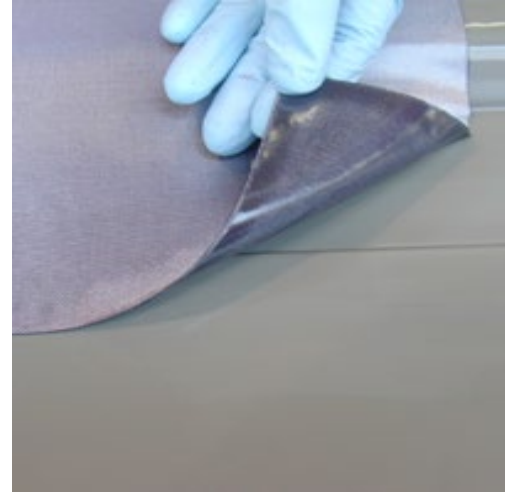


SF75-90

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 molded composite components. It allows a paintable surface finish to be obtained by vacuum-bag molding processes. It can be used directly against a suitably release treated mold 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 catalyzed, requiring only a low to moderate temperature cure.



- Economical low-temperature curing (70°C /158°F)
- Easy to sand, improved surface for painting
- Reduced surface pin holes
- Protect underlying laminate
- Stable surface up to 115°C (239°F) after suitable cure

INSTRUCTIONS FOR USE

PREPARATION

When preparing the lay-up the prepreg should be removed from the freezer and allowed to thaw to 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. Optimal application temperature is also 18-22°C / 64-72°F).
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 joints 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
Color	-	Dark grey
Carrier type	-	Glass
Film weight	g/m ²	300
Glass carrier weight	g/m ²	2 x 70
Total film weight	g/m ²	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*

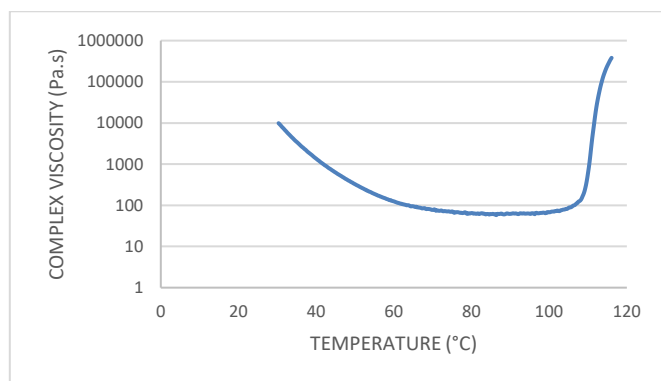
* To retain optimum air breathing properties the film is best laid up and cured within 5 days. However, the rheological and reactivity time is up to 8 weeks at 20°C, reducing to 3 weeks at 30°C

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.

FILM PROPERTIES

RHEOLOGY DATA

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

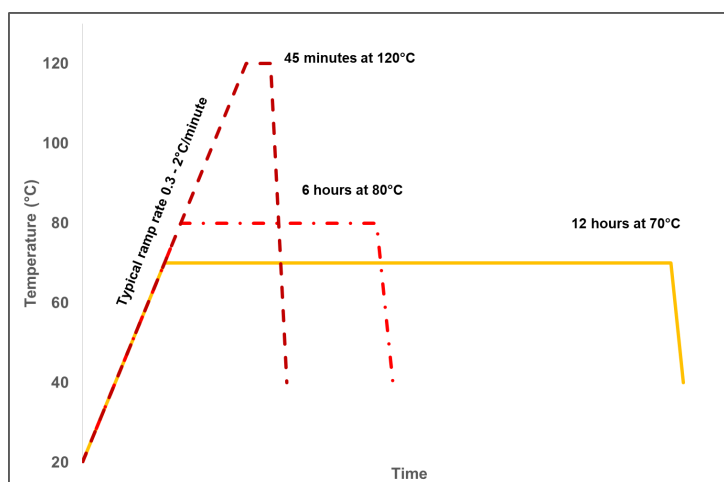


PROPERTY	UNITS	VALUE
Minimum viscosity	Pa.s (P)	58 (580)
Temperature at minimum viscosity	°C (°F)	86 (187)

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	T _{g1}	°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 moisturizing cream should be used after washing.
2. 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 vapors 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 & vaping
- 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.

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

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