



TECHNICAL SPECIFICATIONS GUIDELINE

SOLVENT-FREE HIGH BUILD EPOXY 5500

Very high build solvent-free epoxy system, activated by polyamine addition.

CHARACTERISTICS

- No solvent
- High build in one coat
- Suitable for sensitive environments
- Virtually odour-free/
- High abrasion and chemical resistance
- Extremely resistant to humidity
- Very smooth film very easy to clean

ACCEPTABLE SUBSTRATES

CONCRETE

Surface condition

New concrete must dry and cure for 30 days as a minimum prior application of the coating system. In compliance with usual standard, mass humidity should not exceed 4%. This will be checked by use of a humidity tester, or with a taped plastic sheet under which no formation of condensation should be observed overnight. Surface must be clean and dry prior and during application.

TILES

Surface condition

Tiles should be well-adhered to the substrate, which will be checked using a rubber mallet. Tiled floors should have a proper evaporation margin to prevent moisture capillary rising. Surface must be clean and dry prior and during application.

STEEL

Surface condition

Steel substrates must be properly supported to avoid warping, which could cause the coating to work and lead to cleavage.

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A: Steel substrate extensively covered with adhered mill scale but with few or no rust at all.

B: Steel substrate that has started to rust and whose mill scale has started to delaminate.

C: Steel substrate from which mill scale has disappeared under action of rust, or that can be removed by scrapping, but showing some rust cankers visible by naked eye.

D: Steel substrate from which mill scale has disappeared under action of rust, or that can be removed by scrapping, but showing a lot of rust cankers visible by naked eye.

NON-FERROUS METALS

Surface condition

Surfaces must be made up of solid and non-deformable structures.

OLD COATINGS

Surface condition

Old paints and coatings should be perfectly adherent and compatible with a solvent-based epoxy system. In case of doubt, carry out a test on a small control-surface. Compatibles glossy coatings will be sanded mechanically.



SURFACE PREPARATION

GENERAL

Remove any dust, debris etc ; degrease and eliminate any contamination by alkaline cleaning with Cleaner-Degreaser RUST-OLEUM ND14 or high pressure cleaning combines with appropriate detergent, followed by thorough rinsing and full drying.

CONCRETE

Very dense, smooth, non-absorbing, power-floated concretes, will be etched by dustfree fine abrasive blasting, or with etching acid solution RUST-OLEUM SURFA-ETCH 108, followed by thorough rinsing, if a mechanical preparation is not possible. Laitance layers, concrete curing compounds will be eliminated by abrasive blasting.

On old concrete, remove laitance, old coatings in poor conditions, curing compounds, any loose or doubtful parts of concrete by abrasive blasting or grinding.

TILE

See General.

STEEL

See General.

Remove rust, rust scales, mill scale and old paints in bad condition, either manually or mechanically, according to the surface* :

Grades A and B : abrasive blasting SA 2 ½ (ISO 8501-01), max. rugosity 75 µm.

Grades C and D : pitting, grinding or scrapping-wire brushing to degree of care St 2/3 (ISO 8501-01), abrasive blasting SA 2 ½ (ISO 8501-01), max. rugosity 50 µm.

** Large surfaces will be preferably treated by abrasive blasting.*

GALVANIZED STEEL

See General.

New galvanized steel will be degreased and etched with acidic etching solution RUST-OLEUM SURFA-ETCH 108 followed by thorough rinsing with fresh water.

Zinc oxides, « white rust » will be eliminated with acidic etching solution RUST-OLEUM SURFA-ETCH 108 followed by thorough rinsing with fresh water.

NON-FERROUS METALS

See General.

New aluminum will be degreased and etched with acidic etching solution RUST-OLEUM SURFA-ETCH 108 followed by thorough rinsing with fresh water.

Salts and oxides will be eliminated with acidic etching solution RUST-OLEUM SURFA-ETCH 108 followed by thorough rinsing with fresh water.

RECOMMENDED WORKING PROCEDURES

DESIGN (STEEL)

The risk of corrosion can be limited and efficiency of protection dramatically improved when the object design is taken into account.

Preparation :

Sharp edges will be rounded by grinding to an angle of at least 3 mm ; weldings and their spillages will be grinded; cut-outs will be deburred. Avoid non-accessible gaps and discontinuous weldings. Bolts, nuts, rivets etc will be coated with a primer. The latter will be first applied as a touch-up by brush, then as a general coat, ensuring this way a double thickness on most exposed spots.

PRECAUTIONS

During application and first phase of drying (± 12 hours), a high humidity and/or condensation can cause formation of a wet film, which results in alteration of the intercoat adhesion, and that can only be removed in a mechanical way (abrading).

Although High Build Epoxy system 5500 is solvent-free, it is recommended, during its application, to store food or food products in a separate room. Mobile equipment will be moved away from the area of paintworks execution.

PREPARATION

To prevent water infiltration, most frequently at transition areas - entrances, door steps, gutters, drainage shafts etc – it is recommended to cut a chase of minimum 2 mm depth with a grinder, in order to allow anchorage of the coating system.

REPAIRS (CONCRETE)

Surface imperfections, holes, cracks etc in the concrete will be repaired with appropriate RUST-OLEUM repair products: Epoxyshield Small Cracks Repair 203010, epoxy mortars 5180 or 5190 following depth of repair to be carried out.

PRIMERS

Very porous mineral substrates (water drop test : absorption in less than 2 minutes) will receive a coat of epoxy impregnation primer RUST-OLEUM 5401, or 5421 for faster recoating.

Very smooth and non-absorbing substrates such like tile or power-floated concrete (water drop test : no absorption after 4 minutes) will receive a coat of adhesion primer RUST-OLEUM 3333, or 3366 for faster recoating, in case a mechanical preparation would be impossible. This alternative will however not be an option in case of severe mechanical challenges.

Concrete with a humidity percentage between 5 and 10% will receive a coat of epoxy impregnation primer RUST-OLEUM 5401 prior application of topcoat system 5500.

Concrete with a humidity percentage between 11 and 20% will receive a coat of Damp Surface epoxy primer RUST-OLEUM 5130 DSP prior application of topcoat system 5500.

Manually prepared rusted steels (St 2/3) will receive a coat of RUST-OLEUM High Performance epoxy anticorrosion primer 9169.

Sandblasted steels, galvanized steel and non-ferrous metals will receive a coat of RUST-OLEUM Heavy Duty anticorrosion primer 9170 or 9180. In moderately aggressive environments, adhesion primer 3333 Super Adhesive can also be used on galvanized steel and non-ferrous metals.

APPLICATION CONDITIONS

Temperature of air, substrate and product should be between 10 and 35°C, and relative humidity below 85%. Substrate temperature will be 3°C superior to dew point.

Product mixing: mix base material with a slow speed electric mixing machine, maximum 300 rounds/minutes, until homogeneous result is obtained. Add activator to the base : mix well until uniform appearance is reached, scrapping product from sides and bottom of the can, then pour into base can and mix again the two components together until a perfectly homogeneous product is obtained. In case of use of an outer container of a sufficient volume, the base material will be first pour in this container, scrapping product from sides and bottom of the can.

Consult technical data sheets for details on drying times, induction times, pot-life, dilution and recommended application methods. Consult safety data sheets for any information related to safety during use of products.

BACK TO SERVICE (FLOORS)

Depending on temperature, most of epoxy coatings will be hard after 24h and pedestrian traffic will be possible. However the coating remains vulnerable to the action of humidity, detergents and chemicals, until full hardness is reached. It is therefore necessary to take precautions on the coating system as a consequence for one week. During application and drying, solvent-based coatings require good ventilation ; in closed spaces, a forced ventilation is required to avoid solvent retention in the paint film. Best results are obtained when product is applied at an average temperature of 20°C (air, substrate), and when relative humidity can be maintained below 70%. To the extent that hardening of product is a chemical reaction between its two components, temperature plays an important role ; full hardness is reached after about 10 days at 20°C.

SURFACE MAINTENANCE

A RUST-OLEUM 5500 SOLVENT-FREE EPOXY system can be maintained by cleaning with a neutral detergent or alkaline detergent diluted with water. For floors, 2903 Painted Floor Cleaner is ideal. A worn coat can be easily restored by adequate surface preparation and application of a new coat of product. On metal, in case of rust reformation, it is advised to not postpone repair, to prevent any growth.

SYSTEMS OVERVIEW

FLOOR & WALLS SYSTEMS						
SUBSTRATE	CONCRETE		TILE		STEEL	
	Moderately aggressive exposure	System :	D.F.S. :	System :	D.F.S. :	System :
Primer	5401(1)	100 µm	3333	20 µm	9169(2)	50 µm
1st coat	5500	150-250 µm	5500	150-250 µm	5500	150-250 µm
2nd coat	-		-		-	
Total film thickness	150-350 µm		170-270 µm		150-300 µm	
Aggressive exposure	System :	D.F.S. :	System :	D.F.S. :	System :	D.F.S. :
Primer	5401(1)	100 µm	3333	20 µm	9169(2)	50 µm
1st coat	5500	150-250 µm	5500	150-250 µm	5500	150-250 µm
2nd coat	5500	150-250 µm	5500	150-250 µm	5500	150-250 µm
Total film thickness	300-600 µm		320-520 µm		300-550 µm	
Remarks :						
(1) On very substrates porous only						
(2) On rusted substrates only						
Optional :						
If a superior resistance to chemicals, abrasion and/or UV is required, apply an additional coat of polyurethane topcoat RUST-OLEUM 9600.						
To make the surface slip preventive, it is possible to add – by mixing or broadcasting – RUST-OLEUM additive NON SKID 200, 300 or 500 according to desired rugosity.						

ANTICORROSION SYSTEMS								
SUBSTRATES	STEEL		PAINTED STEEL		GALVANIZED STEEL		NON-FERROUS METALS	
	Aggressive exposure	System :	D.F.S. :	System :	D.F.S. :	System :	D.F.S. :	System :
Primer (1)	9169 (1)	50 µm	-		9170/9180	75 µm	9170/9180	75 µm
1st coat	5500	150-250 µm	5500	150-250 µm	5500	150-250 µm	5500	150-250 µm
2nd coat	-		-		-		-	
Total film thickness	150-300 µm		150-250 µm		225-325 µm		125 µm	
Very aggressive exposure	System :	D.F.S. :	System :	D.F.S. :	System :	D.F.S. :	System :	D.F.S. :
Primer (1)	9169 (1)	50 µm	-		9170/9180	75 µm	9170/9180	75 µm
1st coat	5500	150-250 µm	5500	150-250 µm	5500	150-250 µm	5500	150-250 µm
2nd coat	5500	150-250 µm	5500	150-250 µm	5500	150-250 µm	5500	150-250 µm
Total film thickness	300-550 µm		300-500 µm		375-575 µm		375-575 µm	
Remarks :								
(1) On rusted surface only, 5500 topcoats can be applied directly on new steel or steel prepared by abrasive blasting to SA 2 ½.								
Optional :								
If a superior resistance to chemicals, abrasion and/or UV is required, apply an additional coat of polyurethane topcoat RUST-OLEUM 9600.								

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Available colours and pack sizes: See the relevant product page at www.rust-oleum.eu for actual available colours and pack sizes.

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