



Rev 0  
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# EPOTEK RIPRESA

Two-component solvent-free epoxy resin with extremely low viscosity for construction joints and structural bondings



## DESCRIPTION

EPOTEK RIPRESA is a two-component, solvent-free, low viscosity, epoxy resin, which is stable in alkaline environments, and which was specifically designed for the adhesion of concrete casts on pre-existing casts.

EPOTEK RIPRESA is used for the restoration of deteriorated and chipped structures, for cracks filling or the restoration and levelling of flat concrete surfaces.

Thanks to its fluidity and its compatibility to substrates with presence of moisture, it is ideal for structural injections.

Available in both summer and winter versions.

EPOTEK RIPRESA was formulated to create a “structural” bonding layer between new concrete or restoration mortar and old concrete. During the pull-off strength tests no product detachment has ever occurred, only the rupture of the concrete supports.

## APPLICATIONS

EPOTEK RIPRESA is specifically designed for:

- structural construction joints: fresh on fresh or fresh on hardened;
- structural bonding: of cracks, rigid couplings in industrial floors, pillars, beams (maximum size 5mm).

## FEATURES

EPOTEK RIPRESA features:

- high adhesive strength, in addition to antioxidant and anti-carbonation properties;
- high resistance to water, to alkali, to salt solutions, to hydrocarbons, to most organic solvents and to lubricating oils;
- extremely low viscosity without solvents, so it is endowed with high wetting and penetration without shrinkage;
- perfect adhesion to wet substrates, iron, glass, ceramic, concrete, stone, etc;
- great mechanical performance with high compressive and flexural strengths;
- waterproof.

## PHYSICAL PROPERTIES

Colour	Greyish
Ratio A:B (Summer version)	1 : 0.30 in weight
Ratio A:B (Winter version)	1 : 0.36 in weight
Specific gravity	1.33 ± 0.03 kg/dm <sup>3</sup>
Dry residue	100%
Pot-life W (100g at 10°C)	> 240 min
Pot-life S (100g at 10°C)	> 330 min
Pot-life W (100g at 20°C)	> 150 min
Pot-life S (100g at 20°C)	> 240 min
Pot-life W (100g at 30°C)	> 60 min



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Pot-life S (100g at 30°C)	> 150 min
Hardening to the touch (at 20°C)	approx. 24 h
Complete hardening (at 20°C)	7 days
Minimum application temperature	> 5°C
Compressive strength	> 70 MPa
Tensile strength	25 MPa
Flexural strength	30 MPa
Elastic modulus	> approx. 2300 MPa
Film drying time (at 20°C)	approx. 7 h
Flammability	Group C
Surface hardness	Shore D.86

Adhesion concrete-concrete detachment:	0%
adhesion rupture:	0%
suppl. rupture:	100%

## INSTRUCTIONS FOR USE

EPOTEK RIPRESA comes into two separate packages: A = base compound, B = hardener. Before taking out the needed quantities, both products must be thoroughly mixed, each one in its own container.

We then suggest you mix them at the time of use, adding the hardener (B) to the base compound (A) according to the weight ratio indicated on the package.

The product should be mixed for approximately 5 minutes, if possible by using a mechanical stirrer equipped with a low-speed bottom propeller, in order to avoid incorporating air in the product. Keep mixing until complete homogeneity is reached, avoiding overheating the mixture (main reason for the reduction in workability time).

## APPLICATION

If EPOTEK RIPRESA is applied on hardened concrete, it is crucial to make sure that the surfaces are clean, solid, free of dust and crumbling and non-adhering parts, free of oil and grease stains. To sew a crack: perform holes all along the crack, to a depth of at least 10 cm. both the distance between the holes and their depth depend on the size and on the depth of the crack to be sewed.

## CONSUMPTION

From 400 to 800 gr/m<sup>2</sup>, depending on the porosity of the support.

## PRECAUTIONS/WARNINGS

Avoid contact with skin and eyes.

In case of accidental contact, wash the affected part thoroughly with soap and water.

## PACKAGING AND STORAGE

EPOTEK RIPRESA is available in the following packages:

WINTER VERSION

kg (A+B) = 5 + 1.8 = 6.8 kg

kg (A+B) = 10 + 3.6 = 13.6 kg

kg (A+B) = 15 + 5.4 = 20.4 kg

SUMMER VERSION

kg (A+B) = 5 + 1.5 = 6.5 kg

kg (A+B) = 10 + 3 = 13 kg

kg (A+B) = 15 + 4.5 = 19.5 kg

kg (A+B) = 20 + 6 = 26 kg



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If stored in its original package, in separate bags, at a minimum temperature of 10°C, it has a stability of over a year.

If temperature drops below 10°C, the resin might feature an increase in viscosity and lumps formation. In this case, before using it, heat the sealed package by immersing the bucket in hot water, until lumps disappear.

## WARNINGS

Under normal use conditions the product is not dangerous for those who handle it. While applying it don't eat, drink, nor smoke and use protective garents such as gloves, glasses and a face mask. The information contained in this technical data sheet are, as far as we know, exact and accurate, but every reccomendation and suggestion is given without guarantee, since the conditions of use are not under our direct control. When in doubt it is always advisable to run preliminary tests or consult with our technical department.

## LEGAL NOTICE

Information contained in this technical data sheet, even though it represents our most advanced stage of knowledge, does not exempt the user from running accurate preliminary tests under their own conditions of use and operation. We therefore decline any responsibility for the improper use of the product.

Features	Testing method	Requirements UNI EN 1504-4	Product performances
Application temperature			+5 °C - +40 °C
Mixing ratio A:B (in weight and volume)			1 : 0.3 summer version (S)
Mixing ratio A:B (in weight and volume)			1 : 0.36 winter version (W)
Pot-life (workability)	EN ISO 9514	Declared value	at 10°C : > 240 min (W) and > 330 min (S) at 20°C : >150 min (W) and > 240 min (S) at 30°C : <60 min (W) and > 150 min (S)
Volumic mass (A+B)	EN 1183-1	Declared value	1.33 ± 0.03 kg/dm <sup>3</sup>
Glass transition temperature	EN 12614	≥ 40°C	> 55 °C
<b>Performances</b>			
Adherence to steel by direct traction	EN 1542		≥ 15 N/mm <sup>2</sup>
Adherence to concrete by direct traction	EN 1542		≥ 3 N/mm <sup>2</sup> Concrete rupture
Working time	EN 12189	Declared value	≥ 90 minutes
Shear adhesion on inclined plane	EN 12188	≥ 12 N/mm <sup>2</sup>	50° inclination > 70 MPa 60° inclination > 70 MPa 70° inclination > 80 MPa
Pull-off strength (75 KN load)	EN 1881		< 0.5 mm
Creep calculation (after 3 months)	EN 1544		< 0.6 mm
Compressive strength at 7 days	EN 12190	≥ 30	> 70 MPa
Flexural-tensile strength	EN ISO 178		> 25 N/mm <sup>2</sup>
Shear strength	EN 12615	≥ 6	> 15 N/mm <sup>2</sup> concrete rupture
Compressive modulus of elasticity	EN 13412	≥ 2000 N/mm <sup>2</sup>	> 2300 N/mm <sup>2</sup>
Bond/adhesion strength: hardened on hardened	EN 12636	Cohesive rupture of a piece of concrete	Test passed
Bond/adhesion strength: fresh on hardened	EN 12636	Cohesive rupture of a piece of concrete	Test passed
Glass transition temperature	EN 12614	≥ 40°C	> 55°C
Thermal expansion coefficient	EN 1770	≤ 100x10 <sup>-6</sup> per °C	< 60x10 <sup>-6</sup> per °C
Durability, calculated as adherence after thermal and humidity cycles	EN 13733	Test passing	Test passed – concrete rupture
Calculation of the electrical resistance			≥ 50x10 <sup>9</sup> Ω
Linear shrinkage	EN 12617-1	≤ 0.1%	< 0.033%
Reaction to fire	EN 13501-1	Euroclass	C s1 d0



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## TECHNICAL INDICATIONS

### Tarif B.009.212

Concrete surfaces pre-treatment for the contact between old and new casts.

Of concrete surfaces of artworks and/or different existing artifacts, bond to contact between old and new structural casts, with a special grout, obtained by mixing 1 part of vinyl acrylic resin watery solution with 1 part of cement, applied by brush, roller or spray, by rate of 2-3 litres per square meter, so that the best adhesion between old and new casts can be guaranteed.