

SINTEF Technical Approval

TG 20018

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 Amended:
 Valid until 22.09.2030
 Provided listed on
www.sintefcertification.no

SINTEF confirms that

StoPur EB 200

has been found to be fit for use in Norway and to meet the provisions regarding product documentation given in the regulation relating to the marketing of products for construction works (DOK) and regulations on technical requirements for building works (TEK), with the properties, fields of application and conditions for use as stated in this document



1. Holder of the approval

Sto Norge AS
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www.sto.no

2. Product description

StoPur EB 200 is a polyurethane resin coating for exterior floors made from concrete or other cement bound materials.

StoPur EB 200 is a two component system. The components are mixed in the correct proportions shortly before usage. To improve adhesion to the substrate use StoPox 452 EP primer. StoQuarz 0.4-0.8 mm can be used for sand sprinkling of the primer.

3. Fields of application

StoPur EB 200 is type tested and approved for balconies, terraces and other exterior concrete floorings subjected to light mechanical wear. StoPur EB 200 cannot be used on interior floor surfaces.

4. Properties

Product characteristics determined after type testing are given in table 1. See also SINTEF Building Research Design Guide 573.212 *Fugefrie plastbelegg. Typer og egenskaper (eng.: Jointless resin floorings. Types and properties)*.

Durability

StoPur EB 200 has passed climatic exposure tests according to NT Build 495 - Accelerated climatic exposure (UV, heat, water and frost).

5. Environmental aspects

Substances hazardous to health and environment

In its uncured form, the product contains no prioritized environmental toxins or other relevant substances in an amount considered hazardous to health and the environment. Prioritized environmental toxins include CMR, PBT, and vPvB substances.

Processing uncured epoxy and polyurethane products can cause skin allergies, asthma, and other health issues. Caution should be exercised when working with this product, and appropriate protective equipment must be used.

Table 1

Product characteristics for StoPur EB 200

Property	Method	Value
Film thickness, cured coating, when consumption equals 2,25 kg/m ²	EN 1062-1	903 µm
Liquid water permeability	EN 1062-3	< 0,05 kg/(m ² h ^{0,5})
Crack bridging properties at - 20 °C	EN 1062-7 Method A	3,22 mm
Flow characteristics, initial	EN 12706	153 mm
Wear resistance - BCA	EN 13892-4	10 µm
Bond strength - concrete	EN 13892-8	2,5 N/mm ²
Bond strength - concrete after climatic exposure testing (349 days according to NT Build 495)	EN 13892-8	2,3 N/mm ²
Rapid deformation impact resistance	EN ISO 6272-1	20,1 Nm
Chemical resistance ¹	EN 13529	Color changes
Exposure to accelerated climatic strain, 349 days	NT Build 495	Passed

¹) Tested chemicals: tea, coffee, wine (red), ketchup and household ammonia

Waste treatment/recycling

Uncured StoPur EB 200 is defined as hazardous waste (according to the Norwegian Waste Regulation (Avfallsforskriften)). StoPur EB 200 must be sorted as hazardous waste on the building site and be delivered to an authorized treatment plant for hazardous waste. The cured StoPur EB 200 is not hazardous waste.

Cured product must be sorted as residual waste at the construction site and during disposal. The product is delivered to an approved waste reception where it is deposited, alternatively separated from the substrate and energy recovered.

6. Special conditions for use and installation

The application procedures of the manufacturer must be followed when using the StoPur EB 200. See also SINTEF Building Research Design Guide 541.314 *Legging av fugefrie plastbelegg på golv (eng.: installing joint less resin floorings)*.

SINTEF is the Norwegian member of European Organisation for Technical Assessment, EOTA, and European Union of Agrément, UEAtc

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The system is assembled as follows:

1. Substrate preparation
2. Adjustment of floor level/floor cove
3. Priming/spackling
4. Coating/top coating

Storage

Component A and B must be stored protected from direct sunlight in a dry area at temperatures between 0 and 35 °C. The shelf life of the components is one year.

Substrate

The substrate shall be dry and prepared by grinding, trimming or shot blaster until clean concrete with visible aggregate and open pore structure appears. The preparation is very important to ensure good adhesion between the substrate and the coating, and to minimize the risk of osmotic blistering.

Sharp edges and transitions must be rounded to ensure that primer and coating can be applied in the thickness needed around the edge, see figure 1. Coating applied over a sharp edge is prone to damage.

After preparation of the substrate, the strength of the surface should be tested by measuring the bond strength by pull-off-test. The minimum allowed bond strength is 1.5 MPa.

Adjustment of floor level/floor cove

Adjust the floor level with a suitable screed before priming, e.g. StoCrete CS 650.

When necessary, use StoPox Mörtel Standfest epoxy mortar to establish a cove in the junction between floor and wall. Prime the substrate with StoPox 452 EP and apply the epoxy mortar wet in wet. A cove template is run over the wet mortar creating the cove profile, see figure 2.

Alternatively use a StoDivers HK 100/25 or 50/25 cove profile. Fasten the cove profile by using StoPox SK 41 epoxy adhesive and/or StoPox 452 EP and StoSeal F 505 joint sealing compound, see figure 3.

Priming/spackling

Apply StoPox 452 EP primer to the substrate. The primer is applied using a squeegee followed by rolling with a damp roller. If only a roller is used, there is a risk that the pores on the concrete surface will not be filled, and the result may be osmotic blisters. Apply the primer evenly to the substrate. Recommended consumption is 200-400 g/m². Increase the amount of primer if the concrete surface is strongly absorbing. Avoid visible dry spots on the surface.

Apply the primer when the temperature is decreasing to avoid pinhole formation. Sprinkle with StoQuarz 0.4 - 0.8 mm sand while the primer is wet if the coating is to be applied more than 72 hours after application of the primer. The consumption of StoQuarz 0.4-0.8 mm is ~1 kg/m².

When leveling is not needed, perform simple spackling using StoPox 452 EP mixed with a suitable amount of StoQuarz 0.1-0.5/0.4-0.8 mm. The spackle is laid into the wet primer such that a level surface is achieved.

Remove any loose StoQuarz from the surface before further treatment.

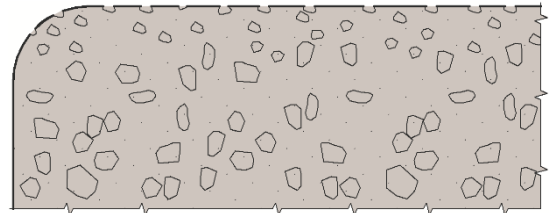


Fig. 1.
Substrate with a rounded front edge and open pore structure

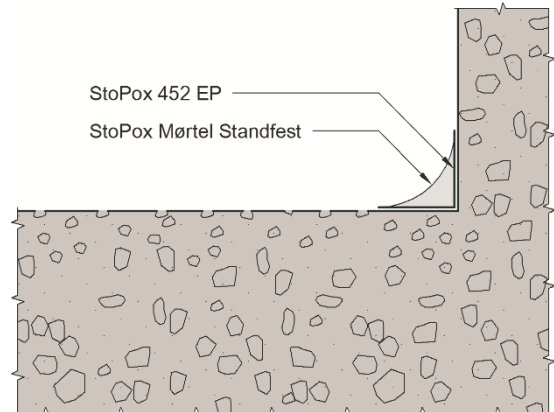


Fig. 2
Floor cove

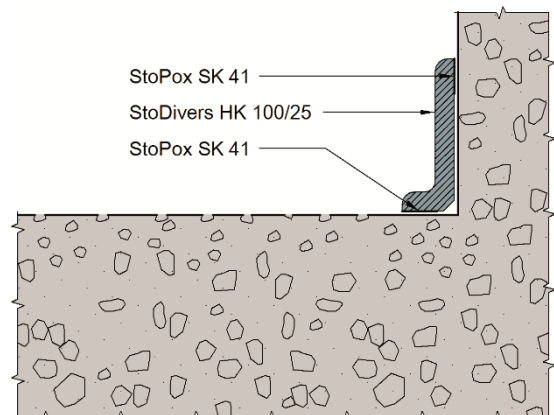


Fig. 3
Fastening a cove profile. Alternatively, attach the profile with StoSeal P 505 and StoSeal F 505 sealing compound.

Mixing

The mixing ratio of StoPur EB 200 component A to component B is A:B=1:6. Consumption of component A is 2.0-2.2 kg/m² and the consumption of component B is 0.33-0.37 kg/m².

Component B shall be added to component A. Mix the components at a maximum speed of 300 rpm until the mixture is homogeneous (approx. 3 min.). Transfer the mixture to a clean container and mix through again.

Application

Insert expansion joints if the floor slab is long and narrow (e.g. fire balcony or gallery access balcony) to prevent the coating from cracking due to too large movements. The same holds for substrates with moving cracks, where the crack width is likely to exceed the crack bridging properties of the coating.

Apply the coating using a notched toothed spatula and remove air bubbles with a spike roller. Measure the wet coating thickness as the work progresses. The wet thickness should be 2 mm.

Apply when the temperature is between 10 and 30 °C. Apply the coating when the temperature is decreasing to avoid pinholes formation.

Optionally, sprinkle StoChips 1 mm or StoChips 3 mm onto the still wet coating layer. The consumption of StoChips 1 mm or 3 mm is 50-350 g/m².

To prevent the coating from sagging when it is applied to vertical surfaces, mix StoDivers ST into the StoPur EB 200 until the consistency of the mixture is such that sagging is prevented.

Clean the tools with StoDivers EV 100 solvent immediately upon finishing the work.

The coating pot life is shown in table 3, while the cure time is shown in table 4.

Table 3
Processing time of StoPur EB 200

Temperature / °C	Pot life / min
10	55
20	35
30	15

Table 4
Cure time for StoPur EB 200

At 20 °C og 65 % RH (relative humidity)	Time
Dust-free	3 h
Light traffic	12 h
Cured through	7 days

Subsequent treatment

Apply a topcoat to seal surfaces with a high quantity of StoChips 1 mm or 3 mm, or to achieve a surface with lower gloss. Use StoPur VR 100 transparent glossy polyurethane coating or StoPur DL 520 transparent low-gloss polyurethane coating.

For an anti-skid finish, add 30 weight % StoBallotini 180-300 µm glass beads to StoPur VRF 100. Stir the mixture continuously during application to keep the beads from settling at the bottom. Apply the mixture thinly using a steel spatula and then roll with a structured roller. The consumption is 0.15-0.20 kg/m².

7. Factory production control

StoPur EB 200 is produced by Sto SE & Co., August-Fischbach-Str. 4, 78166 Donaueschingen, Germany

The holder of the approval is responsible for maintaining the factory production control in order to ensure that StoPur EB 200 is produced in accordance with the preconditions applying to this approval.

The manufacturing of StoPur EB 200 is subject to continuous surveillance of the factory production control in accordance with the contract regarding SINTEF Technical Approval.

The quality system of the manufacturer is certified by Deutsche Gesellschaft zu Zertifizierung von Managementsystemen GmbH (DQS) according to:

- DIN EN ISO 9001:2015, certificate no. 003651 QM15
- DIN EN ISO 14001:2015 certificate no. 602417 UM15

8. Basis for the approval

The product's characteristics are documented in reports issued by independent bodies. The technical documentation serves as the basis for SINTEF's product assessment with respect to the guidelines for SINTEF Technical Approval, and recommendations as outlined in SINTEF Building Research Design Guides.

9. Marking

The StoPur EB 200 packaging must be marked with manufacturer, product name and production time.

The approval mark for SINTEF Technical Approval TG 20018 may also be used.

10. Liability

The holder/manufacturer has sole product responsibility according to current law. Claims can only be made against SINTEF under general law or other special grounds.

for SINTEF

Hans Boye Skogstad
Approval Manager