



Floor Hardtop

Non-metallic abrasion monolithic surface hardening compound

Uses

Hardtop Standard provided a highly abrasion resistant surface to concrete floors, by the dry shake-on method which ensures that the hardwearing surface bonds monolithically to the base concrete. They are ideally suited for all industrial areas subject to the heaviest traffic, e.g. loading bays, trucking lanes, car parks, workshops, machine shops, ramps and spillways.

Advantages

- Non metallic – does not rust or stain.
- Provides a hard, abrasion-resistant surface.
- Forms monolithic bond with base concrete.
- Easy and economical to play.

Description

Hardtop Standard are quality controlled, factory blended powders which are ready to use on site. They contain special hardwearing aggregates which have been selected for abrasion and wear resistant properties as well as shape and size. These latter considerations, together with the use of high performance workability admixtures, produces a material which is easy to trowel into the surface of fresh wet concrete. Hardtop Standard cure monolithic to provide a dense, non –porous surface which is extremely hardwearing and abrasion resistance monolithic cure insures that problems normally associate with thin “granolithic” screeds, viz., shrinkage, cracking etc., are completely overcome.

Being non-metallic, Hardtop Standard provide a non-slip surface which will never rust and disintegrate.

Addage Floor Hardtop is based on non-metallic quartz aggregates. Addage Floor Hardtop treated floors are ideal for places where chemical spillages are expected, and where metallic aggregates are not desired. Addage Floor Hardtop is used in concreting of floors for laboratories, chemical factories, breweries, shopping centers, super markets etc.

DIRECTIONS FOR USE

After floor concreting when the concrete is firm to take the weight of workman sprinkle Addage Floor Hardtop at the desired rate on the green concrete and trowel it in with metal floats or



power trowel. Care should be taken to see that concrete surface is just ready to receive dry shake powder. If delayed too much it will become unworkable and if Floor Top is sprinkled too early it will get mixed with the concrete and lose its utility. Sprinkling of Floor Top should be controlled such that an uniform quantity of the product is sprinkled throughout. It may be suggested that broadcasting of Addage Floor Hardtop be done in two stages. The second stage of broadcasting done in a perpendicular direction to the first stage broadcast.

CURING

Curing should be carried out immediately after final troweling has been completed.

COVERAGE

(DRY SHAKE METHOD)

Light duty	2 to 3.5 kg/m ²
Medium duty/ Heavy duty	4 to 6.0 kg/m ²

Technical support

Addage offers a technical service to specifiers, end users and contractors, as well as on-site technical assistance in locations all over the country.

Properties

Abrasion resistance (IS 1237-1980)

Hardtop Standard have been tested as per IS 1237-1980 against control concrete for abrasion resistance.

Test results showed that hardtop improves the abrasion resistance of concrete by 225% and hardtop standard by 150% when tested as per guidelines in IS: 1237-1980

Specification clause

Nonmetallic surface floor hardener

All concrete floors shall be surfaced or broadcast with Hardtop Standard, non-metallic monolithic surface floor hardening compounds containing rust free, hardwearing aggregates. The aggregates shall have a Moh's hardness of not less than 9 for hardtop and not less than 8 for hardtop standard.



Compressive strength

Hardtop Standard shall possess a minimum compressive strength of 60N/ mm² and 50N/mm² respectively when tested as per IS: 516-1959.

Application instructions

Base concrete

The base concrete should have minimum cement content of 300 kg/m³. The concrete mix should be designed to minimize segregation and bleeding. Free water cement ratios of less than 0.55 (incase of Hardtop Standard) are required. The concrete should have a slump of between 75 and 100mm (incase of Hardtop Standard) and 50 and 75mm (incase of Hardtop Standard).

Use of Addage water reducing admixture is recommended. The base concrete should be laid and compacted in accordance with good concrete practice. Accurate finished profile and minimum laitance build-up should be ensured. Particular attention should be paid to bay edges and corners to ensure full compaction.

Hardtop Standard are applied for deferent types of industrial use.

Application	Intended traffic	AV wear
Rate (kg/m²)	Use	(IS1237-1980)
7.0	Heavy	< 2 mm
5.0	Medium	>2< 3.5 mm
3.0	Light	>3.5< 4 mm

It is recommended that the floor be marked off into bays of known area. Sufficient material should then be laid out to meet the required spread rates.

The first application is made using 50% to 70% of the total material. Hardtop Standard is evenly broadcast onto the concrete surface. When the material becomes uniformly dark by the absorption of moisture from the concrete this first application can be floated. Wooden floats or, on large areas, the power trowel with disc may be used. It is important, however, that the surface is not over-worked.

Immediately after floating, the remaining Hardtop Standard is sprinkled evenly over the surface. Again moisture is absorbed and the surface can be floated in the same way as before.



Final finishing of the floor using a power trowel can be carried out when the floor has stiffened sufficiently so that damage will not be caused.

Timing of application

The timing of application of Hardtop Standard is important and critical. If applied too early, bleed or excess water will wash away the cementitious content of the products, thereby making them ineffective. Also denser aggregates sink into the concrete. If the application of Hardtop Standard is done too late, there will not be sufficient water/moisture to absorb the material into the concrete. Material forcibly applied and trowelled thus, will cause cracks on the surface later, as there is no water/moisture to hydrate the product.

Bay edges

While applying Hardtop Standard at the edges of the concrete floor or, at the end of bays, extra precaution should be taken by way of sprinkling more material and finishing it smoothly with a steel trowel. This is an additional protection particularly to bay edges where the reaction due to heavy or impact is felt more.

Curing

Tests have shown that proper curing of concrete floors treated with products such as Hardtop Standard is essential to ensure the physical properties of the floor.

The most efficient method of curing is by using concure WB, curing membrane which conforms to ASTM and DOE specification. However, in indoor applications where curing conditions are less arduous and breakdown of the membrane slower, alternative approved methods of curing such as polythene sheeting or water ponding are acceptable.

Ready to use

Hardtop Standard are supplied ready to use on site. Cement or aggregates should never be added to Hardtop Standard.

Coloured floors

When a coloured floor is required, it is strongly recommended that a job site trial area is laid.

Surface treatments

Because of the high density, low porosity, surface finish of floors treated with Hardtop Standard, surface treatments are not recommended.

(A separate illustrated brochure giving application guidelines is available on request).



Limitations

- ◆ for concrete with optimized water cement ratios. Hardtop Standard shall not be broadcast over 3-4kg/m². For such applications, consult
- ◆ Hardtop Standard are not advised for broadcast over concrete is subzero temperatures, such as, floorings for cold storages, etc.

Estimating

Packaging

Hardtop Standard are supplied in sealed 25kg polythene sacks.

Storage

If kept in original undamaged packing, the shelf life of Hardtop Standard should be at least 12 months under normal warehouse conditions.

Precautions

Health and safety

Hardtop Standard contain Portland cement and are therefore alkaline when in contact with water. Prolonged contact with the skin should be avoided. Any eye contamination should be washed immediately with plenty of clean water and medical advice sought.

Fire

Hardtop Standard is non-flammable.

Additional information

The Addage range of associated products include high strength cementitious, epoxy grout, polyester resin based mortar for rapid presetting of steel shims to level or for direct bedding of small base plates; Resin Anchoring systems for same day anchoring of bolts in drilled holes in concrete or rock. Also available a range of products for use in Construction; viz., admixture, curing compounds, release agents, flooring system and repairs. Separate data sheets are available on these products.