

Eposeal 300

Epoxy Binding Primer

- **Excellent penetration of porous surfaces**
- **Ideal sealer coat before solvent-free epoxies**
- **Long pot life and easy application**

Introduction

Eposeal 300 is a solvent-based, low viscosity epoxy sealer. It has been developed primarily for use on wood but can also be used on other materials such as GRP, stone, ferrocement, brick, etc. Eposeal 300 has an extremely low viscosity which ensures that the product achieves rapid and deep penetration of porous surfaces.

Once Eposeal 300 material has soaked into a surface, the adhesive nature of the epoxy base will help to consolidate and strengthen that surface. The resultant epoxy sealing layer provides a high adhesion and moisture resistant base for any type of paint, varnish or epoxy coating system. For example, many woodworking applications combine the penetrating power of the Eposeal 300, with the thick, clear coating capability of SP 320 to produce a strong, highly protective, deep gloss surface on wood.

The solvents used in Eposeal 300 evaporate quickly once the product is brushed out, so that subsequent layers of Eposeal 300 can be applied in quick succession. Providing the lid is replaced on the mixing pot, the long pot life of Eposeal 300 means that just one mix can be used for multiple coats.

Instructions for Use

Workshop Conditions

For optimum results Eposeal 300 should be used at between 10 - 25°C. It can be used at lower temperatures but the cure will be slower. As the relative humidity (RH) can affect coating quality it is important to ensure that the RH is below 70% in order to avoid surface blooming. The room should be well ventilated to aid solvent release.

Surface Preparation

All surfaces should be clean, dry and dust-free. Prior to application all surfaces should be thoroughly abraded with medium grit paper, dust removed then wiped with SP Fast Epoxy Solvent (Solvent A) or acetone. Do not use on top of enamel or other types of coating. Use only on bare uncoated surfaces. Do not use White Spirit or oil-based cleaners prior to coating as adhesion will be impaired.

Some materials e.g. metals, may require a special pre-treatment to ensure the best coating adhesion - please refer to SP-High Modulus' Bonding Guide.

Eposeal 300 is suitable only for coating. Unlike solvent-free epoxies it cannot be used for gluing, filling or laminating.

Mixing

Mix resin and hardener components in the ratio:-

Resin	Hardener
1 : 1 (by volume)	

Use graduated plastic mixing pots available from SP-High Modulus. Eposeal 300 resin and hardener should be mixed thoroughly for at least one minute. Unlike most solvent-free epoxy systems, large volumes of this solvent-based product can be mixed and kept in the pot for several hours without the risk of heat build-up (exotherm).

Coating

Eposeal 300 is very thin - 7 to 8 coats are required to fill wood grain. Three coats can be applied in quick succession without sanding but the previous coat should be allowed to reach the touch-dry stage first. For clear finishing it is essential to overcoat with an ultra-violet screen varnish.

Wood components that are to be subsequently glued can be pre-coated with one coat of Eposeal 300 before bonding. However, Eposeal 300 coated surfaces must be cured and then abraded thoroughly with dry 80-100 grit paper before bonding.

If the sealer coats of Eposeal 300 are to be overcoated with a solvent free epoxy system, such as SP 320, then the Eposeal surface must be left for 7-10 days (dependent on ambient conditions), to ensure it is thoroughly cured, before being prepared for overcoating.

Pigmenting

Eposeal 300 is not suitable for use with SP epoxy pigments but polyester type pigment colours may be used.

Wood Staining

Use only water-based wood stains prior to coating with Eposeal 300. Do not use oil-based stains or preservatives.

Application Notes

The ideal application temperature is 15°C - 25°C. Apply by brush, roller or conventional spray equipment.

Brush cleaner - SP 301/ SP 302 Brushing Solvent (Solvent D) or SP 302 Spraying Solvent (Solvent G). Alternatively acetone can be used.

Thinners for spraying - None required but clean equipment with SP 302 Brushing Solvent (Solvent D), or SP Fast Epoxy Solvent (Solvent A).

The minimum temperature for application can be as low as 5°C but drying and curing times will be greatly extended at this temperature.

Properties

Component Properties		
	Resin	Hardener
Mix Ratio (by weight)	100	94
Mix Ratio (by volume)	100	100
Viscosity @ 15°C (cP)	15.1	7.3
Viscosity @ 20°C (cP)	14	6
Viscosity @ 25°C (cP)	13	5
Viscosity @ 30°C (cP)	12	4
Shelf Life (months)	24	24
Colour (Gardner)	1	1
Mixed Colour (Gardner)	-	1
Component Density (g/cm ³)	0.933	0.879
Mixed Liquid Density (g/cm ³)	-	0.907
Solids Content (% by weight)	31	28
Hazard Definition	Xn, F	Xn, F

Cured System Properties		
	Cured (28 days @ 21°C)	
Cured Density (g/cm ³)	1.124	
Total Linear Shrinkage (%)	2.6	
Minimum Application Temperature	5°C	
Minimum Cure Temperature	5°C	
Typical Wet Film Thickness	50µm	
Typical Dry Film Thickness	13 µm	
Solids Content (% by weight)	30%	
Rec. No. of Coats - sealing wood/porous surface - coating wood	1-2 7-8	
Approx. Coverage (@50µm wet film thickness) (m ² /L)	20	
Recommended Solvents** - spraying - brushing - cleaning	None required None required SP 302 Brushing Solvent (Solvent D) or SP Fast Epoxy Solvent (Solvent A)	

**For further information on Solvents, see the separate section on Solvents under 'Ancillary Products'.

Notes: For an explanation of test methods used see 'Formulated Products Technical Characteristics'.

All figures quoted are indicative of the properties of the product concerned. Some batch to batch variation may occur.

† All times are measured from when resin and hardener are first mixed together.

Properties (cont'd)

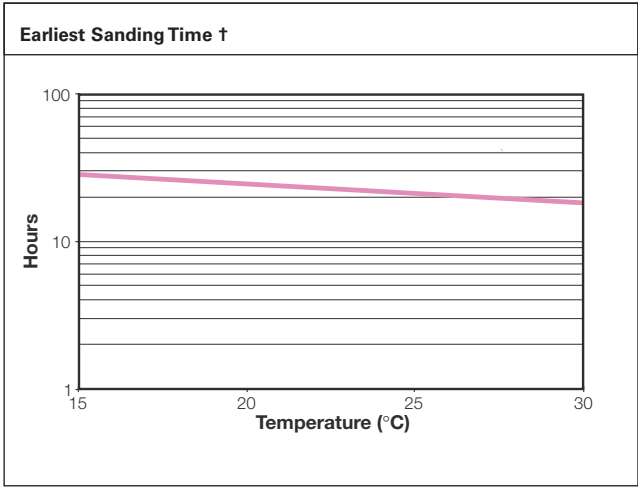
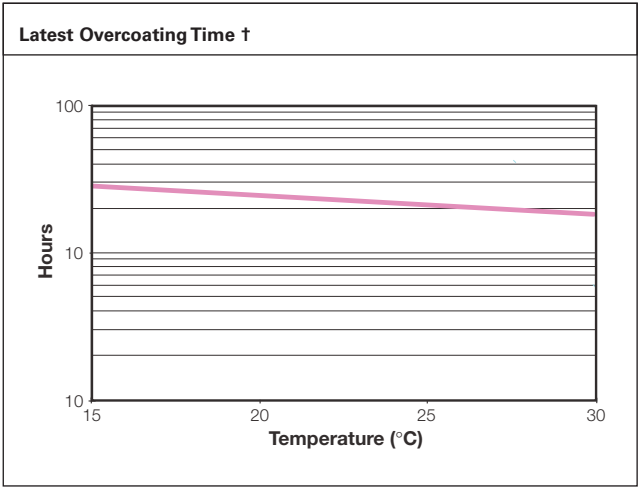
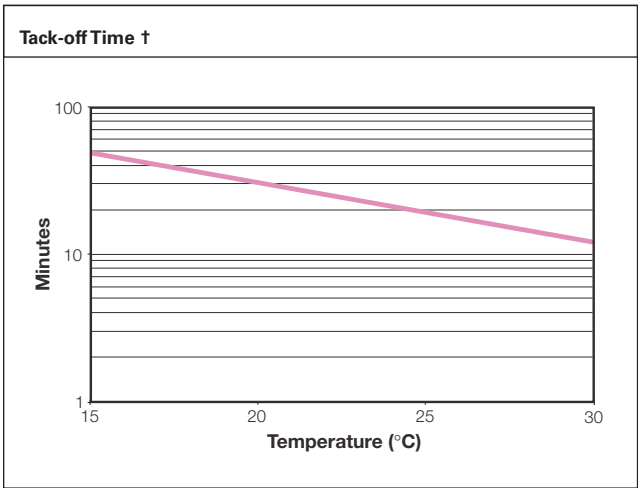
Working Properties vs Temperature				
	Resin / Hardener			
	15°C	20°C	25°C	30°C
Initial Mixed Viscosity (cP)	12	11	10	9
†Pot Life - 150g Mix* in Water (hrs)	24	24	24	24
†Pot Life - 500g Mix* in Air (hrs)	30	30	30	30
†Tack Off Time (hrs:mins)	0:50	0:30	0:19	0:12
†Latest Overcoating Time (hrs)	28	24	20½	18
†Earliest Sanding Time* (hrs)	28	24	20½	18

*If lid kept on mix pot to prevent solvent evaporation.

Notes: For an explanation of test methods used see 'Formulated Products Technical Characteristics'.

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Health and Safety

The following points must be considered:

- 1. Skin contact must be avoided by wearing protective gloves. SP-High Modulus recommends the use of disposable nitrile gloves for most applications. The use of barrier creams is not recommended, but to preserve skin condition a moisturising cream should be used after washing.
- 2. Overalls or other protective clothing should be worn when mixing, laminating or sanding. Contaminated work clothes should be thoroughly cleaned before re-use.
- 3. Eye protection should be worn if there is a risk of resin, hardener, solvent or dust entering the eyes. If this occurs flush the eye with water for 15 minutes, holding the eyelid open, and seek medical attention.
- 4. Ensure adequate ventilation in work areas. Respiratory protection should be worn if there is insufficient ventilation. Solvent vapours should not be inhaled as they can cause dizziness, headaches, loss of consciousness and can have long term health effects.
- 5. If the skin becomes contaminated, then the area must be immediately cleansed. The use of resin-removing cleansers is recommended. To finish, wash with soap and warm water. The use of solvents on the skin to remove resins etc must be avoided.

Washing should be part of routine practice:

- before eating or drinking
- before smoking
- before using the lavatory
- after finishing work

6. The inhalation of sanding dust should be avoided and if it settles on the skin then it should be washed off. After more extensive sanding operations a shower/bath and hair wash is advised.

SP-High Modulus produces a separate full Material Safety Data Sheet for all hazardous products. Please ensure that you have the correct MSDS to hand for the materials you are using before commencing work. A more detailed guide for the safe use of SP resin systems is also available from SP-High Modulus, and can be found at www.gurit.com

Applicable Risk & Safety Phrases

Resin

R 11,20, 37/38, 41, 48/20
52/53, 63
S 2, 7/9, 26, 29/56, 36/37/39, 46

Hardener

R 11, 20/21/22, 37/38, 41, 48/20, 63, 65
S 7/9, 16, 23, 26, 36/37/39, 60



Transport & Storage

The resin and hardener should be kept in securely closed containers during transport and storage. Any accidental spillage should be soaked up with sand, sawdust, cotton waste or any other absorbent material. The area should then be washed clean (see appropriate Safety Data Sheet).

Adequate long term storage conditions for both materials will result in a shelf life of two years for both the resin and hardener. Storage should be in a warm dry place out of direct sunlight and protected from frost. The temperature should be between 10°C and 25°C. Containers should be firmly closed. Hardeners, in particular, will suffer serious degradation if left exposed to air.

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