

# HIND PENTRO HARD NS

CONCRETE DENSIFIER AND HARDENER



## DESCRIPTION

**Hind Pentro Hard NS** is a single component nano silica solution which penetrates into unsealed and porous cementitious surface resulting to increase hardness, density and strength of the top layer of the substrate enabling the surface to breathe. It is an unique treatment for concrete surfaces finished by vacuum dewatering, machine troweled high solids, Sodium Silicate based compound which harden and or densify fresh or hardened concrete. **Hind Pentro Hard NS** bind the free cement in the concrete substrate and improves the mechanical performance. It is a colorless and ready -to-use compound containing active chemicals which penetrates deep into the concrete surface. On application of **Hind Pentro Hard NS**, it gives a hardened, chemical resistant surface. It reacts with the concrete chemically and penetrates deeply to solidify all ingredients in concrete to form a homogenous mass. Concrete solidification leads to hardened surface, sealing micro channels and pores resisting water penetration, chemical attack which in turn improves the abrasion resistance and long term protection from wear and traffic, reduces dust accumulation and pitting, hence lower the cost of maintenance of the surface. **Hind Pentro Hard NS** is environmentally friendly, VOC compliant, non-flammable, and has odorless formula for safe use. **It can be added to cement / concrete mixes for better strength and hardness to the surface.** **Hind Pentro Hard NS** has a clear appearance and on its application to the surface there will be less or no noticeable change of the surface. If a polished surface is desired then it is to be applied with scrubber or polisher and then buffed with a white pad.

## USES

**Hind Pentro Hard NS** is used as a densifier and hardener for machine troweled concrete surfaces. It can also be used as additive to other cement mixes where densifying and hardening benefits are desired. It is ideally used for sealing commercial and residential concrete floors such as workshop floors, warehouse floors, automotive garage floors, retail store floors, basements, storage silos, sewage plants, refineries and heavy pedestrian floor trafficking areas in civic centers, stadium, airport, hospitals and museums, pole barn and shed floors and other machine troweled, burnished, or polished concrete surfaces. It is compatible with mastics, almost all types of glues and topical coatings. Floor constructed with metallic floor hardener can be protected to prevent oxidation on its application on the floor surface.

## ADVANTAGES

- It provides a tough abrasion resistant surface which does not turn yellow or decolorizes.
- Single component, ready to use.
- It penetrates deep into the surface, densify and hardens concrete which does not allow entry of moisture or any other foreign matter
- Peel proof.
- Chemical resistant and dustproof and surface become abrasion resistant on its application.
- It is cost effective due to high coverage.
- Colorless & Odorless.

## APPLICATION

**Surface Preparation:** It can be applied over all concrete substrate (made using OPC or PPC cement) which should be free from all foreign materials such as curing compounds, shutter release oils, dust, grease, algae and any rust scale by vigorous cleaning with wire brush, chipping or grinding. Should not applied on damp or wet surfaces.

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Single component system and requires no special mixing. Stir material thoroughly before and during application over cleaned and dry surface. **Hind Pentro Hard NS**, to be applied by spraying, squeegee or broom after slightly agitating the mixture in the container. The excess material is to be scrubbed with a mechanical scrubber or stiff broom. The drying time of **Hind Pentro Hard NS** depends on the nature of the concrete surface. If the surface is new and fresh it gets dried up within **2-3** hours. For old concrete drying time may get extended due to surface conditions. Do not apply the material below 5°C and above 35°C during the application or drying period. Use a broom, roller, or microfiber pad to evenly distribute product as well as disperse any puddles as excessive application may result in white residue (especially on darker or colored surfaces) which will not affect sealer performance and generally dissipates over time or by power washing. To reduce likelihood of white residue on surface, rinse the surface thoroughly with water 2 hours after final application of sealer and then sweep up to remove any residual materials. Generally, only one application is required. If additional coats are desired and more product can be absorbed, wait approximately 1-2 hours between coats. Polished appearance on burnished or polished surfaces, apply using a floor scrubber (black pad) or high speed polisher and then buff with a white pad after 12 hours.

**Cleaning/Maintenance:** Floors treated with **Hind Pentro Hard NS** can be regularly cleaned, using high pH detergents. Oils & acid spillages should be removed properly to avoid damage of the floor and tyre marks can be removed by cleaning with moist sponge/squeegee.

**IMPORTANT:** The chemical reaction between **Hind Pentro Hard SS** with the concrete causes the rate of water-tightness to increase gradually

### PROPERTIES

Aspect	Clear/ Hazy Liquid
Solubility	Soluble in water
pH value	10.60 + 2
Specific gravity	1.15 ± 0.02 at 20°C
pH	11.5-12.5
Abrasion Resistance (EN 5740-1)	50 mg or 82 % increase in abrasion resistance compared to untreated sample (c(0.70) concrete according to EN 1766) (Taber Abrader, H-22 Wheel, 1000 g / 1000 cycles) (EN 5740-1)
Impact Resistance (EN 6272-1)	60 Nm (class III: ≥ 20 Nm) Sample (MC 0.40) concrete according to EN 1766
Material Penetration (EN1504-2)	5.5 mm Sample (MC 0.70) concrete according to EN 1766
Tensile adhesion strength (EN1542)	4.8 N/mm <sup>2</sup> Sample (MC 0.70) concrete according to EN 1766
Water absorption (EN1602-3)	$w = 0.031 \text{ kg} \cdot \text{m}^{-2} \cdot \text{h}^{-0.5}$ (on a substrate $w > 1 \text{ kg} \cdot \text{m}^{-2} \cdot \text{h}^{-0.5}$ )
Curing efficiency Test (ASTM C 856)	No Cement particle found proving that curing was proper
Recommended Coat	Hardener/Sealer : 1-2 coats
Ambient Air Temperature	+5°C min. / +35°C max.
Relative Humidity	100% max.
Substrate Temperature	+5°C min. / +35°C max.
Overcoating Time	At 5°C ~ 3.5 hours . At 25°C ~ 1.5 hours
Drying Time	Touch-dry after 1-2 hours at +20°C. Traffic after 6-12 hours Sealing and hardening effect achieved after ~7 days at +20°C
Coverage	<b>5-6 Sq.Mtr/Kg</b> on smooth surfaces, depending on the porosity of the surface.

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## SHELF LIFE

**Best before 12 months** from the date of manufacture in unopened container. Should be stored in a cool and dry place away from direct sunlight at temperature ranging between 5°C (Min.) and 50°C (Max.)

## CONSUMPTION

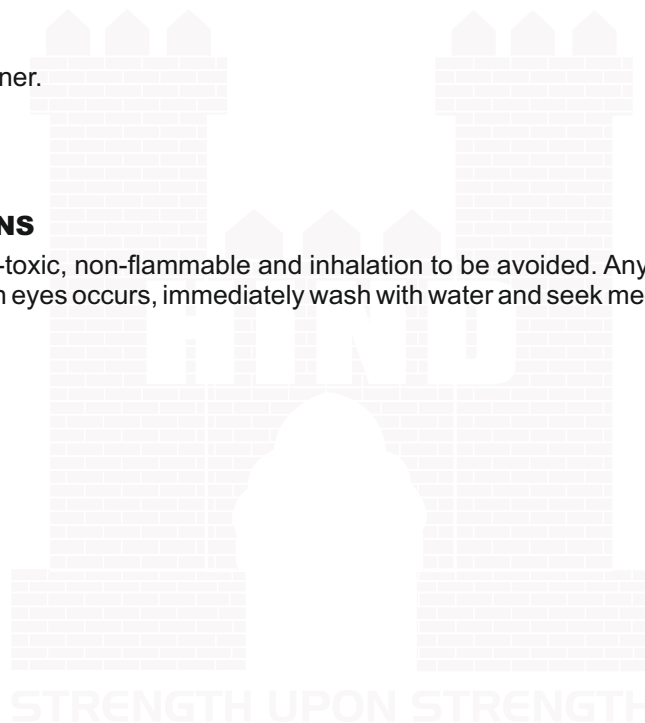
The dosage ranges between **4 to 6 Sq. Mtr per Kg.** Optimum dosage around **1 Kg in 5 sq, mtr surface.** For **Concrete/Cement mixes** the dosage rate ranges between **2-4% by weight of Cement.**

## PACKING

**20 Kg & 225 Kg** HDPE Container.

## HANDLING PRECAUTIONS

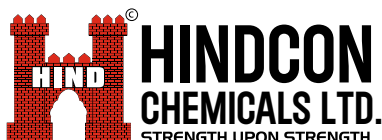
**Hind Pentro Hard NS** is non-toxic, non-flammable and inhalation to be avoided. Any splashes to skin if happens, wash with water. If contact with eyes occurs, immediately wash with water and seek medical advice.



## IMPORTANT NOTICE :

Hindcon Chemicals maintains a team of technically trained professionals to provide full support to your problems in construction, and recommend the correct product to suite your specific requirements. Our authorized applicators can attend your site for application of the products. The content of the Technical datasheet are for general information and guideline. The result shown here are generated from our laboratory or from our site experiences.

Quality of our products are maintained as per ISO9001:2008 recommendations and continuous researches. The behaviour can change as per the prevailing conditions at the time of applications. Since **HINDCON CHEMICALS LIMITED** has no control over the use to which the users may put the material, it does not claim or warrant that in the user's particular circumstances, the result that the user will obtain from the product will be the same as those described in this communication or that the user will find the information or recommendations complete, accurate or useful. The client must test and ascertain the safety and fitness for the product for use. The right to change the properties of the products is reserved with us. The proprietary rights of third parties must be observed. All orders are accepted subject to the terms of sale and delivery. Users must always refer to the most recent issue of the latest Data Sheet for the product concerned, copies of which will be supplied on request.



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