

REDIREP 45 RSF

Fiber reinforced shrinkage compensated thixotropic mortar for concrete repair



DESCRIPTION OF THE PRODUCT

Redirep 45 RSF is a dry mortar for repairing concrete substrates.

Redirep 45 RSF is frost-resistant and has very good adhesive properties. The mortar sets quickly with low shrinkage.

Redirep 45 RSF consists of special cement, dry well-graded sand, as well as additives to improve the mortar's workability and adhesion.

Redirep 45 RSF does not contain any components, neither in the cement nor the sand, that could give rise to alkali reactions.

WHERE TO USE

Redirep 45 RSF is especially suitable for repairing all kinds of defects and damage to concrete substrates.

Redirep 45 RSF has the following characteristics:

- Sets rapidly: Low risk of plastic shrinkage.
- Shrinkage compensated: Low drying shrinkage.
- Hardens rapidly: Makes rapid progress possible.
- Good resistance to marine environment.
- Low permeability: Very high frost resistance.

Redirep 45 RSF meets the requirements defined by EN 1504-9 (*"Products and systems for protection and repair of concrete structures - Definitions and requirements, quality control and evaluation of conformity. General principles for the use of products and systems"*). And the minimum requirements claimed by 1504-3 (*"Structural and non-structural repair"*) for mortars of class R4.

INSTRUCTIONS FOR USE

TECHNICAL INFORMATION FOR THE APPLICATION

Composition of the mix	100 kg of Redirep 45 RSF 12.8 - 13.8 kg of water
Application temperature range:	Surrounding and substrate temperature from +5°C to +35°C
Pot life of mix:	approx. 20 minutes (at +20°C)
Environment of use (climatic and geographical conditions):	The product can be used in the environmental conditions pursuant to the following exposure classes (EN 206- table F.1) X0/XC4/XS3/XD3/XF4/XA1

Preparation of the substrate

Loose, porous materials and contaminants such as cracked concrete, form oil, and paint are removed using sandblasting, steel brushes, chisels, high-pressure washers, or other methods. Smooth surfaces are roughened to a texture of approximately 5 mm. Exposed reinforcement is cleaned mechanically, and concrete residue and rust are removed with a steel brush or sandblasting. Pre-treatment should be done in such a way that new damage does not occur. Avoid finishing with a thickness that tapers to zero. Edges should be made perpendicular. The substrate is dampened so that it absorbs slightly, and may be treated with **Redisit** as a bonding bridge. Exposed rebar is treated with **Redisit**.

Preparation of the product

Mix mechanically (drill with whisk or suitable concrete mixer) with 3.2 to 3.45 liters of water per 25 kg bag of **Redirep 45 RSF**, yielding approximately 12.5 liters of ready-to-use repair mortar. Mix for 2 minutes, scraping down dry material from the edges, and continue mixing for an additional 1 - 2 minutes until a uniform and homogeneous mixture is achieved.

Instructions for the preparation of the mortar to create samples for Lab testing are contained in the TECHNICAL DATA table.

Application of the product

Redirep 45 RSF is applied with suitable masonry tools, without the use of formwork, building up to the desired thickness. For larger repairs, the next layer should be applied only after the first layer has set. The surface should be moistened before applying the next layer. For larger damages, additional reinforcement must be considered. Avoid rapid drying. Re-water for at least 3 - 4 days or cover with plastic. Afterwards, the surface should be treated with **Mapecure 1** to reduce the risk of cracking.

Note: Surfaces that are to be painted or treated with another surface treatment should not be applied with **Mapecure 1**.

NB!

The mortar is workable for approx. 20 minutes at +20°C, and for approx. 35 minutes at +10°C. You should therefore make sure that you do not mix more than you can use within this time.

CLEANING

Fresh mortar can be removed from tools and equipment with water. Hardened mortar can only be removed mechanically.

CONSUMPTION

Approx. 2 kg/m² mm of thickness.

PACKAGING

Redirep 45 RSF is supplied in 25 kg bags.

STORAGE

Redirep 45 RSF can be stored up to 12 months from production date in unopened, original packaging in dry conditions. Opened bags should be used immediately.

SAFETY INSTRUCTIONS FOR PREPARATION AND INSTALLATION

Instructions for the safe use of our products can be found on the latest version of the SDS available from our website www.mapei.no

PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)

PRODUCT IDENTIFICATION DATA

Class according to EN 1504-3:	R4
Type according to EN 1504-1:	PCC
Consistency:	powder
Colour:	grey
Maximum size of aggregate:	1 mm
Chloride ion content: – minimum requirement $\leq 0.05\%$ - according to EN 1015-17:	$\leq 0.05\%$
EMICODE:	EC1 Plus - very low emissions

TECHNICAL INFORMATION FOR PRODUCT PREPARATION

Composition of the mix:	100 parts in weight of Redirep 45 RSF with 12.8 % of water
Preparation of the mix:	according to EN 196-1

CHARACTERISTICS OF THE FRESH MIX (at +20°C and 50 % R.H.)

Colour of mix:	grey
Consistency of mix:	thixotropic
Density of mix:	2050 kg/m ³

FINAL PERFORMANCE

According to curing defined in the tests methods

Performance characteristic	Test method	Requirements according to EN 1504-3 R4	Product performance
Compressive strength: - 1 days - 7 days - 28 days	EN 12190	- - ≥ 45 MPa	> 20 MPa > 30 MPa > 45 MPa
Flexural strength: - 1 days - 7 days - 28 days	EN 196-1	not required	> 3 MPa > 4 MPa > 6 MPa

Modulus of elasticity in compression:	EN 13412	≥ 20 MPa	22 GPa
Adhesion to concrete by pull-off:	EN 1542	≥ 2 MPa	> 2 MPa
Capillary absorption:	EN 13057	≤ 0.5 kg/m ² ·h ^{0.5}	≤ 0.5 kg/m ² ·h ^{0.5}
Thermal compatibility - freeze-thaw cycles using de-icing salts (50 cycles):	EN 13687-1	≥ 2 MPa	> 2 MPa
Carbonation resistance:	EN 13412	$D_k \leq$ control concrete (MC(0.45))	passes
Reaction to fire:	EN 13501-1	Euroclass	AI

WARNING

Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above - information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application: for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application: in every case, the user alone is fully responsible for any consequences deriving from the use of the product. The values declared in the TECHNICAL DATA table (typical values) were obtained in compliance with test methods and curing cycles defined in the technical standards referenced therein. Therefore please note that the use of test procedures or methods other than those indicated in the table could lead to different values and that, in such cases, any liability of our company is excluded.

Please refer to the current version of the technical data sheet, available from our web site www.mapei.no

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement or replace requirements per the TDS in effect at the time of the MAPEI product installation. For the most up-to-date TDS and warranty information, please visit our website at www.mapei.no

ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED MAPEI WARRANTIES.

Mapei AS

Vallsetvegen 6, 2120 Sagstua, Norge



+47 62 97 20 00



www.mapei.no



post@mapei.no

10017-11-2024-gbxno

Any reproduction of texts, photos and illustrations published here is prohibited and subject to prosecution

