

SOPRA METALLIC HARDENER 200

Description

SOPRA METALLIC HARDENER 200 is a quartz-silica mixture of finely graded non-metallic aggregates blended with steel fibers and cement binder. It is an economical concrete floor hardener recommended for both interior and exterior use recommended for its high strength and durability, **SOPRA METALLIC HARDENER 200** cures to provide a strong, non-porous surface that has excellent abrasion resistance.

Recommended Uses

SOPRA METALLIC HARDENER 200 is added to concrete floor surface to improve their mechanical resistance required to withstand moderate to heavy traffic, as well as used for non-dust formation is specified. **SOPRA METALLIC HARDENER 200** is suitable for all floors exposed to abrasion wear, such as:

- Factory and Warehouse Floors
- Car parks and Service Stations
- Commercial and Industrial Facilities
- Restaurants and Dairies
- Quays

Features and benefits

- Very high abrasion resistance.
- Reduces dust accumulation on surface.
- Improves impact resistance.
- Decreases oil and grease penetration.
- Improves colour abrasion resistance.
- Easy application place directly on concrete.
- Improves non-slip characteristics.
- Suitable for internal and external use.

Packaging

SOPRA METALLIC HARDENER 200 is available in 25kg moisture resistance bags and pallets of 1.5 tons.

Storage

SOPRA METALLIC HARDENER 200 has a shelf life of 12 months. Store away from direct sunlight, protected from rainfall.

Properties

Appearance	Powder
Colour	Cement Grey, Charcoal
Mohs Hardness	9-10
Compressive Strength	68 N/m ³
Specific Gravity at 25°	3.8 kg/m ³
Bulk Density	1.9 ton/m ³
PH	7 ± 0.5

Coverage:

Medium traffic	2-4 kg/m ²
Heavy traffic	4-6 kg/m ²

Application Instructions

In accordance with ACI 302-1 it is essential that a well-proportioned Concrete Mix Design is done. The concrete supplier should ensure that cement contents, w:c ratio and slump are generally in accordance with the following minimum standard when applying **SOPRA METALLIC HARDENER 200**:

Cement (Minimum)	Strength (Minimum)	W:C ratio	Slump
250 kg/m ³	25 N/mm ²	0.35-0.50	75-100 mm

Concrete should not segregate and bleed or contain more than 3% air. Special care must be taken when applying to special design concrete such as UHPC to ensure the dry shake is applied at the correct time.

Check the specification for the amount of **SOPRA METALLIC HARDENER 200** required per square meter depending on the traffic design. It is recommended to stack the hardener bags along the slab in order to control the required amount per square meter, proceed to concrete casting afterwards.

Concrete should be vibrated and then leveled off with a straight edge during the placement process. The surface is then floated with a wooden/bull float to ensure the smooth concrete surface. Any bleed water should be removed from the surface using a suitable

method (Avoid sponge type absorbents). Following the placement of concrete, **SOPRA METALLIC HARDENER 200** should be sprinkled along the slab. Ideally **SOPRA METALLIC HARDENER 200** should be applied on neither a too wet or dry concrete surface.

After the concrete has stiffened to the point of supporting floating operation, the surface should be opened using hand trowel or power trowel. Normally, a footprint of 6-9 mm depth is an indication that the slab is ready for power troweling operation.

The application is carried out in the following steps:

1. Apply **SOPRA METALLIC HARDENER 200** in two layers; First layer is two thirds of the required material to ensure a uniform distribution of material.
2. Allow the applied layer to settle on the concrete for some time for the material to absorb the moisture from the concrete surface, until a uniform dark colour is achieved.
3. Use hand float or power float to ensure the material becomes an integral part of the concrete surface.
4. Apply the second layer of material. Again wait for the material to absorb the moisture and a dark uniform colour appears before floating.
5. As soon as the plasticity or initial set allows, power trowel at low speeds using a pan instead of blades to ensure a strong bond between the material and concrete surface.
6. Perform preliminary smoothing with the same machine running at low speed but equipped with metal smoothing blades, set at minimum angle.
7. Any final smoothing required should be performed later with the machine running at high speed.
8. Finish the floor to the desired texture.

Maximum abrasion resistance will not be obtained until a specific amount of time.

Contraction joints and floor joints should be saw-cut only after 24 hours. When the slab has hardened, the joints can be filled and sealed with the appropriate **Sopra Joint P.G** sealant in accordance with the floor requirements.

Note: If parts of the surface come loose or if the laitance rises, this means the concrete is still too fresh.

Curing

The **SOPRA METALLIC HARDENER 200** surface must be protected against rapid moisture loss which could result in surface cracking. Immediately after the final leveling, cure and seal using **SOPRA Cure WB** or any other adequate method. Curing times:

Foot traffic	1-2 days
Light traffic	5-7 days
Full strength	28 days

Precautions

SOPRA METALLIC HARDENER 200 is non-hazardous material. It should not be swallowed or come in direct contact with skin or eyes. Suitable protective glasses and gloves should be worn during application. In the case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice if irritation occurs. When contact with skin occurs, wash off immediately with clean water and soap. If swallowed, seek medical emergency immediately, do not induce vomiting.

Technical Support

Sopra provides on-site assistance and consultation services on projects if required. Technical Datasheets on other **Sopra** products and guidance on their use are available on request or on our website.

Warranty

The information relating to the application and end-use of **Sopra** products, are provided in good faith based on **Sopra's** current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with **Sopra** recommendations. In practice, the differences in substrates and actual site conditions are such that no warranty in respect of sale for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must do their test to insure that the product is suitability for the intended application and purpose. The company reserves the right to change the properties of its products without prior notice.