EP-112

Epoxy-based, two-component, solvent-free resin primer and binder

Description

Hammerfast EP-112 is an epoxy resin-based, two-component, solvent-free, low-viscosity primer or binder applied prior to epoxy or polyurethane coatings.

It is a two-component, solvent-free epoxy binder and primer with 100% solids content and low viscosity, designed to fill pores, improve adhesion, reduce dusting, and decrease absorbency on various mineral surfaces, primarily concrete and cement-based floors, before coating. When necessary, it can also be mixed with quartz sand to serve as a pore/crack-filling and leveling primer.

Advantages

- Low viscosity: Thanks to this property, it penetrates into the pores of the applied surfaces, providing deep adhesion. It has self-leveling/spreading characteristics.
- Solvent-free and has a low VOC content,
- Can be mixed with quartz sand to produce filling, repair, and leveling mortar,
- Can be applied to slightly damp surfaces (surface moisture of fresh concrete ≤ 4–5%),
- Creates an intermediate layer that helps final coating materials adhere to the surface due to its high bonding strength,
- Exhibits excellent adhesion strength (failure occurs in concrete),
- Offers high mechanical and chemical resistance,
- Easily applied using a roller, brush, or trowel.

Areas of Use

Hammerfast EP-112:

- Used as a primer layer in the application of industrial floor coatings such as epoxy, polyurethane, and self-leveling systems,
- Used as a concrete strengthener on weak or friable substrates,
- Used in the construction industry as a corrosion-inhibiting primer,
- Suitable for warehouses, production areas, parking garages, and logistics facilities,
- Suitable for interior floors such as hospitals, schools, and offices,
- Used as an adhesion-promoting primer on absorbent mineral surfaces,
- Used to create a mechanical adhesion bridge with quartz sand broadcasting,
- Can be used as a dust-proofing / anti-dusting agent for surfaces.

Surface Preparation

All oil, grease, curing compounds, paint, and weak layers must be completely removed from the surface to be treated. The surface must be dry or only slightly damp. Care should be taken to ensure that no loose or crumbling layers are present on the substrate. The substrate must have a minimum compressive strength of 25 N/mm², a minimum tensile (pull-off) strength of 1,5 N/mm², and a maximum moisture content of 4% (capillary moisture must not be present).

It is essential that the application surface is sound and properly roughened. For this purpose, surface preparation should be carried out by grinding, shot blasting, or milling to achieve a surface profile of CSP 2–4, followed by the removal of dust using industrial vacuum cleaners. Any cracks or voids in the surface must be filled, and all necessary repairs should be carried out using Hammerfast EP-145 or EP-120 epoxy repair and casting materials.

Mixing Procedure

B Component A is mixed for 1 minute using a low-speed mixer (300–400 rpm). The entire amount of Component B is added into Component A (making sure to scrape the sides and corners thoroughly) and mixing is continued for an additional 3 minutes. During mixing, the mixer should be held upright and close to the surface to avoid entrapping air, and overmixing should be avoided.

High ambient temperatures reduce the pot life of the mixture, while lower temperatures extend the pot life. If an epoxy mortar is required, quartz sand is added immediately to the mixture at an approximate 1:10 resin-to-sand ratio, and mixing is continued until a homogeneous mixture is obtained.

Application

Hammerfast EP-112 can be used both as a primer and as an adhesion-promoting layer.

When used as a primer, the product is applied in one or two coats to saturate the pores of the substrate, reduce its absorbency, and provide a smooth and uniform surface for subsequent coatings. The prepared mixture is spread onto the surface using a short-nap epoxy roller or brush, ensuring that the entire surface is fully saturated to form a continuous film layer. If the substrate has high absorbency, a second coat should be applied. The interval between coats must comply with the time ranges specified in the technical data.

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When used as an adhesion promoter, quartz sand (0,3-0,8 mm) is broadcast onto the freshly applied primer layer using the full-broadcast method. The sand must be applied at a density sufficient to fully cover the surface, leaving no bare areas. After curing is complete, excess quartz sand is removed by sweeping and vacuum cleaning. This method significantly enhances adhesion by providing mechanical interlocking for the subsequent coating, thereby preventing delamination.

In both applications, ambient and substrate temperatures, relative humidity, and dew point conditions must remain within the limits specified in the technical data table. During application and curing, the product must be protected from rain and excessive moisture.

Consumption

Surface Condition	Number of Coats	Consumption (kg/m²)	Remarks
Smooth, low absorbent	1	0,25-0,30	Single coat sufficient
Medium absorbent	1–2	0,30–0,45	Second coat wet-on-wet
Highly absorbent / porous	2	0,4-0,6	Until saturation
Broadcasted mechanical adhesion bridge	1	0,35–0,50 + 0,5–1,0 kuvars	0,3–0,8 mm sand

Important Notes

- In areas with foot traffic or direct sunlight, a protective coating should be applied over the material.
- The provided technical values are typical laboratory results and may vary depending on site conditions, substrate absorbency, and temperature.
- Epoxy resins are prone to yellowing when exposed to UV light; for outdoor or sun-exposed areas, a UV-resistant topcoat should be applied
- Incorrect mixing ratio, insufficient mixing, or inappropriate equipment can cause curing problems and surface defects.
- If the maximum interval between coats is exceeded, the surface must be lightly sanded and cleaned before proceeding.
- This product is intended for professional use. For large areas, a trial application is recommended first.
- Do not apply in environments below +10 °C or above +30 °C, as this will affect pot life and curing times
- Can be opened to light foot traffic after 12 hours
- Exhibits resistance to heavy loads and chemical exposure after 7 days.
- Can be applied on surfaces with up to 4% moisture, but application must not be done on surfaces with higher moisture content.
- A clean substrate is critical for the performance and longevity of the application; therefore, do not apply before proper cleaning. Use industrial vacuum cleaners for cleaning the floor.
- Do not apply directly on surfaces that are continuously exposed to water or subjected to negative-side hydrostatic pressure.
- The product has limited resistance to strong acids and solvents; a compatibility test is recommended before use.

Safety Precautions

- Keep out of reach of children.
- Do not eat or ingest.
- Keep away from foodstuffs.
- Do not inhale and avoid skin contact.
- May cause allergic reactions.
- In case of eye contact, rinse immediately with plenty of water and seek medical advice.
- Wear gloves, goggles, and protective clothing during handling.
- Wash hands thoroughly with water after use.
- For detailed safety information, refer to the Material Safety Data Sheet (MSDS).

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Technical Properties

Color	A: Transparent / B: Amber
Chemical structure	A: Epoxy Resin / B: Hardener
Mixing ratio (A:B)	2:1 (by weight)
Density (A+B)	1,08 ± 0,1 kg/L
Viscosity (A+B)	~900–1000 mPa·s
Solid content	100% (by volume)
Pot life (250 g)	~25 min
Waiting time before overcoating	4–8 hours
Maximum time before overcoating	24–36 hours (light sanding if exceeded)
Suitability for heavy traffic	3 days
Full cure time	7 days
Application and substrate temperature	+8°C / +30°C
Service temperature (continuous)	-20°C / +60°C
Maximum substrate moisture content	Max. 4%
Shore D hardness (DIN 53505)	81
Compressive strength (EN 196-1)	70–80 N/mm² (7 days)
Flexural strength (EN 196-1)	30 N/mm² (7 days)
Adhesion strength (EN 1542)	≥ 2,5 N/mm² (failure in concrete)
Impact resistance (EN ISO 6272)	~20 Nm
Wear resistance (EN 13892-4)	15 µm
Fire classification (EN 13501-1)	E_{FL}
HS Code	3907.30.00.00.00

Note: Values measured at 23 ± 2 °C and 50 ± 5% relative humidity.

Storage and Shelf Life

When stored in its original, unopened packaging in a dry, moisture-free environment, protected from direct sunlight and frost, and at temperatures between +10 °C and +30 °C, the shelf life of Components A and B is 12 months from the production date. If not used, the packaging must be tightly sealed. Pallets must not be stacked.

Packaging

Component A+B = 5 + 2.5 kg (7.5 kg set)
Component A+B = 10 + 5 kg (15 kg set)

Cleaning of Tools

Clean the equipment immediately after application using epoxy thinner or a suitable cleaner. Cured material must be removed mechanically.

Quality Certificates

- CE
- ISO 9001
- ISO 14001

CE ISO 9001:2015 ISO 14001:2015

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