



S-Fair 600

Epoxy Fairing System

Product Data Sheet

- **User friendly 1:1 mix ratio by volume**
- **Black and white components facilitate thorough mixing, which assures quality**
- **Consistency allows easy dispensing, mixing and application**
- **Solvent free**
- **Excellent sanding properties**

Introduction

SP is the world's leading manufacturer of epoxy fairing systems, with years of experience supplying well-known paint manufacturers with their own-brand products. SP is now offering S-Fair 600 as a slightly improved product that may be used in similar applications.

S-Fair 600 can be used for fairing, levelling and smoothing surface imperfections on composites, metals and wood. Users familiar with similar products will notice that S-Fair 600 is easy to sand, mixes well and has a low odour.

S-Fair 600 is slightly "wetter" than other fairing products, conferring favourable mixing and spreading characteristics. This however does not mean sag resistance is compromised - S-Fair 600 is as sag resistant as other popular fairing compounds.

S-Fair 600 offers an alternative to premium priced fairing compounds available from paint suppliers.

Your attention is drawn to the notice on page three of this data sheet.

Mixing and Handling

S-Fair 600 resin is mixed with S-Fair 600 hardener in the following ratio:

| | | |
|-------------------------|----------|----------------------------|
| S-Fair 600 resin | : | S-Fair 600 hardener |
| 1 | : | 1 (by volume) |
| 100 | : | 64 (by weight) |

The components should be mixed together preferably at 15-25°C - at lower temperatures the product thickens and is more difficult to mix. The components must be mixed thoroughly paying particular attention to the sides and bottom of the mixing vessel. The components of the system are black and white. Mixing of the components should continue until a uniform grey colour is achieved. Care should be taken to use a folding motion when mixing in order to minimise the likelihood of air entrapment in the system. Solvent free epoxies have a limited pot-life. Use from the pot quickly and do not mix more than can be used within 45 minutes.

Application

Before applying the product, ensure that the surface is clean, dry and free of dust, oil or grease. Steel surfaces ideally should be shot-blasted to Swedish Standard SA2.5 and coated with a suitable stabilising primer. The mixed system can be applied by trowel, pallet knife or other suitable dispenser. The system can be applied in thicknesses up to 35mm without fear of exotherm. As it is easy to sand, S-Fair 600 does not need to be fine-faired during application.

The ideal ambient temperature for application is 15-25°C. Below this temperature the components are difficult to mix and spread on the surface. Above 25°C the sag resistance of the fairing compound will be reduced proportionally to temperature increase. The working time of the fairing compound will also decrease with increase of temperature. Surface temperature must also be taken into consideration – in direct sunlight, metal surfaces can achieve high temperatures. A maximum surface temperature of 45°C is recommended. Minimum surface temperature also depends on relative humidity – application should not be made if the temperature is below or approaching the dew point.

If applying other solvent free products on top of the S-Fair 600 fairing system, they can be applied as soon as the surface is stiff enough. This is typically 3-5 hours after fairing application, but depends on thickness of fairing and ambient temperature. If applied during this period, the need to sand the surface of the fairing compound is eliminated. If the system is left to cure for longer than 6-8 hours then it will need to be left for a further 8-10 hours and then sanded before overcoating - the system has been formulated to be easy to sand.

Physical Properties

| Table 1. Physical Properties | |
|-------------------------------|-----------------------------|
| Resin appearance / density | white paste / 1.04-1.09g/cc |
| Hardener appearance / density | grey paste / 0.66-0.70g/cc |
| Solids content | 100% |
| Resin viscosity at 25°C | 170 P |
| Hardener viscosity at 25°C | 110 P |
| Mixed viscosity at 25°C | 150 P |
| Working time at 15-25°C | 2-3 hours |
| Sag resistance at 15-25°C | 35mm |
| Dry film density | 0.86-0.9 gm/cc |
| Thin film open time 15-25°C | 5 hours |
| Earliest sanding time 15-25°C | 16 hours |

Curing

The system will cure at temperatures as low as 5°C, although constraints such as very long sanding and curing times mean that the minimum practical cure temperature is 15°C. The component can be sanded after 16 hours from application at 20°C. Full cure can be achieved by a cure cycle of 5-7 days at normal ambient temperatures (~15-20°C). Higher temperatures will accelerate the cure and vice versa.

Cured Properties

The following cured thermal and mechanical properties of this product have so far been determined. Cure cycle used for each test is 7 days at room temperature (20°C). Hardness progression is measured over time at a constant 20°C.

| | |
|--------------------------------------|--------------|
| Tg1 by DMTA | 44.0°C |
| Peak Tan Delta by DMTA | 59.4°C |
| Lap shear on steel - mean value | 12.63 MPa |
| Lap shear on steel – max. value | 15.39 MPa |
| Shore D hardness - 24 hours | 41 |
| Shore D hardness - 48 hours (2 days) | 58 |
| Shore D hardness - 72 hours (3 days) | 63 |
| Shore D hardness - 1 week | 67 (maximum) |
| Flexural modulus | 3.71 GPa |

Health & Safety

General Health and Safety

The following points must be considered:

1. Skin contact must be avoided by wearing protective gloves. SP 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.

Transport & Storage

The system should be kept in securely closed containers during transport and storage. Storage should be in a dry place out of direct sunlight. The temperature should be between 18°C and 25°C. Containers should be firmly closed. The hardeners, in particular, will suffer serious degradation if left exposed to air.

Shelf Life

Adequate long-term storage conditions for both materials will result in a shelf life of twelve months for both the resin and hardeners.

Notice

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