ISEDIO ARMOURSHAKE PRO

Technical Datasheet

Isedio ARMOURSHAKE PRO dryshake is a pre-blended one part floor hardener manufactured from mineral aggregates, special modified Portland cement and chemical additives. It is applied manually or mechanically by sprinkling on to and then trowelling into freshly laid concrete to form a layer with greater impact and abrasion resistance.

It reduces the risk of surface spalling/cracking and limits the formation of dust and lime deposits on the surface. Due to uniquely shaped aggregates and special bonding cements the adhesion of our dryshake is exceptional.

CHARACTERISTICS & ADVANTAGES

- Easy to trowel and finish
- Reduce lime deposits
- Maintenance free
- Less dusting
- Cost effective
- Long life floor surface
- Appearance of fibres suppressed
- Higher performance
- Higher abrasion resistance
- Indoor and outdoor application
- Higher adhesion

USES

Isedio ARMOURSHAKE PRO is made to improve the surface hardness and wear resistance on industrial, commercial or residential concrete floors, indoors or outdoors. Examples of applications are logistics warehouses, loading bays, pedestrian areas, factories, schools, exhibition centres, car parks and work shops.

PRODUCT, PACKAGING & STORAGE

- Isedio ARMOURSHAKE PRO is sold in palletised bags of 25kg, 500kg, 1000kg or 1500kg big bags
- Store in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5°C and +30°C
- Product life is 12 months from the date of manufacturing when stored as recommended
- Avoid addition of water during the application of Isedio ARMOURSHAKE PRO

TRAFFIC INTENSITY & AGGREGATES

Aggregate Composition	Hardness (MOHS Scale)	Traffic Intensity
Isedio ARMOURSHAKE PRO / Hard Aggregates	7	Medium - High

Product	Compressive Strength (N / mm²) EN13892-2	Fluxural Strength (N / mm²) EN13892-2	Abrasion Resistance (BCA & BOHME)	Surface Hardness EN13892-2	Dosage Rate (kg / m²)
Isedio ARMOURSHAKE PRO	C70	F11	AR 0.5 A5	SH1600	3 - 6

The dosage rate will depend on the application method, water/cement ratio and concrete mix design.

CRACKING & USER RESPONSIBILITY

Cracking, delamination and micro-spalling is reduced, but not eliminated by using Isedio ARMOURSHAKE PRO. These problems are caused by the use of poor concrete, the method of application, weather conditions, curing etc. Isedio cannot be held responsible for problems related to cracking, micro-spalling or delamination.

RECOMMENDATIONS

Avoid applying in extreme temperatures. Avoid addition of water during the application of Isedio ARMOURSHAKE. The concrete should have the correct content of cement.

APPLICATION INFORMATION

Dryshakes work best on a well proportioned concrete mix. The concrete supplier should ensure that cement contents, water/cement ratio and slump are generally in accordance with standards. Concrete must not segregate, bleed excessively or contain more than 3% air. When applying to micro-silica concrete, special care must be taken to ensure the dryshake is applied at the correct time. Water reducing admixtures are recommended for concrete placement and optimum performance. Screeds to which Isedio ARMOURSHAKE PRO is to be applied must have a minimum thickness of 75mm.Following placement, concrete shall be levelled off with a straight-edge or laser and then vibrated.

Isedio ARMOURSHAKE PRO 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 mins is recommended. This may need to be extended in temperatures of less than 35°C.

APPLICATION METHOD

Substrate Quality

Concrete deliveries must be of consistent quality and comply with local standards. Concrete characteristics are specified by its class determined in the static design and by general recommendations for concrete mix design. Water/cement ratios must not be too low as some water is required for hydration of the ARMOURSHAKE PRO. Recommended water/cement ratios are between 0.40 and 0.55 and must be consistent whilst being poured. The compressive strength must be a minimum of 25 N/mm2. Use of super-plasticisers is advised to ensure the optimum quality of concrete and where fibres are used, their optimum dispersion within the mix. Air entrained concrete is not a suitable substrate for the application of dryshake hardeners.

Mechanical Application

This is achieved by automatic spreader in conjunction with a laser screed. Spread ARMOURSHAKE evenly onto the concrete immediately after screedingat approximately 5kg/m2 in one application. Isedio ARMOURSHAKE must then be panned and power trowelled in to the concrete.

APPLICATION METHOD

Manual Application

Dependent on the conditions, remove the surface bleed water or allow it to evaporate. Sprinkle Isedio ARMOURSHAKE PRO onto the screeded concrete evenly in two stages, firstly apply two thirds of the required material to the concrete ensuring uniform distribution. Allow applied material to absorb moisture from the concrete surface; a uniform darker colour will be apparent. Using a wooden float, pour ARMOURSHAKE PRO into the concrete ensuring material becomes an integral part of the surface. Apply the balance of material. Again wait until material has obtained a darker colour before floating.

When surface is sufficiently firm enough to take the weight of a man leaving only minor indentations (foot prints of 1mm), ARMOURSHAKE PRO 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. If manual finishing with steel trowels is to be undertaken, this should take place before concrete becomes firm enough to take foot traffic.

Notes:

- Never add water to the surface where the dryshake has been applied
- Isedio ARMOURSHAKE PRO results in the slab surface becoming “stiff” more quickly than usual. Careful trimming must take place along the edges where adjoining slabs are to be poured
- Final finishing and removal of undulations can be achieved by hand or by power trowelling

Application Time

Application time for dryshake products is influenced by every variable which affects the placing of concrete and can therefore vary substantially, depending on the prevailing conditions.

For mechanical application with automatic spreader and laser screed, the spreading can start almost immediately after concrete has been levelled to allow for the hydration of the dryshake. Compaction with the trowel can start as soon as weight of the power trowel can be supported by the concrete. For manual application, the dryshake must be spread once the concrete can be stepped on, without leaving a print deeper than 3–5mm. Periodical checking of the condition and development of the concrete will determine the correct time frame for each stage and sequence of application.

Curing Treatment

Cure and seal Isedio ARMOURSHAKE PRO immediately after finishing using either ARMOURCURE Waterbased or Solvent Based range. (Refer to relevant Product Datasheet).

Joints

After finishing operations and completing saw cuts, clean off any residual saw lubricant slurry without delay. Joints can be filled with a suitable joint filler material, in accordance with the floor design requirements.

Cleaning of Tools

Clean all tools and application equipment with water immediately after use. Hardened / cured material can only be mechanically removed.

LIMITATIONS

- Application of Isedio ARMOURSHAKE PRO must not be carried out in strong wind or draughts
- Do not use concrete where some cement has been replaced by fly ash, as this makes the mix sticky and less workable
- Variations in concrete characteristics such as water content and cement quality may lead to slight colour variations

LIMITATIONS

- Dryshake hardeners give a finish to concrete with some colour variation across the floor due to the natural variability of the concrete onto which they are applied
- To ensure optimum colour consistency, it is essential that the floor laying operation is as clean and protected from the environment as possible, colour variation during the drying out period is normal for this system and is to be expected
- Every effort must be made to ensure an even application of Isedio ARMOURSHAKE. Correct timing and trowelling techniques are essential
- At low relative humidity (below 40%), efflorescences can appear on the surface
- At high relative humidity (above 80%), bleeding, slower curing and hardening can occur amd extended finishing operations may be required
- Apply between a minimum relative humidity of 30% and a maximum relative humidity of 95%
- The building must be weather-tight and free from the ingress of water, wind and draughts

WARNING

DO NOT BREATHE DUST AND AVOID CONTACT WITH SKIN AND EYES.

Use material in well-ventilated areas only. Exposure to cement dust may irritate eyes, nose, throat and the upper respiratory system/lungs. Silica exposure by inhalation may result in the development of lung injuries and pulmonary diseases, including silicosis and lung cancer. Seek medical treatment if you experience difficulty breathing while using this product. The use of a NIOSH/MSHA-approved respirator (P-, N- or R-95) is recommended to minimise inhalation of cement dust. Eat and drink only in dust-free areas to avoid ingesting cement dust.

Skin contact with dry material or wet mixtures may result in bodily injury ranging from moderate irritation and thickening/cracking of skin to severe skin damage from chemical burns. If irritation or burning occurs seek medical treatment. Protect eyes with goggles. Cover skin with protective clothing. Use chemical resistant gloves and waterproof boots.

In case of skin contact with cement dust, immediately wash off dust with soap and water to avoid skin damage. In case of skin contact with wet concrete, immediately wash exposed skin areas with cold running water. In case of eye contact with cement dust, flush immediately and repeatedly with clean water and consult a physician. If wet concrete splashes into eyes, rinse eyes with clean water for at least 15 minutes and seek further medical attention.

ECOLOGY, HEALTH & SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

LEGAL NOTES

The information and in particular, the recommendations relating to the application and end-use of Isedio products (manufactured by Leviat) are given in good faith based on the company's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Isedio's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness 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 test the product's suitability for the intended application and purpose. We reserve the right to change the properties of our products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be available on request.

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