

## 1. Product Description

**StenCare® 3EP QC** is a heavy-duty, solvent-free, pourable 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, and is resistant to chemicals.

The polymeric mixture is compatible with thermal expansion of concrete made from Portland cement and adheres well to concrete. It is resistant to weak acids and alkalis, oils, fuels, antifreeze and many other chemicals.

## 2. Uses

Because it cures rapidly, **StenCare® 3EP QC** is used to repair old concrete surfaces and broken slab and joint edges, as a bonding bridge between old and fresh concrete, and for anchoring and dowel-bar fixing. It is suitable for use on pedestrian walkways, industrial storage tank yard floors, airport pedestrian walkways, turning and deceleration zones in parking areas, and on concrete, mosaic, tile, wood, metal and asphalt surfaces in these spaces; it can be used indoors and outdoors for all kinds of repair where elasticity is not required. It has good adhesion to concrete, metal, wood and similar surfaces, providing a permanent and sound repair.

## 3. System Design

During system design, all aspects of the existing conditions and the application objective must be defined. A minimum depth of 5 cm is recommended for repairs to floors bearing heavy traffic, 3 cm for floors bearing medium traffic, and 2 cm for floors bearing light traffic. For surface coatings, a minimum thickness of 2.5 mm is required. The maximum size of the aggregate to be used must not exceed half of the minimum application thickness.

## 4. Application

### 4.1. Surface Preparation

Proper 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 5-30 °C, and the relative humidity of the surface must not exceed 75%.

### 4.2. Primer

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

**StenAst® S** consumption is approximately 50 g/m<sup>2</sup>. After application of **StenAst® S**, the floor becomes suitable for application of **StenCare® 3EP QC** within 30 minutes. Similarly, if another type of primer is required by surface characteristics, the application instructions of the primer must be followed.

## Rapid Curing Epoxy-Based Repair and Coating Mortar

### Highlights

- Withstands harsh conditions
- Cures much faster than standard epoxies
- Can be applied at low temperatures, down to 5 °C
- Non-slip
- 100% compatible with concrete
- Ideal for both small and large concrete repairs
- Resistant to chemicals
- Long-lasting and easy to apply



## 4.3. Coating Application with Broadcast Aggregate

This method is used for the purpose of surface coating or thin surface repair. The mixture formed when Components A and B are mixed is self-leveling. It is of great importance that the surface to which this self-leveling material will be applied after mixing has been properly prepared.

The components are mixed as follows. First, component A is mixed for 1-2 minutes. Then component B is added to the container holding component A, and the two components are mixed until homogeneous.

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. The mixing process must not be prolonged; it must be completed within 2-3 minutes, and the mixed material must not be left in the container. Otherwise, since the curing reaction is exothermic, 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, allowing the necessary time for application.

The mixture is poured onto the floor and applied with a steel or plastic notched trowel to a thickness of 2.0-2.5 mm. If desired, additional aggregate can be broadcast on the surface before the material sets. Aggregates must be selected among high hardness, abrasion-resistant materials. **StenSilica** #5-#10 (0.25-7 mm) is suitable for this purpose. Immediately afterwards, crushed aggregate sized from 1.5 to 4 mm is broadcast to create the desired surface texture. **StenSilica** #8-#9 is suitable for this purpose.

Loose aggregates on set 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 QC**, 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 topcoat to increase the material's daylight resistance.

## 4.4. Repair Application with Aggregate Mixture

This method is primarily used to repair concrete pavements. For this purpose, heavy-duty Hilti-type or horizontal rotary mortar mixers must be used. Place Component A in the mixer, add Component B, and mix for 1-2 minutes until homogeneous. Component C 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 straightedge.

## 4.5. Cleaning

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

## 5. Safety

Applicators and supervisors must read the Safety Data Sheet (SDS) carefully and follow the instructions provided. Emptied packages must be disposed of in compliance with relevant regulations and laws. The application must be carried out by skilled workers under the supervision of experts and the applicators must use all personal protective equipment required for the worksite and the task such as goggles, mask and gloves.

## 6. Storage

It must be stored away from open flames and ignition sources. Materials must 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 in unopened packages until the expiration date.



Low temperatures may cause crystallization of the product; in this case, the product can be used after being warmed to +20 °C and homogenized. After prolonged storage, the product must be stirred thoroughly before use.

## 7. Disclaimer

This document is provided for general information and is based on **Stenkim®**'s laboratory data and field experience at the time of publication. **Stenkim®** reserves the right to revise this information without prior 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 purpose and for all conditions of transport, storage, application, 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.

## 8. Technical Data

| Property                              | Method                         | Result                       |
|---------------------------------------|--------------------------------|------------------------------|
| Base Polymer                          |                                | Epoxy                        |
| Solids Content (by weight)            |                                | 100%                         |
| Color                                 |                                | Grey                         |
| Application Thickness                 |                                | min. 5 mm                    |
| Hardness (Shore)                      | EN ISO 868                     | D80-85                       |
| Density (A+B+C)                       |                                | 2.1 ± 0.05 g/cm <sup>3</sup> |
| Flame Resistance                      |                                | Pass, does not ignite        |
| Abrasion Resistance (A+B+C)           | ASTM D 4060 CS10/1000 rev/1 kg | 100 mg                       |
| Compressive Strength                  | EN 12190                       | >50 MPa                      |
| Pull-Off Test                         | EN 1542                        | >3 MPa                       |
| Cure Time for Chemical Resistance     |                                | 5 days                       |
| Time to Open to Traffic @20 °C/@30 °C |                                | 4 hours / 1 hour             |
| Shelf Life                            |                                | 1 year                       |
| Packaging                             |                                | 24 kg sets                   |

**Stenkim®** reserves the right to make changes to the values in this table at any time. *CE: CE marked in accordance with EN 1504-3 (R1) (DoP STN-3EPQC-0002).*

