

Technical Datasheet

DUROFLOOR

Two-component, self-leveling epoxy flooring

Description

DUROFLOOR is a two-component, colored, self-leveling epoxy system offering high strength and abrasion resistance. It is resistant to organic and inorganic acids, alkalis, petroleum products, waste, water, sea water and a large number of solvents. It is resistant to temperatures ranging 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. Certificate No: 2032-CPR-10.11.

Also certified according to EN 13813 and classified as SR-B2,0-AR0,5-IR4. CE marked.

Fields of application

DUROFLOOR is used as a pourable, self-leveling screed for use on cement-based floors requiring high mechanical or chemical resistance. It is suitable for industrial areas, warehouses, stores, car workshops, super markets, laboratories, hotels, garages, gas stations, heavy-traffic areas, etc. It is also suitable for food contact surfaces according to W-347, ISO 8467.

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

Basis:	two-component epoxy resin
Colors:	RAL 7032 (sand grey) RAL 7035 (light grey) RAL 7040 (grey) RAL 3009 (redbrown) RAL 1015 (beige) RAL 1013 (white-beige) RAL 6021 (light green) RAL 5024 (pastel blue), other colors upon order
Viscosity:	~ 500 mPa·s at +23°C
Density (A+B):	1.11 kg/l
Mixing ratio (A:B):	100:48 by weight

Density (A+B+Q35 quartz sand):	1.74 kg/l
Mixing ratio of DUROFLOOR (A+B):	
Q35 quartz sand:	1:2 by weight
Pot life:	approx. 40 min at +20°C
Water absorption: (ASTM D 570)	0.25% w/w after 24 h
Reaction to fire (EN 13501-1):	B _{fl} - s1*
Minimum hardening temperature:	+8°C
Hardness according to SHORE D:	80
Walkability:	after 24 h at +23°C
Recoat:	within 24 h at +23°C
Final strength:	after 7 days at +23°C
Abrasion resistance: (ASTM D 4060, TABER TEST, CS 10/1000/1000)	80.5 mg (with Q35 quartz sand, in the ratio 1:2 by weight)
Compressive strength: (EN 13892-2)	≥ 95 N/mm ²
Flexural strength: (EN 13892-2)	≥ 63 N/mm ²
Adhesion strength:	≥ 3 N/mm ²

*With epoxy primer DUROFLOOR-PSF as a system. Report No 17/14153-884, APPLUS Laboratories – LGAI, Spain, May 2017.

Cleaning of tools:
Tools should be cleaned with SM-25 solvent, immediately after use.

Directions for use

1. Substrate preparation

The flooring surface should be:

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

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It should also meet the following requirements:

Concrete quality:	at least C20/25
Cement screed quality:	cement content 350 kg/m ³
Age:	at least 28 days
Moisture content:	< 4%

Depending on the nature of the substrate, it should be prepared by brushing, grinding, sandblasting, water blasting, pellet blasting, etc. Following this, the surface should be cleaned from dust with a high suction vacuum cleaner.

2. Priming

The surface is primed with DUROFLOOR-PSF or DUOPRIMER epoxy primers.

Consumption: 200-300 g/m².

After the primer has dried, any existing imperfections (cracks, holes) should be filled with DUROFLOOR (A+B) mixed with quartz sand of 0-0.4 mm particle size (or Q35) at a ratio of 1:2 up to 1:3 by weight, or with DUROFLOOR-PSF mixed with quartz sand of 0-0.4 mm particle size (or Q35) at a ratio of 1:2 up to 1:3 by weight.

DUROFLOOR should be applied within 24 hours from priming.

In case DUROFLOOR is to be applied after the first 24 hours, quartz sand of 0.4-0.8 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.

Wet substrate

If the product is intended to be applied on a wet (moisture level higher than 4%) or fresh concrete floor (3-28 days), then it should be primed with the two-component epoxy primer DUOPRIMER-SG.

3. Mixing of the components

Components A (resin) and B (hardener) are packaged in two separate containers, at the correct predetermined mixing ratio by weight. Before the application it is recommended to slightly stir component A for 1 min. The entire content of component B is added to component A.

The two components should be mixed for about 3 minutes with a low-speed mixer (300 rpm). It is important to thoroughly stir the mixture near the sides and bottom of the container, to achieve uniform dispersion of the hardener. Afterwards, quartz sand of 0-0.4 mm particle size (or Q35) is gradually added to the mixture under continuous stirring, at a ratio of 1:2 by weight [epoxy resin (A+B):sand], until a uniform epoxy mortar is formed.

4. Application - Consumption

Depending on the required finish of the final surface, there are two cases of application:

a) Smooth finish

The epoxy mortar is poured on the floor and spread (dragged) at a thickness of 2-3 mm, with a notched trowel.

Consumption of DUROFLOOR (A+B):
0.60 kg/m²/mm.

Consumption of quartz sand: 1.2 kg/m²/mm.

The self-leveling layer should be rolled with a special spiked roller, to help entrapped air escape in order to prevent bubbles.

b) Slip-resistant finish

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

On the still fresh layer, quartz sand (Ø 0.1-0.4 mm or 0.4-0.8 mm) is spread, depending on the required anti-slip effect.

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

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

Finally, a finishing sealing layer of DUROFLOOR 11 or DUROFLOOR-R is applied by roller.

Consumption: 400-600 g/m².

Packaging

DUROFLOOR is supplied in 9 kg containers (A+B), with components A and B at fixed predetermined ratio by weight.

Q35 quartz sand is supplied in 18 kg bags.

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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


- The workability of epoxy materials is affected by temperature. The ideal temperature of application is between +15°C and +25°C, for which the product obtains optimal workability and curing time. Room temperature below +15°C will expand the curing time, while temperatures above +30°C will reduce it. It is recommended to mildly preheat the product in the winter, and store the product in a cool room before application in the summer.
- 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 hours 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 predicted or in case old floors are to be overlaid again, the surface should be thoroughly cleaned and ground before applying the new layer.
- In case DUROFLOOR is to be used on vertical or inclined surfaces, an epoxy flow regulator should be added at a ratio of 0.5% by weight.
- After hardening, DUROFLOOR is totally safe for health.
- Please consult the directions for safe use and precautions written on the packaging before use.


Volatile Organic Compounds (VOCs)

According to Directive 2004/42/CE (Annex II, table A), the maximum allowed VOC content for the product subcategory j, type SB is 500 g/l (2010) for the ready-to-use product.

The ready-to-use product DUROFLOOR contains 60 g/l VOC.

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 2032
ISOMAT S.A. 17 th km Thessaloniki – Ag. Athanasios P.O. BOX 1043, 570 03 Ag Athanasios, Greece 18
2032-CPR-10.11 DoP No.: DUROFLOOR / 1860-02 EN 1504-2 Surface protection products Coating Permeability to CO ₂ : Sd > 50m Water vapor permeability: Class I (permeable) Capillary absorption: $w < 0.1 \text{ kg/m}^2 \cdot \text{h}^{0.5}$ Adhesion: $\geq 0.8 \text{ N/mm}^2$ Reaction to fire: B _{fl} - s1 Dangerous substances comply with 5.3


ISOMAT S.A. 17 th km Thessaloniki – Ag. Athanasios P.O. BOX 1043, 570 03 Ag. Athanasios, Greece 08
EN 13813 SR-B2,0-AR0,5-IR4 Synthetic Resin screed material for use internally in buildings DoP No.: DUROFLOOR/1828-01 Reaction to fire: B _{fl} - s1 Release of corrosive substances: SR Water permeability: NPD Wear resistance: AR0,5 Bond strength: B2,0 Impact resistance: IR4 Sound insulation: NPD Sound absorption: NPD Thermal resistance: NPD Chemical resistance: NPD

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