

S-FAIR 600

EPOXY FAIRING SYSTEM

- Sag resistance up to 35mm on vertical surfaces
- Easy to sand
- Simple 1:1 mix ratio by volume
- Available with two hardeners; Fast and Standard
- Cured density of 0.93-0.94 g/cm³

INTRODUCTION

S-Fair 600 is a two component filler designed for filling and fairing large composite and metal structures such as hulls and decks.

S-Fair 600 is easy to apply with excellent sag resistance of up to 35mm, on a vertical surface. It is easy to sand and is compatible with a wide range of primers and top coats typically used in the marine market for the finishing of yachts.

S-Fair 600 is available with 2 hardeners; Fast and Standard, which enables the customer to tailor the working/cure time to the ambient workshop temperature.

SYSTEM PROPERTIES AT 15-25°C		WORKING TIME*	SAG RESISTANCE	EARLIEST SANDING TIME	CURED DENSITY	PAGE
S-Fair 600 Resin	Product Information, Instructions for Use and Health & Safety					2
	Fast Hardener	10 minutes	35 mm	5 hours	0.93 g/cm ³	4
	Standard Hardener	45 minutes	35 mm	16 hours	0.94 g/cm ³	5

**working time properties are highly subjective to ambient conditions and should be used as an approximate guideline for S-Fair 600 systems at 15 - 25°C.*

PRODUCT INFORMATION

AVAILABILITY

The product is available in a number of formats please contact your local customer support representative for more information.

TRANSPORT & STORAGE

The resin and hardeners 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).

COMPONENT	UNITS	10 – 25°C
S-Fair 600 Resin	months	24
S-Fair 600 Hardeners	months	24

Adequate long term storage conditions will result in a shelf life of 24 months for both the resin and hardeners. Storage should be in a warm dry place out of direct sunlight and protected from frost. The storage temperature should be kept constant between 10°C and 25°C, cyclic fluctuations in temperature can cause crystallization. Containers should be firmly closed. Hardeners, in particular, will suffer serious degradation if left exposed to air.

INSTRUCTIONS FOR USE

The product is optimised for use between 18 - 25°C. At lower temperatures the product thickens and may become unworkable. At higher temperatures working times will be significantly reduced. Maximum relative humidity for use is 70%.

MIXING AND HANDLING

With long term storage the S-Fair 600 can settle and therefore the resin and hardener containers will require stirring before dispense.

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. Mixing of the components should continue until a uniform grey / green 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 (if using Standard Hardener) and 10 minutes (if using Fast Hardener).

Gurit produces a separate full Safety Data Sheet for each component of this system. Please ensure that you have the correct SDS to hand for the materials you are using before commencing work. A more detailed guide for the safe use of Gurit resin systems is also available from Gurit and can be found on our website at www.gurit.com. 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).

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 (if using Standard Hardener) and 10mm (if using Fast Hardener) 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 epoxy 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 (Standard Hardener) or 50 minutes to 1 hour (if using Fast Hardener) 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 (Standard Hardener) or 2 hours (Fast Hardener) then it will need to be left for a further 8-10 hours (Standard Hardener) or 12 hours (Fast Hardener) and then sanded before overcoating. If further information is required please contact Gurit Technical Support.

HEALTH AND SAFETY

The following points must be considered:

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

APPLICABLE RISK & SAFETY PHRASES

Gurit produces a separate full Safety Data Sheet for all hazardous products. Please ensure that you have the correct SDS to hand for the materials you are using before commencing work.

S-FAIR 600 RESIN & FAST HARDENER

This 1 page product summary is intended for use in conjunction with further advice provided under the Instructions for Use section. All data has been generated from typical production material and does not constitute a product specification.

MIXING AND HANDLING

PROPERTY	UNITS	S-FAIR 600 RESIN	FAST HARDENER	MIXED SYSTEM	TEST METHOD
Colour	-	White	Orange	Orange	-
Mix ratio by weight	Parts by weight	100	64	-	-
Mix ratio by volume	Parts by volume	100	100	-	-
Density at 21 °C	g/cm ³	1.04 – 1.09	0.65	-	ISO 1183-1B

COMPONENT & MIXED SYSTEM PROPERTIES*

PROPERTY	UNITS	25 °C	TEST METHOD
S-Fair 600 Resin Viscosity	cP	17,000	-
Fast Hardener Viscosity	cP	10,000	-
Initial Mixed System Viscosity	cP	-	-
Working Time	hrs:min	00:10	-
Sag Resistance	mm	35	Theoretical, thin film
Thin Film Open Time	hrs:min	-	Theoretical, thin film
Earliest Sanding Time	hrs:min	05:00	Theoretical, thin film

SYSTEM HARDENING CURE PROGRESSION

CURE TIME AT 21 °C	Shore D Hardness	TEST METHOD
24 Hours	75.85	ASTM D2240
48 Hours	75.90	ASTM D2240
72 Hours	76.40	ASTM D2240
1 Week	77.00	ASTM D2240

CURED SYSTEM MECHANICAL AND THERMAL PROPERTIES

PROPERTIES	SYMBOL	UNITS	7 DAYS AT 21 °C	TEST STANDARD
Glass Transition Temperature	T _{g1}	°C	50.5	ISO 6721 (DMA)
Glass Transition Temperature	UT _{g1}	°C	66.5	ISO 6721 (DMA)
Cured Density	ρ _{CURED}	g/cm ³	0.93	ISO 1183-1A
Lapshear Strength on Steel	τ _{steel}	MPa	16.3	BS5350 C5
Flexural Strength	σ _F	MPa	37.5	ISO 178
Flexural Modulus	E _F	GPa	3.15	ISO 178

*working time properties are highly subjective to ambient conditions and should be used as an approximate guideline for S-Fair 600 systems at 15 - 25°C.

S-FAIR 600 RESIN & STANDARD HARDENER

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MIXING AND HANDLING

PROPERTY	UNITS	S-FAIR 600 RESIN	STANDARD HARDENER	MIXED SYSTEM	TEST METHOD
Colour	-	White	Green	Grey / Green	-
Mix ratio by weight	Parts by weight	100	64	-	-
Mix ratio by volume	Parts by volume	100	100	-	-
Density at 21 °C	g/cm ³	1.04 – 1.09	0.66 – 0.70	-	ISO 1183-1B

COMPONENT & MIXED SYSTEM PROPERTIES*

PROPERTY	UNITS	25 °C	TEST METHOD
S-Fair 600 Resin Viscosity	cP	17,000	-
Standard Hardener Viscosity	cP	11,000	-
Initial Mixed System Viscosity	cP	-	-
Working Time	hrs:min	00:45	-
Sag Resistance	mm	35	Theoretical, thin film
Thin Film Open Time	hrs:min	05:00	Theoretical, thin film
Earliest Sanding Time	hrs:min	16:00	Theoretical, thin film

SYSTEM HARDENING CURE PROGRESSION

CURE TIME AT 21 °C	Shore D Hardness	TEST METHOD
24 Hours	57.30	ASTM D2240
48 Hours	65.50	ASTM D2240
72 Hours	72.05	ASTM D2240
1 Week	75.40	ASTM D2240

CURED SYSTEM MECHANICAL AND THERMAL PROPERTIES

PROPERTIES	SYMBOL	UNITS	7 DAYS AT 21 °C	TEST STANDARD
Glass Transition Temperature	T _{g1}	°C	43.8	ISO 6721 (DMA)
Glass Transition Temperature	UT _{g1}	°C	59.7	ISO 6721 (DMA)
Cured Density	ρ _{CURED}	g/cm ³	0.94	ISO 1183-1A
Lapshear Strength on Steel	τ _{steel}	MPa	17.40	BS5350 C5
Flexural Strength	σ _F	MPa	39.8	ISO 178
Flexural Modulus	E _F	GPa	2.24	ISO 178

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NOTICE

All advice, instruction or recommendation is given in good faith but the Company only warrants that advice in writing is given with reasonable skill and care. No further duty or responsibility is accepted by the Company. All advice is given subject to the terms and conditions of sale, (the Conditions), which are available on request from the Company or may be viewed at the Company's Website: www.gurit.com/terms-and-conditions.aspx.

The Company strongly recommends that Customers make test panels and conduct appropriate testing of any goods or materials supplied by the Company to ensure that they are suitable for the Customer's planned application. Such testing should include testing under conditions as close as possible to those to which the final component may be subjected. The Company specifically excludes any warranty of fitness for purpose of the goods other than as set out in writing by the Company. The Company reserves the right to change specifications and prices without notice and Customers should satisfy themselves that information relied on by the Customer is that which is currently published by the Company on its website. Any queries may be addressed to the Technical Services Department.

Gurit are continuously reviewing and updating literature. Please ensure that you have the current version, by contacting Gurit Marketing Communications or your sales contact and quoting the revision number in the bottom left-hand corner of this page.

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