StenCare® 3EP QC

1. Product Profile

StenCare® 3EP QC is a heavy-duty type, rapid curing solvent free epoxy-based coating and repair mortar which can be applied by pouring, and forms a high bearing capacity and anti-slip floor with special size solid fillers.

It has high adhesion and abrasion resistance properties, and it is resistant to chemicals. Polymeric mixture matches thermal expansions of the concrete made of Portland cement and has excellent adhesion to concrete. It is resistant to weak organic and inorganic acids and alkalis, oils, fuels and antifreezes and many chemicals.

StenCare® 3EP QC is available in 24 kg sets.

2. Uses

StenCare® 3EP QC is rapid curing used in repairing old concrete surfaces, broken slab and joint edges, as adherence promoter between old concrete and fresh concrete, for rigid anchorages and dowel bar fixing. It is used indoors and outdoors, in all kinds of repair where elasticity is not required. It has excellent adhesion to concrete, metal and wooden surfaces, and provides a stable and durable repair.

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 2.5 mm thickness is required for superficial coatings. Maximum size of the aggregate to be used must not exceed the half of the minimum application height.

4. Application

4.1 Surface Preparation

It is very important to prepare the surface properly. No grease, dirt, asphalt, old patch materials must be left on the surface. Dust and loose materials must be removed.

During the application, ambient and floor temperature must be between 5°C and 30°C, relative humidity must be maximum 75%.

Epoxy Based Repair and Coating Mortar

Highlights

- Three-component
- Rapid curing
- Heavy-duty
- Anti-skid
- Ideal for both small and large repairs
- 100% compatible with concrete
- Resistant to chemicals
- Long-lasting

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 QC** is applied depending on the roughness of the surface. However, it is helpful to apply first **StenAst® S** in order to increase adhesion thoroughly. Approximately 50 g/m^2 of **StenAst® S** is consumed. Within 30 minutes after the application of the **StenAst® S**, the floor becomes ready for the application of the next layer. After **StenCare® 3EP QC** is applied, it cures for 4 hours and when this layer is still tacky, actual coating is applied. If another type of primer required by surface properties will be used, application instructions of the primer must be followed.

4.3 Coating Application with Aggregate Throw

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. It is very important that the surface where this material will be applied is prepared as required in order to reach an easy, fast and flawless result.

First component A is mixed for 1-2 minutes. Then component B is added into the container of component A and they are mixed until a homogeneous mixture is obtained. Mixing is carried out by means of a jiffy type mixer and a powerful low speed (300-500 rpm) machine. There must be no unmixed material left at the bottom of and around the container. 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 curing reaction is an exothermic reaction, the material in the container gets hot and curing rate increases. In that case, the material in the container cures in a short period of time and becomes inapplicable. However, since the material poured on the floor will be cooled by the floor, the reaction slows down and the time required for the application is saved.

The mixture is poured on the surface and applied at 2.0-2.5 mm thickness via steel or plastic screed rail, trowel and a brush or 25-50 mm nap roller. Right after that, 1.5 to 4 mm size broken aggregate is spread and desired surface granulation is obtained. Aggregates must be selected among high hardness, abrasion resistant materials. **StenSilica #8-#9** are suitable for this purpose. Loose aggregates on sufficiently cured material can be swept away. Size of the aggregate to be used at top layer is selected according to the desired surface roughness.

It is recommended to use **StenCoat® Anti UV** as the top coat in order to increase daylight resistance of the material.

4.4 Repair Application with Aggregate Mixture

This method is mostly used for the purpose of repairing concrete pavements. The surface must be prepared as required for the application of this self-leveling mixture. An easy and fast application with flawless results is possible on a floor prepared as stated above.

Heavy duty cement mixers must be used in these applications. Mixing the components is carried out as follows. Component A is placed in the mixer and Component B is added onto it, and they are mixed for 1-2 minutes until a homogeneous mixture is obtained. Aggregate is added onto this mixture and it is mixed for 1-2 minutes more, and without delay it is poured on the application area; first it is spread and then leveled with a screed rail.

If desired, additional aggregate can be broadcast on the surface before the material cures. Loose aggregates on sufficiently cured material can be swept away. Aggregates must be selected among high hardness, abrasion resistant materials. **StenSilica #5-#10** (0.25-7 mm) are suitable for this purpose.

It is recommended to use **StenCoat® Anti UV** as the top coat in order to increase daylight resistance of the material.

5. Cleaning

Application devices can be cleaned by using **StenSolver EP** after application.

6. Safety

Applicators and supervisors must read Material Safety Data Sheet (MSDS) carefully and observe the considerations written therein. Emptied packages must be handled in compliance with relevant regulations and laws.

7. Storage

The material must be kept in dry indoor storage away from direct sunlight. Recommended storage temperature is 10 – 30°C. Stored unopened in these conditions, the shelf life is 12 months.

8. Company Liability

The information contained in this document is based on site experience of and laboratory tests done by **Stenkim®** and meant to give general information. It is the purchaser's responsibility to ensure applicability of products to their use. All **Stenkim®** products are available in specified quality and conditions. The company accepts no liability whatsoever unless the transportation, storage, application conditions and customer use are overseen by **Stenkim®**.

Stenkim® reserves the right to update all information contained in this document without notice.

9. Technical Data

Properties	Method	Results
Base Polymer		2 Component Epoxy
Solids Content %		100
Color		Grey
Density (A+B+C)		2.1 ± 0.05 g/cm^3
Durometer Hardness (Shore)	ASTM D 2240	D80±5
Application Thickness		Min 5 mm
Flame Resistance		Pass, nonflammable
Abrasion Resistance (A+B+C)	ASTM D 4060, CS10, 1000 rev, 1 kg	100 mg
Chemical Resistance, Jet Fuel, Engine Oil, Antifreeze, Salt @20°C	ASTM D 1308	Pass
Pot Life of the Mixture @20°C		15 minutes
Tack Free Time @20°C		1 hour
Cure Time for Chemical Resistance		5 days
Compressive Strength	EN 12190	>50 MPa
Pull Off Test	EN 1542	>3 MPa
Flexural Strength	ASTM C78/ C78M-22	23 MPa

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

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