



RESICOLOR 451

WATERBORNE COLOURED EPOXY PAINT FOR FLOORS, WALLS AND CONCRETE SURFACES

Semi-glossy coloured enamel, solvent-free, based on liquid epoxy resins in water emulsion and hardened with amidic polymers, It is used for coloured protecting coatings which are very pleasant to look at for floors and walls in civilian and industrial contexts.
The product is CE-marked according to UNI EN 13813.

Areas of use

Civilian buildings:

- Painting of garages, basements, utility rooms (boiler rooms, lift pit, etc.);
- Painting of cornices, intrados and vault balconies and projecting elements
- Painting of concrete pillars and masonry already coated with fine cement plaster;

Industrial buildings:

- Reduced thickness coatings (FINOMIX varnishing cycle) of industrial floors in concrete, warehouses, deposits and laboratories in the food, mechanical, chemical, electronic, pharmaceutical and textile sector;
- Painting of horizontal, vertical and intrados surfaces, concrete structures and outdoors/indoors prefab elements to improve the esthetical appearance and protect them from decay caused by pollution and acid rains;

RESICOLOR 451 may be used alone as finishing, or as undercoat before finishing with polyurethane coatings such as RESICOLOR 475 o 480.

Features

RESICOLOR 451 is a two-component epoxy enamel which is very pleasant to look at. It features good mechanical strength to wear and tear, moderate chemical resistance to low concentration of basic and acid solutions and good resistance to oils and fats.

Compared to standard painting, RESICOLOR 451 offers the following advantages:

- Excellent adhesion to concrete, bricks and stones;
- Waterproof against liquids but it lets steam through;
- It can be varnishes with epoxy, polyurethane and acrylic products;
- It makes cleaning the surfaces easier and enables use of washer-drier machines or high pressure water jet cleaners;

This produces features low risk for the environment and for its users because it is in water emulsion and it is solvent-free; it does not release harmful vapours and its tools can be easily cleaned with water after use. It can be applied in those environments where use of solvents is not recommended or it is dangerous, i.e. enclosed buildings or with insufficient ventilation or in environments with risk of sparks;

How to use

Preparation of the support

Floors

The surfaces to be coated must be compact, crumbly-part grout and cement cradle-cap –free, clean and with no oils, fats or waxes. Cracks, cuts or small millings must be stuccoed with epoxy adhesives like RESICOL 100.

The product can be applied on dry or damp concrete floors following washing with washer-dryer. For better adhesion, the surface must be slightly roughened with diamond or silicon carbide wheels. Then remove any traces of dust or dirt using an aspirator. In case of closed and compact surfaces like dry-shake industrial floors, acid washing (5÷10% hydrochloric acid) is recommended following sand-paper with consequent washing and neutralization.

Walls

Very porous concrete walls or with cracks and omega cavities must be levelled in advance with RESICOL 100, epoxy adhesive or with RESICEM 712, cement bi-component smoothing agent. Plasterboard must be treated in advance with an insulating agent like RESICOL 170, a single-component acrylic primer.

Preparation of the product

Pour component B into component A and blend at slow speed for 3' – 5' using drill with helix/spiral to reduce air inlet as much as possible; during this operation, carefully scrape also the bottom and the sides of the package.

In the event of partial use of the package, the two components must be carefully weighed in weight (not in volume) following the ratios on the label.

Application

Brush, roller or airless spray apply, in at least two layers, with average consumption per layer of 100÷200 g/m². The first layer must be diluted with 5÷10% water to improve product penetration in the support. The following applications can be made with no dilution.

On plasterboard application use the product as it is.

Notes

The product is not applicable on surfaces soaked in water, in the presence of puddles or wet surface film. Apply only after complete curing of the concrete. Do not apply on fine mortar or lime-based plasters. In any case, apply only at temperatures at least 3 °C higher than the dew point.

Technical characteristics

Adhesion to C25/30-class concrete		> 3,5 N/mm ² Support failure
Water vapour permeability	(thickness 200 µm)	7 g/m ² /24 h
Water absorption	(thickness 200 µm)	< 0,5%
CO₂ permeability	(thickness 200 µm)	> 300 m
Resistance to abrasion: Taber (CS 17 stone,500 g, 1000 cycles)		100 mg
Impact resistance (1 kg , Ø 20 mm)		50 cm/kg
Viscosity		3600 cP
Resistance to frost/thaw: 200µm thicknesses after 30 cycles 9h at -12C° and 8h at +18C°		Passes
Liquid mixture density		1,25 kg/dm ³
Mix ratio A + B		100 + 100

Chemical resistance

Exposure (days) ⁱ	3	10	30	60
Deionized water	+	+	+	+
Sodium chloride 20%	+	+	+	+
Chromic acid 5%	+	+	+	+
Acetic acid 5%	0	-		
Citric acid 30%	+	+	+	+
Lactic acid 2%	-			
Sodium Hydroxide 15%	+	+	+	+
Ammonia 10%	+	+	+	0
Wine	+	+	+	0
Milk	+	+	+	+
Whisky	+	+	0	0
Vegetable oils	+	+	+	+
Mineral oils	+	+	+	+
Gas oil, petrol	+	+	0	0
Ethanol 10%	+	+	0	-

+ = no corrosion

0 = slight degradation

- = marked degradation

RESICOLOR 451 features good resistance to occasional contact with low concentration acid and basic solutions, but in case of permanent contact. Dumping of solutions made with most organic and inorganic acids and solvents (methanol, benzole, toluene) must be promptly removed (cleaned and neutralised).

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	Pot life	Tack free	Overpaintable
10°C	150 min.	10 hours	20 hours
20°C	100 min.	7 hours	15 hours
30°C	50 min.	4 hours	10 hours

Complete hardening takes place after seven days of curing with a temperature of the substrate not lower than 10°C.

Application at temperatures below +5 C° and above +30 C° is not recommended.

More than 48 hours after application, the surface must be sanded with an abrasive disc or mesh (120 grit) before repainting.

Consumption

Type of coating	Consumption
Cement dry-shake floor	150 g/m ² per layer
Float-finished cement screed or damp soil	200 g/m ² per layer
Wall coating	150 g/m ² per layer
Fine float-finished sand-cement plaster	120 g/m ² per layer

Packaging and storage

Available in packages (A+B) of 10, 20 and 40 kg.

Available colors:

Yellow	1006, 1013, 1014, 1015, 1017, 1018, 1019
Orange	2000, 2003, 2010
Red	3001, 3009, 3011, 3020
Blue	5003, 5007
Green	6010, 6019, 6021, 6027
Grey	7001, 7004, 7006, 7016, 7022, 7024, 7025, 7030, 7032, 7035, 7037, 7038
Brown	8004, 8014, 8023
White	9002, 9010
Black	9004

Orders for colour on request will be accepted only for amounts of more than 100 Kg, with surcharge.

Packages must be kept vertically and closed: the product remains intact for at least 18 months if kept in sealed and protected environment with a temperature between 10 and 30°C.

RAL codes shown in the table are filling colours and do not represent any the exact chromatic shade of the coating.

Cleaning of tools and health precautions

Before handling, always consult the product safety data sheet.

To clean tools use water, 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

The information supplied in this sheet is the result of the best practical and laboratory experiences of RESIMIX, which guarantees its products when used according to the instructions supplied. It is nonetheless up to the customer to ensure the product is suitable for the intended use. The manufacturer declines any responsibility for incorrect use or uses beyond his control. RESIMIX reserves the right to make changes to the data. For any request, please contact the RESIMIX Technical Assistance Office.