



ABA HARDTOP

'Dry Shake' Cementitious Hardener Powder for New Concrete Floors

Description

ABA HARDTOP provides a highly abrasion resistant surface to fresh concrete floors by the 'dry shake' method which ensures that the hard wearing surface bonds monolithically to the base concrete.

ABA HARDTOP surface hardening compound is a quality controlled, factory blended powder which is ready to use on site. It consists of special hard wearing aggregates selected for their physical properties of abrasion and wear resistance, Portland cement and special additives to improve workability. This combination produces a material which is easy to trowel into the surface of fresh, wet concrete. ABA HARDTOP cures to provide a dense, non-porous surface which is extremely hard wearing and abrasion resistant. Monolithic cure ensures that problems normally associated with thin ('granolithic') screeds, e.g. curling, shrinkage, cracking, etc. are completely overcome.

ABA HARDTOP is available in natural (concrete gray) color as standard.

Advantages

- Supplied ready to use - no additives required
- Provides a hard, abrasion resistant surface
- Forms monolithic bond with fresh concrete base
- Non-metallic aggregate - will not rust when wet
- Non dusting
- Anti-slip

FIELD OF APPLICATION

It is ideally suited for all industrial areas subjected to heavy traffic.

- Power stations
- Heavy industries
- Aircraft hangars
- Agricultural buildings
- Warehouse floors
- Garage for light vehicles
- Corridors and halls
- Loading Platforms
- Workshops



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استاندارد ملی ایران

تهران، خیابان سهروردی شمالی، خیابان شهید قندی غربی، ساختمان شماره ۱۲۴، واحد ۱ تلفکس: ۸۷۷۵۴

www.abadgarangroup.com

info@abadgarangroup.com

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واحد تولیدی نمونه ملی



SPECIFICATION

Floors shall be surfaced where shown with ABA HARDTOP, a 'dry shake' floor hardener containing non-metallic, rust-free aggregates. The compound shall have the ability to improve the abrasion resistance of concrete by 225%.

ABA HARDTOP powder shall be applied to the freshly-laid concrete floor by the 'dry shake' method. It shall be applied at the point where light foot traffic leaves an imprint of about 3 to 6 mm.

The powder shall be applied in two stages, in full accordance with the manufacturer's instructions. Special attention shall be paid to bay edges in accordance with the manufacturer's written requirements.

PROPERTIES

Physical State:	Powder
Color:	Gray
Chloride Ion:	Chloride Free

HARDNESS (Mohs scale)

The selected aggregates contained within ABA HARDTOP have a hardness value of 8 on the Mohs original scale.

APPLICATION

ABA HARDTOP should be applied at an even application rate. It is recommended that the floor be marked off into bays of known area. Sufficient materials should then be laid out to meet the recommended spread rate.

BASE CONCRETE

The base concrete should have a minimum cement content of 300 kg/m³. The concrete mix should be designed to minimize segregation and control bleeding, although some limited bleed is desirable to ensure sufficient moisture is available to wet out the ABA HARDTOP when it is first applied.

The use of water reducing admixtures from the S.P.A.PLAST or POWERPLAST groups is strongly recommended in order to achieve a w/c ratio below 0.55. The base concrete should have an on-site slump of between 75 and 100 mm.

The base concrete should be laid and compacted in accordance with good concrete practice, taking care to ensure accurate finished profile and minimum laitance build-up. Particular attention should be paid to bay edges and corners to ensure full compaction of the base concrete — see application instructions.

Vacuum dewatering is not recommended.



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Application of ABA HARDTOP should begin without delay when the base concrete has stiffened to the point when light foot traffic leaves an imprint of about 3 to 6 mm. Any bleed water should now have evaporated, but the concrete should have a wet sheen.

On large floors it will be necessary to work progressively behind the laying team to ensure application at the correct time.

ABA HARDTOP is ideally applied to a surface which is neither too wet nor too dry. Ambient temperatures will dictate when the material is to be applied. Generally in temperatures of 35-45°C a waiting period of 30-40 minutes is recommended. This may need to be extended in temperatures of less than 35°C.

Using a raised trestle which spans the slab, the material is broadcast by hand onto the wet concrete surface.

ABA HARDTOP is applied in two stages.

1. Apply two thirds of the required material to the concrete ensuring uniform distribution.
2. Allow applied material to absorb moisture from the concrete surface; a uniform darker color will be apparent.
3. Using a wooden float, work ABA HARDTOP into the concrete ensuring material becomes an integral part of the surface.
4. Apply the balance of material. Again wait until material has obtained a darker color before floating with a wooden float.
5. When surface is sufficiently firm enough to take the weight of a man leaving only minor indentations, ABA HARDTOP should be finished off by means of a power trowel. A smooth slip resistant finish can be obtained, but the surface should not be overworked.
6. If manual finishing with steel trowels is to be undertaken, this should take place before concrete becomes firm enough to take foot traffic.

NOTE:

- Do not apply over concrete containing silica fume (microsilica).
- Do not apply over concrete containing more than 3% entrained air.
- For heavy-duty traffic areas, concrete with minimum strength of 30N/mm² should be used at 28 days. Thickness of the slab and the type and amount of reinforcement are important design considerations.
- To minimize shrinkage cracking, consider the use of ABADGARAN water-reducing admixtures.



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- At temperatures over 29°C, at low humidity or when placing concrete without protection from wind or sun, erect sunshades or windbreaks the use of ABACURE curing products is essential.

BAY EDGES

Where bay edges are likely to suffer particularly heavy wear or impact and where saw-cut transverse control joints are to be located, it is desirable to give these areas additional protection, by one of the following methods prior to full treatment of the entire surface:

(a) Immediately after leveling the freshly placed concrete, ABA HARDTOP should be sprinkled by hand at a rate of (5 kg/m²) in a strip 100 mm wide along the bay edge and hand-trowelled into the surface.

(b) Immediately after leveling the freshly placed concrete, remove a wedge of the concrete 10 mm deep at the slab edge and tapered up to slab level. Replace this with a very stiff paste of ABA HARDTOP, mixed thoroughly with a small amount of water. Ensure it is fully compacted on to the base concrete.

These reinforced areas will be further strengthened when the subsequent full treatment is applied.

Timing of the application of ABA HARDTOP is important and care should be taken to ensure adequate labor, machinery and material is available to complete the whole area while sufficient moisture is available to fully react with the powder to provide a good dense finish. Conversely, the full benefit will not be achieved if the material is applied too early when bleed water is still present.

Any addition of water to wet out the surface on either the first or second application of ABA HARDTOP will be detrimental to the overall quality of the floor.

It is essential that the correct recommended rate of application is achieved over the entire floor area in order to avoid possible localized variations in shading.

CLEANING

All equipments should be washed with clean water immediately after use and before the material has hardened.

CURING

Proper curing of concrete floors treated with ABA HARDTOP is essential to the physical properties of the finished floor. The most effective method of curing is to use ABACURE which should be applied on to the finished floor 10 minutes after the power floating operation has been completed.



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The use of polythene sheeting, wet hessian and damp sand or ponding are not recommended. The use of salt water or brackish water should not be considered under any circumstances.

SURFACE TREATMENT

Subsequent surface treatments are not normally necessary with ABA HARDTOP because of the high density, low porosity finish.

LIMITATIONS

Do not use ABA HARDTOP in areas exposed to acids and their salts or other materials known to rapidly attack or deteriorate concrete containing ordinary Portland cement. Do not apply to concrete containing calcium chloride or concrete having greater than 3% air entrainment.

Where a colored floor is required, it is strongly recommended that a site trial is undertaken to assess possible local variations caused by aggregates and sands used in the base concrete.

COVERAGE

ABA HARDTOP: 3-7 kg/m²

Applications should comply with the recommended rate to obtain the published performance characteristics. Any reduction may have a detrimental effect on the finished floor's abrasion resistance and, in the case of pigmented floors, the quality and consistency of the finish.

STORAGE

The shelf life is 12 months if unopened, stored free from frost, moisture and direct sunlight.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging.

Packing: 25kg bags

HEALTH AND SAFETY

This product contains cement which may cause irritation. Avoid contact with eyes and prolonged contact with skin. If contact occurs wash thoroughly with water and call a doctor. Keep product out of reach of children. ABA HARDTOP is non-flammable.

For further information see appropriate Product Safety Data Sheet.



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ABADGARAN INTERNATIONAL GROUP Technical Department is available to assist you in the correct use of our products and its resources are at your disposal entirely without obligation.



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