



c o n c r e a t i v i t y



PLAM HARDENING

Powder hardener for stamped concrete floors

DESCRIPTION

The hardener for decorative concrete Plam Hardening Isoplam® is a premixed powder ready for use. It is made of a special formulation of silica quartz, Portland cement, selected iron oxides resistant to UV and to atmospheric agents, and other additives.

It is easily mixable in fresh concrete surfaces for the creation of printed floors, in order to simulate the appearance of stones, porphyry, tiles, slates etc. These particular finishes are obtained using, along with Plam Hardening Isoplam®, the texture mats Isoplam® and the colored release agent Plam Rele Isoplam®.

FIELDS OF APPLICATION

Plam Hardening Isoplam® is very popular in all those places which require not only an aesthetically intriguing concrete floor but also a highly resistant one: sidewalks, streets, squares, alleys, poolsides, ramps, parking spaces, showrooms, etc.

TECHNICAL & PERFORMANCE DATA

The product Plam Hardening Isoplam® complies with the standard UNI EN 13813:2004.

<i>Performance feature</i>	<i>Test Method</i>	<i>Product Performance</i>
Reaction to fire	-	A1
Corrosive substances release	-	NPD
Water permeability	-	NPD
Water vapor permeability	-	NPD
Mechanical compression strength	UNI EN 13892-2:2005	C60
Mechanical bending strength	UNI EN 13892-2:2005	F7
Wear resistance	UNI EN 13892-4:2005	AR2
Sound insulation	-	NPD
Sound absorption	-	NPD
Thermal resistance	ASTM E1530-11	1,2 [W/(m · K)]
Chemical resistance	-	NPD
VOC emission	UNI EN ISO 16000-9:2006	A+
Grip strength	UNI EN 13892-8:2004	2,79 N/mm ²

SUPPORT PREPARATION

The substrate must be prepared according to UNI 11146 standards, compacting and properly setting the levels of the concrete casting.

It is recommended to lay the Isoplam® Nylon as vapor barrier and Isoplam® Nonwoven to avoid rising damp, quick drying and cracks. Apply the Expanded polyethylene insulating strip Isoplam®.

Reinforce the concrete adequately, according to legislation, using Isoplam® Spacers for the correct positioning of the Steel Mesh, or using the Structural Fibers Isoplam®.

It is recommended to properly choose the correct concrete mixture which must comply with the UNI EN 206 standards for floors exposed to freezing in the absence of de-icing salts.

It is recommended to rely on a trusted concrete plant that use concrete, cement and aggregates selected as to avoid the appearance of efflorescences (even after several years). These efflorescences appear in the form of whitish spots when the salts dissolved in the concrete rise to the surface along with the water that contains them, or in presence of high humidity (even after the realization of the floor) with the formation of calcium carbonate.

The strength class must not be less than Rck 30 N / mm² (C25 / 30). The dosage of cement should not be less than 350 kg / m³ (cement type 325 in summer and 425 in winter). It is recommended to use an aggregate made of washed non-reactive 15-18 mm thin inert to avoid pop-out phenomena.

The minimum average thickness must not be less than 10 cm for pedestrian areas, 15 cm for areas of light vehicular traffic.

In the case of the mechanical concrete drafting, using an Isoplam® vibrating Magic Screed, the proper consistency class should be S2-S3. In case of a manual concrete drafting, using an Isoplam® aluminum screed, the proper consistency class should be S4.

In order not to compromise the final resistance of the floor, it is recommended not to exceed with the water in the concrete mixture. To this end, it is recommended to use additives such as seasonal superplasticizers Hotpav Isoplam® or Coldpav Isoplam®.

It is recommended to mix the fresh concrete with Isoplam® Polypropylene Fibers in order to limit the formation of micro cracks caused by plastic shrinkage of the concrete.

Choose concrete plants near the construction site. It is important that the concrete for each worksite is always prepared from the same plant with the same dosages, in order to avoid color shade differences between one cast and the other.

APPLICATION

Once the concrete has been levelled (maintaining the minimum slope of 2%) and smoothed with a Magnesium Float Isoplam®, we proceed to an even application of Plam Hardening Isoplam®, dusting it in two or three crossed layers on fresh concrete. Between each layer, the product should be smoothed using a Steel Float Isoplam® and other Isoplam® equipment for finishing the edges and creating joints.

Do not use Plam Hardening Isoplam® to cover areas with excess water: this can cause a surface peeling. Then proceed with the application of Plam Rele Isoplam® release agent, the imprinting using Isoplam® Texture mats and the final protection of the surface with Isoplam® products.

CONSUMPTION

The consumption of Plam Hardening Isoplam® may vary depending on the color chosen and on the flooring destination use: the lighter the color and heavier the load that the floor will have to endure, the greater the amount of Plam Hardening Isoplam® to be applied.

The recommended dosage ranges from 3 kg to 5 kg per square meter.

Do not go beyond 6 kg of product per square meter, as this can cause a surface peeling.

It is recommended to mix accurately the product before use.

PACKAGING AND COLOURS

Plam Hardening Isoplam® is supplied in plastic buckets of 25 kg and it is available in 35 colors as per Isoplam® color chart.

Upon request and for a minimum quantity of 1200 kg, you can order customized colors.

STORAGE, EXPIRY, WARRANTIES AND SECURITY

Plam Hardening Isoplam® should be stored in a dry place, with temperatures no lower than + 5 °C.

If properly preserved in its original packaging, the product is guaranteed for 12 months.

Isoplam® does not guarantee its products if used, mixed or overlapped with other similar products.

The quality of used raw materials and Isoplam® production system is ensured by the ISO 9001:2008 quality system.

Consult the security sheet before use.

Each individual work must be completed using a single production lot, otherwise Isoplam Srl is not responsible for differences in color.

IMPORTANT:

The product Plam Hardening is intended for the use as indicated above. Adding any other product will impair the final result. All information contained herein is based on the best practical experiences and laboratory research. It is the customer's responsibility to determine whether the product is suitable for the intended application. The manufacturer declines all responsibility on the results due to incorrect application of its products. The product shall always be tested on a small area before full scale application. This data sheet replaces all previous data sheets. ISOPLAM reserves the right to change the data on the data sheet at any time. Plam Hardening is intended for professional use only. ISOPLAM provides frequent and on demand trainings for its customers. The use of ISOPLAM products without receiving the proper certification will be at the customer's own risk.