



Unique Polymer Systems

ADVANCED POLYMER SURFACE ENGINEERING TECHNOLOGY

Unique Polymer Systems – 152 SFE



UPS'152 SFE' is a high performance solvent free high build system designed for use as a corrosion resistant coating for steel, wood, metal, phenolic and GRP surfaces, including under total immersion conditions.

UPS'152 SFE' utilises a special blend of epoxy resins and a polyamino-amide curing system reinforced with inert pigments and inorganic fillers to produce a coating with good physical properties and corrosion resistance together with a high tolerance to manually prepared surfaces.

UPS'152 SFE' offers exceptional application and film build properties enabling high film thicknesses in a single coat and is ideal for hulls of boats and yachts and structural steelwork.

UPS'152 SFE' is simple and easy to use and being solvent free the product does not suffer from solvent entrapment enabling an osmosis resistant system to be achieved in a single application.

UPS'152 SFE' is available in Off White, Light Grey and Dark Grey.

Before proceeding, please read the following information carefully to ensure that the correct application procedure is fully understood.

SURFACE PREPARATION

Surfaces should be clean and free from oils, bacteria or algal growth.

Steel Surfaces: optimum performance will be obtained on surfaces prepared to minimum Sa 2½ in accordance with BS 7079: Part A1, 1989 or equivalent with a minimum surface profile of 75 microns.

Where blast cleaning is not possible or for areas not under permanent immersion, surfaces should be prepared by mechanical wire brushing, grinding or high pressure water jetting (typically 5000 psi) to achieve Swedish Standard St2-St3 taking particular care when cleaning badly pitted surfaces.

GRP Surfaces: surface should be thoroughly abraded with 80 grade paper to remove all surface contamination. For osmosis repair, on Gelcoat use a random orbit sander to achieve a uniform matt finish.

Previously Coated Surfaces: should be abraded using 180 grade emery paper. Any loosely adherent coating must be removed and surrounding area feather edged.

Aluminium Surfaces: should be thoroughly abraded using 180 grade emery paper and ideally primed with UPS'MA9 Tie-Coat' or UPS'MA3 Tie-Coat'.

MIXING

UPS'152 SFE' is a two component material comprising a resin component and hardener component which must be mixed together prior to use.

Both components should be thoroughly stirred to incorporate any slight separation prior to mixing. Whilst continually stirring the resin, the hardener component should be slowly added with mixing continuing until a completely homogeneous mix is achieved. Mechanical stirring for 3-4 minutes using a 2 speed electric drill fitted with a mixing device is the preferred method.

After mixing fully, the material should be transferred to another container with the original container scraped clean into this new container and further mixing then carried out to ensure complete incorporation. Once mixed, transfer immediately to a shallow container, eg. large roller trays and use within 15-20 minutes - Do not leave mixed product in the can.

The mixed material must be used within 50 minutes at 20°C (68°F). This time will be reduced at higher temperatures and extended at lower temperatures.

APPLICATION

Application should not be carried out at temperatures below 5°C (41°F). UPS'152 SFE' is supplied ready for use for application by brush or roller.

For roller applications use a short pile acrylic type roller refill. Before use, remove roller fluff using 40 grit sandpaper.

For brush application good quality brushes should be used. A small test area should be carried out to establish a technique to ensure that the correct thickness is achieved. Even brush strokes should be used to give a uniform coating thickness.

For large applications UPS'152 SFE AS' should be used, full details can be supplied on request from the Technical Centre.

When overcoating, aim to apply subsequent coats onto UPS'152 SFE' when the previous coat reaches the 'tacky' stage (or even before) in order to achieve the best possible adhesion.

Although an ambient temperature at 20°C is the ideal application temperature the product can successfully be applied at 10 - 15°C. Minimum overcoat times would be in the region of 1½ - 2 hours. Pay particular attention to RH levels. Avoid immersion in water until fully cured.

All equipment must be cleaned IMMEDIATELY after use with UPS'SFE Thinners'.

Theoretical Coverage Rate

6.5 m²/litre at 150 microns dft (70 ft²/litre at 6 mil dft).

Recommended Film Thickness

GRP Hulls

Wet 150-200 microns (6-8 mils)
Dry 150-200 microns (6-8 mils)

Steel

Wet 400-500 microns (8-10 mils)
Dry 400-50 microns (8-10 mils)

PHYSICAL CONSTANTS

Mixing Ratio	Resin	Hardener	
	3	1	By volume
Appearance	Resin	Thixotropic Coloured Liquid	
	Hardener	Opaque Liquid	

Drying & Cure times at 20°C (68°F)

Usable Life	50 minutes
Touch Dry	12 hours
Hard Dry	16 hours
Min. Overcoating	1½ - 2 hours
Max. Overcoating	2 days (*)
Full Cure	7 days

* Where RH levels can fluctuate, the maximum overcoating time should be 4 hours.

Volume Solids 100%

V.O.C Nil

Shelf Life Use within 5 years of purchase. Store in original sealed containers at temperatures between 5°C (40°F) and 30°C (86°F)

Operating Temperature

	Maximum	Continuous
Dry Heat	250°C (250°F)	120°C (176°F)
Wet Heat	120°C (175°F)	70°C (122°F)

FOR FURTHER INFORMATION PLEASE CONTACT



PHYSICAL PROPERTIES

Abrasion Resistance 40 mgm weight loss per 1000 cycles
- ASTM D4060 1 kg load . CS17 Wheel

Impact Resistance 2.6 Joules (23 in lbs)
ASTM G14

Dry Heat Resistance 100 (212°F)
ASTMD2485

Direct Pull Adhesion 205 kg/cm² (2920 psi) steel
ASTM D4541

Water Vapour Permeability 1.2 gm.mm/m²/24hrs
ASTM D1653

Salt Fog Resistance Excellent, unaffected
ASTM B117

Humidity Resistance Unaffected 5,000 hours
BS3900 Part F2 exposure

HEALTH AND SAFETY

As long as normal good practice is observed UPS '152 SFE' can be safely used.

Protective gloves should be worn.

A fully detailed Material Safety Data Sheet is either included with the material or is available on request.

PACKAGING

Supplied in 1 and 2.5 litre packs.

The information provided in this Product Data Sheet is intended as a general guide only and should not be used for specification purposes. The information is given in good faith but we assume no responsibility for the use made of the product or this information because this is outside the control of the company. Users should determine the suitability of the product for their own particular purposes by their own tests.



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