RESICOL 116

SOLVENT-FREE EPOXY PRIMER, ADHESION PROMOTER FOR BONDING NEW CONCRETE ON OLD CASTINGS

Slightly thixotropic adhesive primer, based on solvent-free epoxy resins, hardened with modified amidic polymers, added with mineral fillers and thixotropic agents, specific for wet surfaces.
Also available is the AF version with improved fire reaction characteristics, low flammability and reduced propensity to flame propagation.
RESICOL 116 AF is approved as a marine equipment in the ARDENON cycle, the certificate issued by RINA is marked with the number MED036517CS.

Areas of use

- Rigid structural bonding of different building materials, such as concrete, iron, steel, wood, brick, stone, marble, tuff, glass;
- smoothing and sealing the pores of concrete walls;
- primer for epoxy mortars: RESIMALTA 204, 205, 210, 220 and 250;
- adhesive and primer for rounded skirting boards built with RESIMALTA 205/250;
- impregnation for bonding fabrics and fibers in structural reinforcement with composite materials (carbon fibers, glass, aramid);
- impregnation of non-woven glass fiber fabric to create laminated coatings in tanks for which high chemical resistance protection is required.
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The version of RESICOL 116 called AF has better fire reaction characteristics than the standard version and is suitable for use where there are more stringent demands for fire resistance and reduced flame propagation.
RESICOL 116 AF finds its specific application as an adhesion promoting primer within the surface coating cycle for marine equipment called ARDENON before the application of the AUTOMIX FLEX PU flexible screed.

Features

RESICOL 116 is a fluid product, slightly viscous, with a thixotropic behavior up to 1,5 - 2 mm thick, able to adhere perfectly to all building materials because it hardens without shrinkage.
It achieves high mechanical properties and guarantees:

- excellent adhesion on dry and wet concrete, on brick, stone, steel;
- excellent dielectric properties (low electrical conductivity);
- excellent resistance to aggressive chemical reagents (acids and bases) and good resistance to solvents;
- ease of use thanks to pre-dosed packaging.
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It can be applied with spatula, brush, roller or spray.

How to use

Preparation of the support
Sandblast, hammer, abrade the support to remove friable parts, traces of release oils, grease, paints, cement latex, remove dust with pressurized air and vacuum.
The concrete may be damp but must not be saturated, have water stagnation, rising damp (negative pressure) and must in any case be fully cured (28 days).
Application to metals requires careful preparation of the substrate: remove oils, greases, paints and rust by abrasive or blasting with white metal (grade SA 2 - SA 3).

Product preparation
Pour component B into component A according to the weight ratio indicated on the packages.
Mix for 3 '- 5' at low speed with a drill fitted with a spiral / propeller so as to incorporate as little air as possible; during this operation, carefully mix the product also on the bottom and on the walls of the package.

Application
Apply with a spatula, brush, roller or spray as needed.
Before application, check that the temperature of the substrate and the layers already applied is always at least 3 °C higher than the dew point and that this condition remains at least until the film has hardened to avoid condensation. It is a good rule for applying synthetic resin-based coatings to apply the subsequent coats on the primer which is not perfectly polymerized so as to favor the wettability of the film and the chemical adhesion between the layers, it is also advisable to sow a dust with quartz 0,3-0,9 mm on the fresh primer to increase the specific surface and also favor the mechanical grip. If it is impossible to over-apply within 48 hours it is advisable to proceed as described in the “Preparation of the support” section and then apply the primer again.

Note
The packages are pre-dosed in weight: use component A completely and component B. if you want to fractionate the package, the products must be weighed respecting the ratio A + B indicated on the label and not dosed in volume.
Three fundamental rules apply to all two-component systems: weigh well, thoroughly mix the bottom and walls, respect the times of use.
Use as a casting joint is only valid for epoxy resin mortars.

Technical characteristics

Bending strength	>25 N/mm²
Shearing strength *	>15 N/mm²
Compressive elastic modulus	~ 5000 N/mm²
Adhesion to wood (pine)	> 3 N/mm²
Adhesion to dry concrete	> 4,5 N/mm²
Adhesion to damp concrete	> 2,8 N/mm²
Adhesion to steel	3,1 N/mm²
Viscosity	~ 3600 cP
Density	1,13 kg/dm³
Mixture ratio (A + B)	100 + 44
Mixture ratio (A + B) with **RESICOL 116 FAST comp. B**	100 + 40

* test carried out on specimens bonded with an angle of 60 °.

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Use and hardening times

By pouring B component into A component, the hardening reaction starts: following mixture the time available is limited and it depends on the temperature.

Temperature [°C]	Pot-life [min.]	Hardening [h]
10	180	10
20	80	4
30	35	2,5
40	15	1,5

Do not apply at temperatures above 35 °C, avoiding direct exposure to sunlight, below 5 °C, in the event of imminent danger of rain or frost, in conditions of strong fog or with U.R. greater than 70%.

In the case of applications at low temperatures it is advisable to store the packages of material for at least 24 hours at about 20 ÷ 25 ° C before application. However, it is possible to increase the reaction speed of the product with the accelerator for epoxy systems called H31; this must be dosed from 0,75 to 3,75% by weight on component A, depending on the degree of acceleration required. The product must be added to component B and mixed thoroughly before being added to component A.
Otherwise it is possible to use as curing agent the product RESICOL 116 FAST component B.
However, it is advisable to carry out preliminary tests to verify the correct pot-life and hardening time based on the environmental conditions.

Consumption

It varies from 0,3 to 0,8 kg/m² depending on the porosity of the support.
To impregnate fabrics and fibers, consumption ranges from 0,8 to 1,5 kg/m².

Packaging and storage

Available in packages (component A + B) of 1,08 and 4,32 kg (standard), 1,05 and 4,2 kg (fast).
For the RESICOL 116 AF version, packs of 1,4 and 4,2 kg are available.
In original and closed packages, the product remains unchanged for at least one year if it is kept in an environment with a temperature between 10 and 30 °C.

Cleaning of tools and health precautions

Before handling, always consult the product safety data sheet.
To clean tools use solvents such as RESISOLV 111, RESISOLV 196 or alcohol.

Epoxy resins and hardening agents may cause irritations: please avoid any contact with the skin and especially with the eyes and ensure proper ventilation during use.
Wear gloves, protective suit, goggles or protective visor. People who have to work with epoxy resins for long periods are advised to use protective creams.
In case of contact with the skin, immediately clean with a cloth soaked in denatured alcohol and wash with water or neutral soap or handwash paste. Then use a nourishing cream.
In case of contact with eyes or mucosa, do not use alcohol. Rinse immediately with running water and neutral soap for 10/15 minutes, then seek medical advice.

Do not rinse with solvents.

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