

EPO100HCR HARDENER

High Chemical Resistance Hardener



Description

EPO100HCR Hardener is a proprietary formulation specifically designed for use in APC systems. EPO100HCR Hardener is a low-viscosity, cycloaliphatic amine adduct intended for use with EPO100T. EPO100HCR provides high gloss, abrasion-resistant coatings that are resistant to a variety of solvents, acids, and bases. These coatings are also resistant to amine blush and water spotting at low-temperature, high-humidity conditions. These properties make EPO100HCR Hardener ideal for formulating maintenance coatings, flooring, tank linings, and grouts.

Recommended Uses

- High solids coatings
- Self-levelling flooring systems
- Chemically resistant tank linings, mortars, and grouts
- Commercial kitchens and food processing plants
- Chemical-resistant industrial flooring
- Manholes, wet wells and lift stations
- Wastewater and metal treatment plants
- Power stations
- Plastics industry
- Laboratories
- Battery storage areas

Features and Benefits

- Australian made
- High gloss
- Excellent adhesion with high durability
- Self-levelling and self priming
- Low VOCs (Volatile Organic Compounds)
- Low viscosity
- Good resistance to water spotting at ambient and low temperatures
- Excellent chemical resistance
- Solvent free
- Food contact safe

Product Information

Mixing Ratio	EPO100T: (3:1) 3 parts EPO100T Part A: 1 part EPO100HCR Part B EPO100C and EPO100G: (2:1) 2 parts EPO100C or EPO100G part A : 1 Part EPO100HCR Part B
Dry Film Thickness	150-300 µm depending on the system, and application.
Shelf Life	2 years. Store in a cool, dry area and out of direct sunlight.
Heat Resistance	Epoxy will not begin to soften until 90°C.
Clean Up	Clean tools with Epoxy Thinners while still wet and discard rollers and brushes.
Cure Times	Pot life: 30 minutes Work time: 30 minutes Thin tack free: 6 hours Thin shore hard: 48 hours Max recoat time: 48 hours without sanding
Return to Service	Light foot traffic: 8 hours Vehicle traffic: 24-48 hours Full chemical cure: 7 days
Testing Information	Cure times completed at 25°C in a 100g container or at 200µm.
Maintenance	Refer to APC Clean and Care guide.

NOTE: Refer to individual Installation Instructions & SDS for mixing instructions, recommended PPE during preparation & application of products.

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TECHNICAL DATA SHEET APC V0124

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Environmental Conditions

Temperature and the surrounding atmospheric conditions will play a part in the curing process of all epoxy products. Under conditions of low temperatures and high humidity, the final cured surface finish can be adversely affected potentially resulting in poor gloss retention, discolouration over time, poor overcoat ability, and inter-coat adhesion. Quite often these conditions will result in the formation of a white film over the surface often evident after contact with water. This chemical reaction with the atmosphere is commonly referred to as "amine bloom" or "amine blush". If this occurs then the existing coating will need to be abraded to completely remove the affected surface to ensure the adhesion of subsequent application. In some cases, partial or complete re-priming may be necessary. Attention also needs to be paid to the substrate temperature which should be at least 10°C and preferably 5°C above the dew point during the curing phase. The ideal humidity is less than 75%.

Industry standards recommend the accurate recording of times and dates, batch numbers, consumption rates, and environmental conditions including the substrate and air temperatures, humidity levels, and dew point readings during both the application and curing process. Full material warranties cannot be provided unless all the relevant data has been recorded accurately.

Surface Preparation

- Ensure the concrete is sufficiently cured to the recommended minimum of 28 days from completion.
- Diamond grind the substrate. The surfaces must be clean, dry, and free from all traces of loose material, old coatings, curing compounds, release agents, laitance, oil, and grease, etc. This must be completed by diamond grinding or a suitable cleaning method.
- To check that all traces of oil and other contaminants have been completely removed, sprinkle a few drops of water over the surface. If all water is quickly absorbed, the surface is sufficiently oil and grease-free.
- If water forms into globules that remain on the surface, further thorough treatment of the substrate is necessary.
- Substrate compression strength should be at least 25MPa, cohesive bond strength at least 1.5MPa, and moisture content below 4%.
- Repair and fill cracks with EPO100EP Epoxy Putty or Concrete Repair Kit.

Physical Properties

Solids Content	100%
Finish	Gloss
Rate of Burning	ASTM D635: self-extinguishing
Compressive Strength	ASTM D695: 12,000 psi
Tensile Strength	ASTM D638: 3,900 psi
Elongation at Break	ASTM D638: 7.00%
Taber Abrasion Resistance	ASTM D4060: <0.1mg loss (mg of loss/1000 cycles) CS-17-wheel, 1kg load
Water Absorption	ASTM D570: 0/07% (2-hour boil)
Flexural Strength	ASTM D790: 7,800 psi
Shore D Hardness	ASTM D2240: 84
Heat Distortion Temperature	ASTM D648: 50°C
Bond Strength to Concrete	100% concrete failure

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Physical Properties (Continued)

Resistance to Chemical Spills (7 days at 25°C)

Regular Contact

Hydrochloric acid 50%	Sulfuric acid 50%
Phosphoric acid 50%	Acetic acid 10%
Sodium hydroxide 50%	Ammonia 10%
Bleach 5%	Bleach concentrate
Urea (saturated)	Sugar (saturated)
Sodium chloride (saturated)	Methanol
Butanol	Mineral spirits
Xylene	Lubrication oil
Gasoline	Skydrol

Occasional Contact

Nitric acid 25%	Acetone
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CAUTION

- Avoid contact with skin and eyes. Use full PPE during application including but not limited to, gloves, mask and goggles.
- Provide adequate ventilation when using in confined spaces.
- The mix ratio is calculated by product volume. **NOT BY PRODUCT WEIGHT.** Mixing product by weight may result in an unsatisfactory cure time or failure of the mix to cure entirely.
- Due to EPO100HCR's low yellowing resistance, use only as a primer coat or in epoxy mortar and crack repair mixes.
- All solvents, corrosives and spills should be cleaned up as soon as possible.
- **If recoating after 48 hours since the last coat, a mechanical bond will need to be made by sanding the previous coat.**

In an emergency, contact the Poisons Information Centre on 13 11 26 or a doctor for advice. IF THE SITUATION IS LIFE THREATENING, DIAL 000 IMMEDIATELY.

DISCLAIMER: Please ensure you read the SDS & TDS thoroughly & carefully before the use or application of any All Purpose Coatings product. These documents contain information in context to how you will apply the product, including if it is being used in conjunction with any other products or systems, and to what surface the product will be applied. All-Purpose Coatings Pty Ltd does not accept any liability either directly or indirectly for any losses that arise from the use or application of the product in accordance with any advice, specification & recommendation given by the companies' documentation or representatives at any point in time. Application, performance & safety data may change from time to time. It is the user and/or applicators' responsibility to ensure they have the latest copy of any documentation pertaining to their project. Industry standards recommend the accurate recording of times and dates, batch numbers, consumption rates and environmental conditions including substrate and air temperatures, humidity levels and dew point readings during both the application and curing processes. Full material warranties cannot be provided unless all the relevant data has been recorded accurately.