

SF 96

SPRINT™ SANDABLE SURFACING FILM

- ▮ Easy to sand
- ▮ Effective print-through barrier
- ▮ Reduction in surface film-laminate interfacial voids
- ▮ Stable surface up to 115°C (239°F)
- ▮ Protects underlying laminate

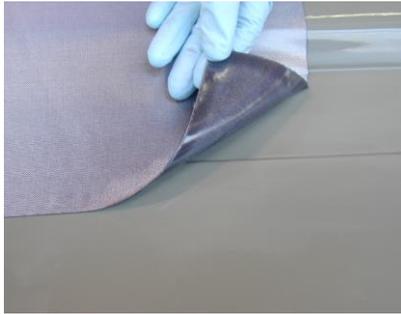
INTRODUCTION

The patented SF 96 surfacing material is a grey filled, sand-able epoxy film designed to enhance the surface finish of moulded composite components. It allows a paintable surface finish to be obtained by vacuum-bag moulding processes. It can be used directly against a suitably release treated mould surface, with prepreg or SPRINT™ plies laid up behind it. When fully cured with SPRINT™ or prepreg, SF 96 forms a stable sand-able surface which, once lightly sanded to provide a key for painting, greatly reduces print through of the underlying laminate. The epoxy system is supplied ready impregnated into a supporting medium and ready catalysed, requiring only a moderate temperature cure.

INSTRUCTIONS FOR USE

SF 96 recommended vacuum bag processing guidelines are as follows:

1. Ensure SF 96 surfacing material has attained ambient temperature (circa 18-23°C) before it is removed from its packaging to avoid condensation of water on the surface film whilst defrosting.
2. Apply a single layer of SF 96 surfacing material to a suitably release treated mould surface. When applying directly to a mould, release agents suitable for epoxy resins should be used and tests should be performed by the user to ensure that satisfactory release is obtained.
3. The use of peel ply between the release treated mould surface and the surfacing material has not yet been tested.
4. The product is designed to be applied with the finer weave scrim side against the tool face, this orientation is critical to the final properties of the cured part.



The material can be placed into the mould in any size/shape however it is important to keep overlaps to an absolute minimum, butt joints are ideal.

5. Once the mould surface has been covered and before the backing laminate has been added, air paths need to be introduced around the circumference of the part. This is usually achieved by placing glass tows at a 0.5m interval around the perimeter of the part in contact with finer weave surface scrim through to the vacuum stack. Alternatively ensure that the surfacing film extends beyond the margin of the structural laminate such that the vacuum consumable stack can draw air directly from the perimeter of the surfacing film.
6. Apply SPRINT™ or prepreg layers behind the surface film (NOTE: significant improvements in surface stability due to voiding and component quality are obtained if SPRINT™ layers are used behind the surfacing film rather than prepreg).
7. Apply release film and breather suitable for the reinforcing laminate over the laminate stack. Cut and fit as necessary. Overlaps are acceptable. Consult SPRINT™ or prepreg datasheet for optimum bagging procedure.
8. Apply vacuum bag with minimum 90% vacuum. Check vacuum drop test sees less than 5% drop in vacuum pressure over 5 minutes to ensure bag and tool integrity.
9. Ramp to the final cure temperature required by the resin system and hold for the correct period (typical cure of 120°C for 60 minutes). Temperature ramp rates should be between 0.5°C and 3°C per minute. Contact Gurit Technical Support for further information.
10. Allow to cool to ambient temperature before removing consumables and de-moulding. Before attempting to use surface film on large parts, consult Gurit Technical Support for most up to date information.

SF 96 can also be press moulded; please contact Gurit Technical Support for further information.

PRODUCT INFORMATION

AVAILABILITY

SF 96 is available in a range of formats; please contact Gurit Technical Support for further information.

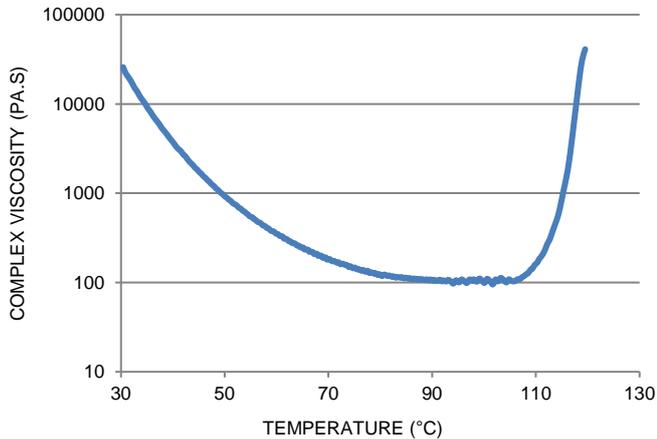
PROPERTY	VALUE
Colour	Dark Grey
Tack	Medium
Carrier	Glass
Carrier Weight	2 x 70 g/m ²
Total Areal Weight	440 g/m ²

PREPREG PROPERTIES

RHEOLOGY DATA

SF 96 resin viscosity profile conducted at 1°C (1.8°F)/ minute.

PROPERTY	VALUE	
	Minimum Viscosity	96.2 Pa.s
Temperature at Minimum Viscosity	102°C	215°F



TRANSPORT & STORAGE

When stored sealed & out of direct sunlight.

STORAGE TEMP		UNIT	VALUE
-18°C	0°F	months	24
+18-22°C	64-72°F	days	5

All SPRINT™ materials should be stored in a freezer when not in use to maximise their useable life, since the low temperature reduces the reaction of resin and catalyst to virtually zero. However, even at -18°C (0°F), the temperature of most freezers, some reaction will still occur. In most cases after some years, the material will become unworkable.

To avoid condensation on the rolls allow it to reach room temperature before unwrapping.

HEALTH AND SAFETY

Please refer to product SDS for up to date information specific to this product.

CURING SCHEDULE

TYPICAL CURE PROFILES

The successful use of these cure schedules will depend on part size and laminate construction. Heat up rate and dwell periods need to be tailored to take consideration of oven capacity, thermal mass of tool, laminate construction etc. Data in the table below is based on laminate temperatures, air temperatures may need to be higher. It is recommended that Gurit Technical Support is contacted for further advice before utilising any of the suggested cure cycles.

TYPICAL CURE SCHEDULES

PROPERTY	TYPICAL CURE SCHEDULE
Processing Method	Vacuum Bag (-1 Bar)
Typical Ramp Rate	0.3°C per minute to 2°C per minute
Dwell Time	Not needed specifically for this product, follow guidelines for SPRINT when co-curing
Minimum Cure Temperature	85°C (185°F)

CURED RESIN PROPERTIES

Using vacuum pressure / oven only cure with standard processing techniques and using the 120°C cure schedule as defined above.

PROPERTY	SYMBOL	120°C CURE		TEST STANDARD
		mm	in	
Cured ply thickness	t _{ply}	0.2-0.3	0.008-0.012	ISO 6721
Taber Abrasion Resistance	L	20 mg	0.00007 oz	ASTM D4060 with test wheel CS10 @ 500 Cycles @ 90% Vacuum
Shore D Hardness	S _D	87.6		ASTM D2240
Tg1 DMTA	Tg ₁	115°C	239°F	ISO 6721 (DMA)

NOTICE

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The Company strongly recommends that Customers make test panels in the final process conditions and conduct appropriate testing of any goods or materials supplied by the Company prior to final use 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. Due to the varied nature of end-use applications, the Company does, in particular, not warrant that the test panels in the final process conditions and/or the final component pass any fire standards.

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

TECHNICAL CONTACT INFORMATION

For all other enquiries such as technical queries:

Telephone + 44 1983 828000 (08:30 – 17:00 GMT)
Email technical.support@gurit.com

24-HOUR CHEMICAL EMERGENCY NUMBER

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