

SmartHard N

Non-Metallic Floor Hardener

SmartHard N is a mixture of finely graded non-metallic hard-wearing aggregate, cement binder and selected chemical additives. It is an economical concrete floor hardener recommended for both interior and exterior use. **SmartHard N** provides an abrasion resistant surface for concrete floors. It is applied by the dry shake method which ensures that the hard-wearing surface bonds monolithically to the base concrete.

SmartHard N is available in a natural cement colour or in decorative colours of red and green. Special colours may be produced upon request for large order.

FIELDS OF APPLICATION

- Auto showrooms and service centers
- Factory and warehouse floors
- Commercial and industrial facilities
- Carparks and Driveways
- Corridors
- Lobbies and waiting rooms
- Restaurants and dairies

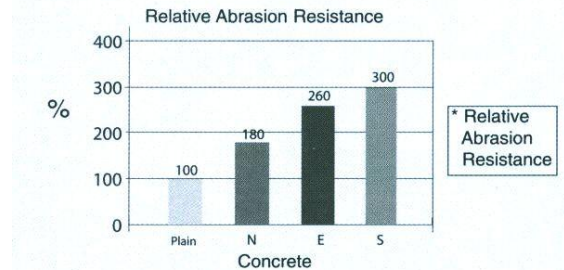
BENEFITS

- Increase abrasion resistance
- Non-fading surface colours
- Non-rusting (for outdoor use)
- Ready-to-use factory blend

TECHNICAL DATA

Property	Typical Results
Compressive Strength (ASTM C109 : 1992) @ 1 day @ 7 days @ 28 days	35 N/mm ² 60 N/mm ² 70 N.mm ²
Flexural Strength (ASTM C348 : 1997)	15 N/mm ²
Setting Time (ASTM C807 : 1989) Initial Set Final Set	2 - 3 hrs 3 - 4 hrs
Moh's Hardness Test	7
Abrasion Resistance (SS 73 : 1974)	80% Improvement (Compared to C25 concrete)

* Tested at water / powder ratio : 0.10 @ 6kg/m²



APPLICATION PROCEDURE

The following directions are to be carefully followed for successful installation of **SmartHard N** on well-designed, non-air-entrained concrete mixes. For further details, please refer to *Application Guidelines – Dry Shake Floor Hardeners*.

If unusual conditions exist such as direct hot sun, strong winds, low humidity and low temperature (< 10°C), contact your local representative for the best method of using **SmartHard N** under these conditions.

PLACING

- Check the coverage guideline chart for the amount of hardener required per square meter, then arrange the correct number of bags at each bay to be placed that day.
- After the concrete has stiffened to the point of supporting floating operations, open the surface by hand floating or power floating.
- For best results and uniformity of thickness, **SmartHard N** should be applied in two applications, using approximately two thirds of the total amount for the first shake.
- Immediately after the slab surface has been opened by floating, apply the first shake in a uniform application by hand, spreader or other suitable methods.
- Allow the first shake to remain unworked on the surface until it has absorbed moisture and achieved a dark, uniform colour. Then float with hand float, bullfloat or power float. Immediately after, apply second shake again making application to edges first.
- After the second shake has absorbed its moisture, float in the same manner as outlined above, working the edges first, then cross floating for a level, uniform surface.
- First Trowelling : Flat trowelling should be done with the trowel blades flat and only when the surface has become dull.

DISCLAIMER

All information was prepared carefully, using current references available to us. Information provided is to the best of our knowledge and belief, accurate and reliable as of the date indicated. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself/herself as to the suitability and completeness of information provided here for their intended use. We do not accept liability for any loss or damage that may occur from the use of this information.

- Second Trowelling : When the surface has set sufficiently so that no additional water or fines are brought to the surface, a second and final trowelling should be given to the floor. During this operation the trowel should be raised to give a hard and smooth finish.
- The timing of various steps will vary according to climatic conditions.

CURING & TREATMENT

- Proper curing and sealing is essential for a quality floor finish.
- Use curing / sealing compounds such as **SmartCure Range**. Other curing methods such as polyethylene sheets are also acceptable, but not suitable for coloured floors.
- It is preferable to spray the curing / sealing compounds over the freshly laid surface when the surface water has disappeared. If spray equipment is not available, apply with a clean cloth mop when the surface is hard enough for worker to go on.

COVERAGE

Usage	Coverage (kg/m ²)	Thickness (mm)
Medium	4.0 – 5.0	2.0 – 2.5
Heavy	5.0 – 7.5	2.5 – 4.0
Coloured Floors	5.0 – 7.5	2.5 – 4.0

* Application rate below 4kg/m² would reduce the abrasion resistance correspondingly.

PRECAUTIONS

- Avoid eye and skin contact as the product is alkaline.
- Gloves, goggles and dust mask should be worn.
- Avoid inhalation of dust during mixing.
- Wash thoroughly after handling.
- In case of eye contact, flush with plenty of water. Seek medical help immediately.

PACKAGING & STORAGE

SmartHard N is supplied in 25kg bags and has a shelf life of about 9 - 12 months if stored in a cool, dry place in sealed packaging with sheltered protection from rain and sunlight.

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