



HIND PENTRO HARD SS

PRODUCT DATA SHEET

SODIUM SILICATE BASED CLEAR CHEMICAL SURFACE HARDENER DUSTPROOFER AND DENSIFIER FOR CONCRETE

DESCRIPTION

Hind Pentro Hard SS is a single component high solids, Sodium Silicate based compound which harden and or densify fresh or hardened concrete. **Hind Pentro Hard SS** bind the free cement in the concrete substrate and improves the mechanical performance. Full proof waterproofing is achieved by brush application. 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 SS** its gives a hardened, dust-proof and 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, dust accumulation and pitting.

USES

Hind Pentro Hard SS is used for case hardening of concrete surface and to obtain absolute dust proof surface. On its application a improved highly chemical resistant surface is obtained. It is used for all type of industrial concrete floors, warehouses, chemical processing plants, car park and basements, storage silos, sewage plants, refineries and heavy pedestrian floor trafficking areas in civic centers, stadium, airport, hospitals and museums. Floors 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
- Scratch and peel proof.
- Chemical resistant and dustproof and surface become abrasion resistant on its application.
- It is cost effective due to high coverage.
- Colourless & Odourless.

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. Over the cleaned dry surface **Hind Pentro Hard SS**, 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 SS** 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. Traffic should not be allowed between 4- 12 hours on coated surface.

Cleaning/Maintenance: Floors treated with **Hind Pentro Hard SS** 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 Sodium Silicate water dilution
Solid Content	~ 20%
pH value	10.60 + 2
Specific gravity	1.15 ± 0.02 at 27 ⁰ C
pH	Alkaline
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 ² 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 ⁰ C min. / +35 ⁰ C max.
Relative Humidity	100% max.
Substrate Temperature	+5 ⁰ C min. / +35 ⁰ C max.
Overcoating Time	At 5 ⁰ C ~ 3.5 hours at 25 ⁰ C ~ 1.5 hours
Drying Time	Touch-dry after 2 hours at +20°C. Sealing and hardening effect achieved after ~7 days at +20 °C
Yield/ Coverage	4-7 Sq.Mtr/Kg per coat depending on the porosity of the surface. The coverage will be less which applied over textured surfaces.

APPLICATION TEMPERATURE

Hind Pentro Hard SS is recommended to be applied when the temperature of substrate should not be less than 5⁰ C and higher than 35⁰ C.

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 5⁰ C (Min.) and 50⁰ C (Max.)

PACKING

20 Kg & 225 Kg HDPE Container.

HANDLING PRECAUTIONS

Hind Pentro Hard SS 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.

Note:

- **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 behavior 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 be supplied on request.

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