



SikaDur[®] 45 EpoCem[®]

Epoxy-Cement Concrete Repair Mortar

Technical Data Sheet

DESCRIPTION

Sikadur 45 EpoCem is a three component high performance epoxy-cement repair mortar.

USES

Concrete repairs in continually wet conditions such as:

- * Sewage treatment plants.
- * Bunds.
- * Effluent tanks.
- * Basements.
- * Floor repairs.
- * For exterior and interior use.

ADVANTAGES

- * Pre batched for quality.
- * Rapid strength gain.
- * Easy to mix and apply.
- * Excellent bond to concrete.
- * Contains no chloride admixtures.
- * Waterproof.
- * Low shrinkage.
- * Generally more durable than equivalent class of concrete.
- * Coefficient of thermal expansion similar to concrete.
- * Good mechanical properties.
- * Suitable for drinking water contact.

Technical Data (typical)

Mixed colour:	Grey	
Mixed wet density:	2.15 kg/litre	
Application temperature:	+5°C min, +30°C max (Substrate and ambient)	
Application thickness per layer:	9.0 mm minimum 30.0 mm maximum	
MECHANICAL PROPERTIES		
	3 days	28 days
Compressive strength:	35 - 42 N/mm ²	45 - 48 N/mm ²
Flexural strength:	6 - 8 N/mm ²	7 - 9 N/mm ²
Bond strength (tensile)	-	2 - 3 N/mm ² (Substrate failure)
'Working time': (@20°C)	30 - 40 minutes	
Approved for potable water contact. Details available on request.		
All above values are approximate.		

CONCRETE SUBSTRATE PREPARATION

Breakout and remove all concrete designated as being defective, loose and unsound, using suitable mechanical equipment.

Ensure sufficient concrete is removed from around reinforcement to allow priming and compaction of the repair material.

At the repair locations, feather edging should be avoided. The edges should be square cut to at least the recommended minimum application thickness of the repair material. Where a saw cut is employed, the substrate should be roughened mechanically to provide a 'key' between the repair mortar and substrate.

STEEL REINFORCEMENT PRIMING

Prior to applying **SikaDur 45 EpoCem** into the repair area, apply two coats of **SikaTop® Armatec 110 EpoCem®** onto the reinforcement in accordance with the product technical data sheet.

CONCRETE SUBSTRATE PRIMING

The prepared substrate should be thoroughly soaked with clean water until uniformly saturated leaving no standing water. To the pre-dampened surface, brush apply a bonding bridge of **SikaTop Armatec 110 EpoCem** prior to the application of the repair mortar. Always apply repair mortar "wet on wet" to bonding bridge. Re-apply bonding bridge if surface dries.

MIXING

SikaDur 45 EpoCem repair mortar should be mechanically mixed using a forced action mixer or in a clean drum using a drill and paddle. A normal concrete mixer is NOT suitable.

Shake component A (white liquid) then pour into component B and shake for 30 seconds. Then mix with component C thoroughly with a low speed electric stirrer (300 - 400 rpm) for a minimum of 3 minutes until a uniform mix has been achieved. Immediately apply the repair mortar.

APPLICATION

The mixed mortar must be worked well into the wet primed substrate by gloved hand or trowel, filling all voids ensuring full encapsulation around exposed reinforcement. Compact well. Apply in layers to the maximum application thickness and allow to reach initial set. If more than 12 hours between layers, apply a bonding bridge of **Armatec 110 EpoCem®**. The final layer is best finished with a wood/plastic float or a damp sponge after initial set has taken place, to provide a textured surface suitable for the subsequent application of reprofiling mortars and coatings.

Handling Precautions

Sika products are generally harmless provided that certain precautions normally taken when handling chemicals are observed. The materials must not, for instance, be allowed to come in contact with foodstuffs or food utensils and measures should also be taken to prevent the uncured materials from coming in contact with the skin, since people with particularly sensitive skin may be affected. The use of protective clothing, goggles, barrier creams and rubber gloves is required. The skin should be thoroughly cleaned at the end of each working period either by washing with soap and warm water or by using a resin-removing cream - the use of powerful solvents is to be avoided. Disposable paper towels - not cloth towels - should be used to dry the skin. Adequate ventilation of the working area is recommended. In case of accidental eye or mouth contact, flush with water - consult a doctor immediately. Health and Safety information on Sika Products is available and we strongly advise that this is read prior to their use. Sika products are for professional use and should be stored in sealed containers away from the reach of children.

Important Note

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users should always refer to the most recent issue of the Technical Data Sheet for the product concerned, copies of which will be supplied on request.

Please consult our Technical Sales Department for further information

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IMPORTANT CONSIDERATIONS

CURING

It is essential to cure the repair mortar immediately after application for a minimum of 24 hours to ensure full cement hydration and to minimise cracking. Use polythene sheeting taped down at the edges or other approved method.

- * Large/deep repairs may be subject to shrinkage and cracking. This may be minimised by limiting repair volumes and reducing layer thicknesses.
- * Do not add water.
- * Apply only to prepared, sound substrates.
- * Allow repair mortar to harden between applications.
- * Differing temperatures at the time of application will affect the workability of the product. This can be improved by reducing component C by a maximum of 10% by wt.
- * Protect freshly applied material from freezing.

CLEANING

Remove **SikaDur 45 EpoCem** from tools and equipment with water. Hardened material can only be removed mechanically.

PACKAGING

Refer to latest price list.

CONSUMPTION

2.15 kg/m²/mm (2.15 kg/litre)

Excluding allowances for loss wastage, surface profile and porosity.

STORAGE AND SHELF LIFE

Minimum 6 months in unopened original sealed containers stored in dry warehouse conditions (+5°C - +25°C).

