

1. Product Description

StenCare® 3EP FLEX is a heavy-duty, solvent-free, pourable, elasticized epoxy-based coating and repair mortar; specially graded solid fillers give it a non-slip surface and high load-bearing capacity. It can be used as a two or three-component system. It has high adhesion and abrasion resistance with resistance to chemicals.

The polymeric mixture is compatible with thermal expansion of concrete made from Portland cement and adheres excellently to concrete. Since its binder is elastic, it is resistant to thermal and mechanical movements. It does not require joints in places subject to minor movements.

It is easy to apply. It is resistant to weak organic and inorganic acids and alkalis, oils, fuels and antifreeze, and many chemicals. It is a system consisting of solvent-free pure epoxy resin, pigments and solid fillers.

2. Uses

StenCare® 3EP FLEX is used in repairing old concrete surfaces, broken slab and joint edges and similar locations. It is suitable for use on pedestrian walkways, industrial storage tank yard floors, airport pedestrian pavements, turning and deceleration zones in parking areas, and on concrete, mosaic, tile, wood, metal and asphalt surfaces in these spaces.

3. System Design

Current status and application objective must be defined with all aspects during system design. Depth is recommended to be minimum 5 cm in repairs of heavy traffic bearing floors, minimum 3 cm for medium traffic bearing floors, minimum 2 cm for light traffic bearing floors. Minimum 5 mm thickness is required for superficial coatings.

Maximum size of the aggregate to be used must not exceed half of the minimum application height.

4. Application

4.1. Surface Preparation

Proper and correct surface preparation is of great importance. Oil, dirt, asphalt or old patch materials must not be left on the surface. Dust and loose materials must be removed.

During application, the ambient and surface temperature must be between 15-30 °C, and the relative humidity of the surface must not exceed 75%.

4.2. Primer

The material itself can be used as primer at clean concrete floors and indoors. In this case, 0.2-0.3 kg **StenCare® 3EP FLEX** is applied depending on the roughness of the surface. However, to greatly increase adhesion strength, it is recommended to first apply **StenAst® S**.

Epoxy-Based Elasticized Repair and Coating Mortar

Highlights

- Withstands harsh conditions
- Suitable for joint-free applications
- Resistant to movements
- Non-slip
- 100% compatible with concrete
- Ideal for both small and large concrete repairs
- Resistant to chemicals
- Long-lasting and easy to apply



StenAst® S consumption is approximately 50 g/m². After application of **StenAst® S**, the floor becomes suitable for application of **StenCare® 3EP FLEX** within 30 minutes. Similarly, if another type of primer is required by surface characteristics (see primer selection), the application instructions of the primer must be followed.

4.3. Coating Application with Broadcast Aggregate

This method is used for the purpose of superficial coating or thin surface repair. Components A and B have self-leveling property when they are mixed. After mixing, the surface where this self-leveling mixture will be applied must be prepared as required.

Mixing the components is carried out as follows. First component A is mixed for 3-4 minutes. Then component B is added into the container of component A and they are mixed until a homogeneous mixture is obtained.

There must be no unmixed material left on the walls or at the bottom of the container. Mixing is carried out with a jiffy-type mixer and a powerful low-speed (300-500 rpm) machine. Mixing process must not be extended; it must be completed in 2-3 minutes and mixed material must not be left in the container.

Otherwise, since the curing reaction is an exothermic reaction, the material in the container heats up and the curing rate increases. In this case, the mixed material in the container quickly solidifies and becomes unusable. However, since the material poured on the floor will be cooled by the floor, the reaction slows down and the necessary time for application is gained.

The mixture is poured onto the floor and applied with a notched steel or plastic trowel and a brush or 25-50 mm (nap) roller to a thickness of 2.0-2.5 mm. If desired, additional aggregate can be broadcast on the surface before the material cures. Aggregates must be selected among high hardness, abrasion resistant materials.

StenSilica #5-#10 (0.25-7 mm) are suitable for this purpose. Right after that, 1.5 to 4 mm size crushed aggregate is spread and desired surface granulation is obtained. **StenSilica #8-#9** are suitable for this purpose.

Loose aggregates on sufficiently cured material can be swept away. The aggregate size for the top layer is selected according to the desired surface roughness. After application of **StenCare® 3EP FLEX**, it is left to dry for 4 hours, and while this layer is still tacky, the actual coating is applied.

It is recommended to use **StenCoat® 2PUV 401**, 402 or 403 as the top coat to increase the material's daylight resistance.

4.4. Repair Application with Aggregate Mixture

This method is mostly used to repair concrete pavements. For this purpose, heavy-duty mortar mixers of Hilti or concrete mixer type must be used. Component A is placed in the mixer and component C is added on top and mixed for 1-2 minutes until a homogeneous structure is obtained.

Component B is then added to this mixture and mixed for another 1-2 minutes, and immediately poured to the application site; first it is roughly spread and then leveled with a trowel.

5. Cleaning

Equipment used can be cleaned at the end of the job with **StenSolver CL**.

6. Safety

Applicators and supervisors must read the Material Safety Data Sheet (SDS) carefully and follow the instructions provided. Emptied packages must be handled in compliance with relevant regulations and laws. The application must be carried out by skilled workers under supervision of experts and the applicators must use all kinds of protective



equipment required for the worksite and the task such as goggles, mask and gloves.

7. Storage

It must be stored away from open flame and sources of ignition. Materials should be stored at 5-30 °C in a temperature-controlled environment, protected from daylight and moisture. Under these conditions, the material will retain its properties until the expiration date in unopened packages.

Low temperatures may cause crystallization of the product; in this case, the product can be used after heating and homogenizing at +20 °C. The product must be stirred thoroughly before use after prolonged storage.

8. Disclaimer

This document is provided for general information and reflects **Stenkim®**'s laboratory data and field experience at the time of publication. **Stenkim®** reserves the right to revise this information at any time without notice.

Stenkim® warrants that its products conform to the stated specifications on delivery. The buyer is responsible for determining the product's suitability for the intended application and for all conditions of transport, storage, handling, and use. **Stenkim®** accepts no liability for results obtained under conditions outside its control. **Stenkim®**'s liability under this warranty is limited to replacement of non-conforming product and excludes any consequential or indirect damages.



9. Technical Data

Property	Method	Result
Base Polymer		Epoxy
Solid Content		100
Color		Gray
Application Thickness		min. 5 mm
Hardness (Shore)	EN ISO 48-4	D60-65
Density (A+B+C)		1.2 ± 0.05 g/cm ³
Flame Resistance		Pass, non-flammable
Abrasion Resistance (A+B+C)	ASTM D 4060 CS10/1000 rev/1 kg	400 mg
Movement Range	In extension	5%
Movement Range	In contraction	2.5%
Chemical Resistance; Jet Fuel, Motor Oil, Antifreeze, Salt @20 °C	ASTM D 1308	Pass
Pot Life @20 °C		1 hour
Tack-free Time @20 °C		4 hours
Ready for Light Foot Traffic @20 °C		16 hours
Time to open to heavy traffic @20 °C		48 hours
Cure Time for Chemical Resistance		5 days
Density (A+B)		1.15 ± 0.05 g/cm ³
Elongation at Break (A+B)	ASTM D 412 Die B	>20%
Thermal Compatibility	ASTM C 884	Pass
Shelf Life		1 Year
Packaging		24 kg sets

Stenkim® reserves the right to make changes to the values in this table at any time.

