deeply. If the liquid is slow to absorb and too much remains after 1 hour, remove it with a scrubber dryer. Whereas, if absorption is immediate, adjust the amount in order to keep the substrate damp with product for 20-30 minutes.

2 - IN SANDING AND POLISHING CYCLES FOR CONCRETE FLOORS

On a clean and dry surface free of cement laitance, spray Concrete Hardener H35 suitably diluted using a low pressure pump and distribute it evenly with brushes or mechanical means (e.g. single disc machines), keeping the surface moist with product, until a slippery gel forms (after approximately 30 minutes). If liquid absorption is slow, spray water on the surface, continuing imbibition until the excess or shiny areas disappear and in any case rinsing the slippery residue. Repeat the application for the second and third time.

In the case of existing floors resting on the ground, make sure there are no damp areas or negative pressure.

CONCRETE HARDENER H35

HOW TO USE

3- ON FRESH CONCRETE AS CURING COMPOUND

It must be carried out on freshly cast concrete, after trowelling or smoothing, always recommending a preliminary test in order to verify the absence of interference.

» Only intervene on the concrete surface when there is no surface water and when the mechanical performance of walkability and workability is achieved.

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Spray diluted Concrete Hardener H35 using a low pressure pump and distribute it evenly with brushes or mechanical means (e.g. single disc machines), keeping the surface moist with product, until a slippery gel forms (after approximately 30 minutes). If liquid absorption is slow, spray water on the surface, continuing imbibition until the excess or shiny areas disappear and in any case rinsing the slippery residue. Repeat the application for the second and third time.

4- SPRITZ BETON METHOD

Concrete Hardener H35 mixed directly into the concrete spraying nozzle (spritz beton or shotcrete technique) promotes the immediate setting of the cement, allowing the application of several layers of thick concrete.

WARNINGS

- 1 | A suitable mechanical preparation is essential before applying surface finishes.
- 2 | Low temperatures increase the gelation time.
- 3 | High temperatures reduce the gelation time. In these cases, make sure to keep the surface moist for at least 30 minutes.

Do not use sprayers previously used for release agents or silicone products.

3 days after the first application, the surface can be wetted with water to check its absorption, bearing in mind that the complete development of the features takes place gradually and on average in 15 - 30 days.

In very old cements, the calcium present is almost all insoluble and therefore not capable of generating Ca^{++} . In this case, a preliminary treatment with a 5% solution of calcium nitrate or calcium acetate is required.

YIELD

The yield of Concrete Hardener H35 depends on the roughness and absorbing power of the substrate as well as on the laying method.

- In sanding cycles, on cured substrates, consider 30-45m²/L (AS CONCENTRATED PRODUCT TO BE DILUTED).
- As Curing Compound, consider 12-20 m²/L (AS CONCENTRATED PRODUCT TO BE DILUTED).

Appearance	Transparent liquid
Smell	Odourless
Ph	11
Dilution	1:2 D. water
VOC	<1 g/l (Rif.: <30 g/l 2004/42/EC)
Dry residue	40 ± 2% UNI EN ISO 3251

TECHNICAL INFORMATION

Packaging: 5 l – 25 l tanks

Storage: the product is stable for 12 months in the containers supplied, tightly closed, and at a temperature between 5 and 30°C.

Avoid contact with amphoteric metals (aluminium, zinc, etc.), acidic substances or substances of an organic nature.



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IMPORTANT WARNINGS

SHAKE BEFORE USE

The instructions given in this sheet are indicative of an average case history and do not replace the assessment of the professional user who will have to decide on the right product and its best application in relation to the concrete situation they are working with.

Before each application, carry out a compatibility test of the product for the use required, for the materials and for the environment for which it is intended, in relation to the professional and personal, environmental and general conditions in which it is to be used. The supplier, however, not present at the time of application, is not liable for damages of any kind, direct or indirect, to persons, property, the environment, activities or work in progress, resulting from the choice and application of the product as these constitute a free and conscious professional choice of the user.



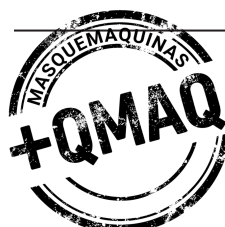
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