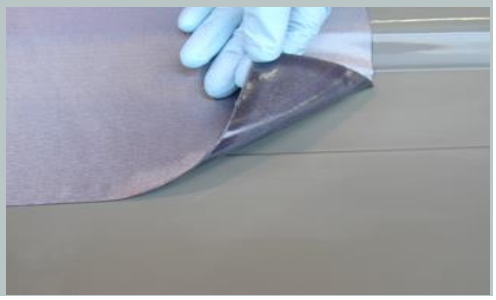
SF75-90

SPRINT™ SANDABLE SURFACING FILM



SF 75-90 surfacing film is a filled epoxy film with glass carrier. It forms an easy to sand surface ideal for paint application.

The SF75-90 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 75-90 forms a stable sand-able surface which, once lightly abraded to provide a key for painting, reduces print-through of the underlying laminate. The epoxy system is supplied ready impregnated into a supporting medium and ready catalysed, requiring only a low to moderate temperature cure.

- Economical low-temperature curing (70°C /158°F) .
- Easy to sand, improved surface for painting
- Reduction in surface film – laminate interfacial voids
- Stable surface up to 115°C (239°F) after suitable cure.
- Protect underlying laminate

INSTRUCTIONS FOR USE

PREPARATION

When preparing the lay-up the prepreg should be removed from the freezer and allowed to thawto room temperature in a sealed bag. This may take 6 to 24 hours depending on roll size. This prevents atmospheric moisture from condensing on the prepreg which may cause voiding on cure.

LAY UP

SF 75-90 recommended vacuum bag processing guidelines are as follows:

1. Ensure SF 75-90 surfacing material has attained ambient temperature (circa 18-22°C/64-72°F) 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 75-90 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 product is designed to be applied with the tacky side against the tool face as shown. The material can be placed into the mould in any size/shape however it is important to keep overlaps to a minimum, butt joins are also suitable
4. Once the mould surface has been covered and before the backing laminate has been added, air paths need to be introduced to the circumference of the part. 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.
5. 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)
6. 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

PRODUCT INFORMATION

AVAILABILITY

SF 75-90 has two glass carriers and is normally supplied on a single silicon paper.

PROPERTY	UNITS	SF75-90
Tack	-	Medium
Colour	-	Dark Grey
Carrier type	-	Glass
Film Weight	g/m²	300
Glass Carrier Weight	g/m²	2 x 70
Total Film Weight	g/m²	440
Thickness	mm	0.28

TRANSPORT AND STORAGE

STORAGE TEMPERATURE		UNIT	VALUE
-18°C	0°F	Months	24
+18-20°C	+64-68°F	Days	5*

* To retain optimum air breathing properties the film is best laid up and cured within 5 days. However, the rheological and reactivity time is up to 8 weeks at 20°C, reducing to 3 weeks at 30°C

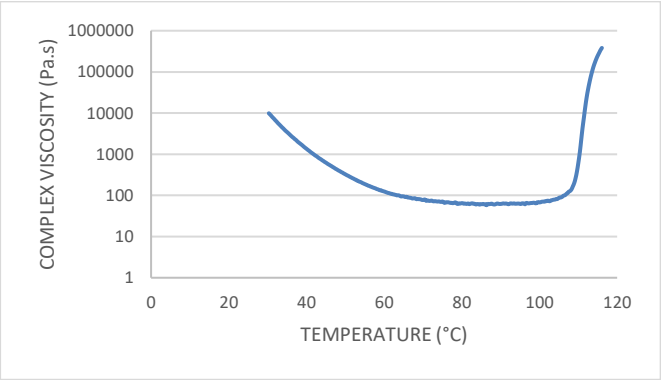
All SPRINT™ materials should be stored in a freezer when not in use to maximise their useable life, since the low temperature reduces the reaction of resin and catalyst to virtually zero. However, even at -18°C (0°F), the temperature of most freezers, some reaction will still occur. In most cases after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

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

FILM PROPERTIES

RHEOLOGY DATA

SF 75-90 resin viscosity profile conducted at 1°C (1.8°F) per minute.

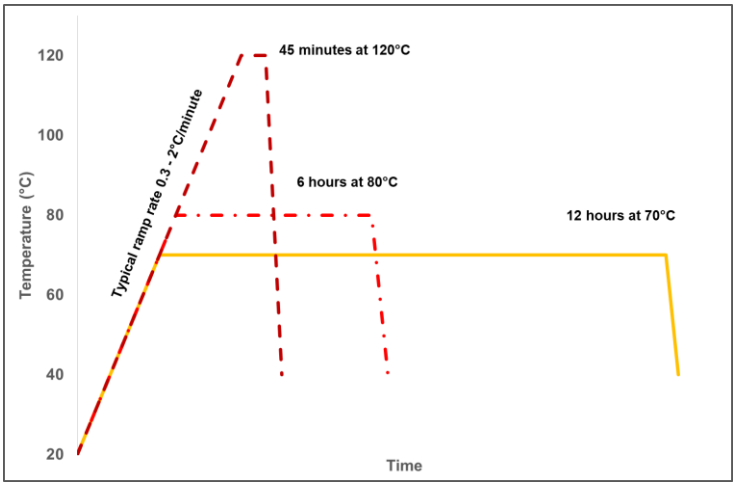


PROPERTY	UNITS	VALUE
Minimum Viscosity	Pa.s (P)	58 (580)
Temperature at minimum viscosity	°C (°F)	86 (187)

TYPICAL CURE TIME AND TEMPERATURES

For full cure of SF 75-90 to be achieved, one of the following cure cycles is recommended. If SF 75-90 is being co-cured with a prepreg skin, then the cure cycle used for SF 75-90 will also be that of the prepreg in the laminate. Where required cure cycle of the prepreg being used and the SF 75-90 is different, then whichever cure is the longest should be applied.

PROPERTY	OVEN/VACUUM BAG		
Typical Ramp Rate		0.3-2°C/minute	
Cure Temperature	70°C (158°F)	80°C (176°F)	120°C (212°F)
Cure Dwell Time	12 hours	6 hours	45 minutes
Cure Pressure		-1bar (14.5psi)	



CURED PROPERTIES

CURED RESIN PROPERTIES

Resin cast oven cured, mean values.

PROPERTY	SYMBOL	UNITS	8 HOURS 70°C (158°F)	4 HOURS 80°C (176°F)	35 MINUTES 120°C (248°F)	TEST METHOD
Cured ply thickness	t_{ply}	mm	0.2-0.3	0.2-0.3	0.2-0.3	ISO6721
Taber Abrasion Resistance	L	mg	27	25	TBA	ASTM D4060 with test wheel CS10 @ 500 Cycles @ 90% Vacuum
Taber abrasion Wear Index	-	-	54	49.8	TBA	ASTM D4060 with test wheel CS10 @ 1000 Cycles @ 90% Vacuum
Shore D Hardness	S_D	-	55	52	77	ISO 178
Flexural Modulus	E_F	GPa	2.3	2.15	2.12	ISO 178
Glass Transition	Tg_1	°C	87	96	129	ISO 6721 (DMA)

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. 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 & vaping
   - ¬ before using the lavatory
   - ¬ after finishing work
3. 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.

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.

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CONTACT INFORMATION

Please see local contact information at www.gurit.com

24-HOUR CHEMICAL EMERGENCY NUMBER

For advice on chemical emergencies, spillages, fires or exposures:

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