

SF 80

SPRINT™ TOUGHENED SURFACING FILM

- Toughened system
- Protects underlying laminate
- Reduction in surface film-laminate interfacial voids
- Improved resistance to water ingress
- Suitable for post painting

INTRODUCTION

SF 80 surfacing material is a light green or black toughened, epoxy film designed to enhance the surface finish of moulded composite components. It allows a good 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 80 forms a stable tough surface which can be sanded in preparation for painting. The epoxy system is supplied ready impregnated into a supporting medium and ready catalysed, requiring only a moderate temperature cure.

INSTRUCTIONS FOR USE

1. Ensure SF 80 surfacing material has attained ambient temperature (circa 18-23°C/64-73°F) before it is removed from its packaging to avoid condensation of water on the surface film whilst defrosting.
2. Remove the paper backer to expose the 'tacky' side of the surface film. Apply the product tacky side towards the mould.
3. Apply a single layer of SF 80 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.
4. The material can be placed into the mould in any size/shape however it is important to include a minimum 5mm overlap at any join interface.
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 the underside of the surface 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.
9. Heat according to cure cycle data on the next page.
10. Allow to cool to ambient temperature before removing consumables and demoulding. Before attempting to use surface film on large parts, consult Technical Services for most up to date information.

PRODUCT INFORMATION

AVAILABILITY

SF 80 surfacing material is currently available in 150g film weight.

PROPERTY	VALUE	
Colour	Pale Green or Black	
Tack	Medium	
Carrier	Glass	
Carrier Weight	140 g	0.3 lb
Total Areal Weight	290 g	0.6 lb

PREPREG PROPERTIES

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	weeks	2

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. 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.

MINIMUM CURE TIME AND TEMPERATURE

PROPERTY	ULTRA SLOW CURE CYCLE	FAST CURE CYCLE	TEST STANDARD
Processing Method	Vacuum Bag		
Typical Ramp Rate	0.3°C (0.5°F) per minute	2°C (3.6°F) per minute	-
Cure Temperature	78°C (172°F)	75°C (167°F)	-
Cure Dwell Time	120 (min)	0.5°C (0.9°F) per minute to 90°C (194°F)	-
Post-Cure Temperature	80°C (176°F)	120°C (248°F)	-
Post-Cure Dwell Time	720 (min)	60 (min)	-
Cure Pressure	-1 (bar)		-
Dry T _{g1} (DMA)	99°C (210°F)		ASTM D7028

CURED RESIN PROPERTIES

Using vacuum pressure / oven only cure with standard processing techniques.

PROPERTY	SYMBOL	12 HOURS @ 80°C		TEST STANDARD
Cured ply thickness	t _{ply}	0.155 mm	0.0061 in	ISO 6721
Taber Abrasion Resistance		19.4 mg	0.0007oz	ASTM D4060 with test wheel CS10 @ 500 Cycles @ 90% Vacuum
Shore D Hardness		89.5		ASTM D2240
Tg1 DMTA	Tg ₁	105°C	221°F	

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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:

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24-HOUR CHEMICAL EMERGENCY NUMBER

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