

Ecodur EP 240

Two component High Build Epoxy Flooring

Description

Ecodur EP 240 is a two-component, colored epoxy system offering high strength and abrasion resistance. It is resistant to organic and inorganic acids, alkalis, petroleum products, waste, water, seawater, and numerous solvents. It is resistant to temperatures from -30°C to +100°C in dry loading and up to +60°C in wet loading.

Certified according to EN 1504-2 and classified as coating for surface protection of concrete.

Fields of application

Ecodur EP 240 is used as a roller-applied coating on cement-based, steel or iron surfaces requiring high mechanical strength or chemical resistance.

It can also be used as a self-leveling epoxy flooring on cement-based floors with the addition of quartz sand with a particle size of 0.1-0.4 mm (or M32 sand).

Suitable for industrial facilities, warehouses, shopping malls, supermarkets, hotels, parking garages, heavy-traffic areas, gas stations, auto repair shops, slaughterhouses, laboratories, hospitals, wineries, canning factories, etc.

It complies with LEED requirements (Rule 1113 – SCAQMD) regarding Volatile Organic Compound (VOC) Limits, categorized as Industrial Maintenance (IM) coatings, Code 19, VOC limit: < 100 g/l.

Technical data

Base:	Two component epoxy resin
Colour:	Grey, Green, White, other colours upon order
Solid Content:	~ 100%

As a roller applied coating

Viscosity:	~ 1,400 mPa.s (+23°C)
Density:	1.40 kg/l
Mixing Ratio:	5 : 1 (Resin & Hardener by weight)
Pot life:	~ 25 min (+23°C)
Minimum hardening temperature:	+8°C
SHORE D hardness:	80
Walkability:	after 24 h (+23°C)
Recoat:	within 24 h (+23°C)
Final Strength:	after 7 days (+23°C)
Abrasion resistance: (ASTM D 4060, Taber Test, CS 10/1000/1000)	~ 40 mg
Compressive strength: (EN 13892-2)	≥ 45 N/mm ²
Flexural strength: (EN 13892-2)	≥ 30 N/mm ²
Adhesion strength:	≥ 3 N/mm ²

As a self-leveling epoxy flooring

(with the addition of 0.1-0.4 mm particle size quartz sand or M32) in the ratio 1:1 by weight

Viscosity:	~10,000mPa.s (+23°C)
Density:	1.75 kg/l
Pot life:	~ 25 min (+23°C)
Water absorption: (ASTM D 570)	0.25% w/w after 24 h
Minimum hardening temperature:	+8°C
SHORE D hardness:	80
Walkability:	after 24 h (+23°C)
Recoat:	within 24 h (+23°C)
Final strength:	after 7 days (+23°C)
Compressive strength: (EN 13892-2)	≥ 45 N/mm ²



Abrasion resistance: ~ 40 mg
(ASTM D 4060,
TABER TEST,
CS 10/1000/1000)

Flexural strength: $\geq 20 \text{ N/mm}^2$
(EN 13892-2)

Adhesion strength: $\geq 3 \text{ N/mm}^2$
(EN 1062-7, Method A)

Directions to use

Substrate preparation

The surface to be treated must be:

- Dry and stable.
- Free of materials that might impair bonding, e.g. dust, loose particles, grease, etc.
- Protected from underneath moisture attack.

Also, it should meet the following requirements:

a) Cementitious substrates

- Concrete quality: at least C20/25
- Cement screed quality: cement content
- 350 kg/m³
- Age: at least 28 days
- Moisture content: less than 4%

b) Iron or steel surfaces

It should be free of rust or any corrosion that might impair bonding.

Depending on the nature of the substrate, it should be prepared by brushing, grinding, sandblasting, water blasting, shot blasting, etc.

Then, the surface should be cleaned from dust with a high-suction vacuum cleaner.

Priming

The surface is primed with ECODUR EP PRIMER epoxy primer with a consumption of 200-300 g/m². After the primer has dried, existing imperfections (cracks, holes, etc.) should be filled with ECODUR EP 560 mixed with 0.1-0.4 mm particle size quartz sand (or M32 sand) or 0-0.4 mm particle size quartz sand (or Q35 sand) at a ratio of 1:2 up to 1:3 by weight.

Metal substrates should be primed with ECODUR EP-AC anti-corrosion epoxy coating in two layers. Consumption: 150-200 g/m²/layer. ECODUR EP 240 should be applied within 24 h from priming.

If ECODUR EP 240 is to be applied after the first 24 h, quartz sand of 0.1-0.4 mm particle size (or M32 sand) or 0.3-0.8 mm particle size should be spread on the surface while the primer is still fresh to ensure good bonding.

After the primer has hardened, any loose grains should be removed with a high-suction vacuum cleaner.

Mixing

Components A (resin) and B (hardener) are packaged in two separate containers, having the correct predetermined mixing ratio by weight. First, component A must be stirred well and then all of component B is added to component A under continuous stirring. The two components should be mixed for about 3 min with a low-speed mixer (300 rpm). It is important to stir the mixture thoroughly near the sides and bottom of the container to achieve uniform dispersion of the hardener.

If ECODUR EP 240 is to be used as a self-leveling epoxy flooring, the mixture (A+B) is poured into a clean container where 0.1-0.4 mm particle size quartz sand (or M32) is gradually added under continuous stirring, in the ratio 1:1 by weight [epoxy resin (A+B):sand], until a uniform epoxy mortar is formed.

Application - Consumption

Depending on the required type of the epoxy floor and the finish of the final surface, there are four cases of application:

a) Roller - applied coating – Smooth finish

ECODUR EP 240 (A+B) is applied with a roller in two layers. The second layer is applied after the first one has dried but within 24 hours.

Consumption: 250-300 g/m²/layer.

b) Roller-applied coating – Slip-resistant finish

DUROFLOOR-11 (A+B) is applied by roller in one layer.

Consumption: 250-300 g/m².

While the layer is still fresh, quartz sand is broadcast (0.1-0.4 mm or 0.3-0.8 mm particle size, depending on the desired slip resistance level).

Consumption of quartz sand: approx. 3 kg/m². After ECODUR EP 240 has hardened, any loose grains should be removed with a vacuum cleaner. Finally, a finishing sealing layer of ECODUR EP 240 (A+B) is applied.

Consumption: 400-600 g/m².

c) Self-leveling flooring – Smooth finish

The epoxy mortar is poured on the floor and spread at a thickness of 2-3 mm using a notched trowel.

Consumption of ECODUR EP 240 (A+B): 0.85 kg/m²/mm.

Consumption of quartz sand: 0.85 kg/m²/mm.

The self-leveling layer should be rolled with a special spiked roller to help entrapped air escape and prevent bubble formation.

d) Self-leveling flooring – Slip-resistant finish

First the epoxy mortar is applied in the same way as in the smooth finish case.

While the layer is still fresh, quartz sand is broadcast (0.1-0.4 mm or 0.3-0.8 mm particle size, depending on the required slip resistance level).

Consumption of quartz sand: approx. 3 kg/m².

After ECODUR EP 240 has hardened, any loose grains are removed with a high-suction vacuum cleaner. Finally, a finishing sealing layer of ECODUR EP 240 (A+B) is applied with a roller.

Consumption: 400-600 g/m².

Packaging

ECODUR EP 240 is supplied in 20 kg and 30 kg containers (A+B), with components A and B at a fixed ratio by weight.

M32 quartz sand is supplied in bags of 25 kg.

Shelf Life - Storage

12 months from production date if stored in original sealed packaging, in areas protected from humidity and direct sunlight.

Recommended storage temperature between +5°C and +35°C.

Remarks

- Bonding between successive layers may be severely affected by moisture or dirt trapped between them.
- Epoxy layers should be protected from moisture for 4-6 h after application. Moisture may whiten the surface or/and make it sticky. It may also disturb hardening. Faded or sticky layers in parts of the surface should be removed by grinding or milling and laid again.
- In case recoat time (between successive layers) is longer than expected or in case old floors are to be overlaid again, the surface should be thoroughly cleaned and ground before applying the new layer.
- After hardening, ECODUR EP 240 is totally safe for health.

Health & safety

Avoid direct contact with this product. Use of safety glasses, rubber gloves, and protective clothing is recommended. If contact occurs, wash affected areas with mild soap and water. Keep product out of reach of children.

Refer to Safety Data Sheet for complete health and safety information.