

Description

Surfex® **FP-400** is a new phenolic surface film designed to be co-cured with Phepreg® prepregs under vacuum bag process.

Surfex® **FP-400** is available in glass and carbon tissue carriers. It has been designed to provide high surface quality making it practically ready for painting.

A top quality surface is easy to obtain when the surface film and the prepreg are processed and cured properly.

Uncured FP-400 Properties

Carrier Fiber	E-Glass / Carbon
Carrier Areal Weight (g/m ²)	30/17
Resin Areal Weight (g/m ²)	400±20
Curing time at 100°C (min)	180-240
Curing time at 110°C (min)	90-120
Curing time at 120°C (min)	20-30
Maximum Barcol Hardness*	70-75
Maximum** Tg - DSC (°C)	285

* 120°C for 20 min. ** Post cured @ 200°C for 60 min.

Key Features and benefits

- **Uncured film**
 - ✓ Shelf life: **6 months @ 70°F (21°C)**, and 24 months @ 0°F (-18°C).
 - ✓ Suitable for low pressure: 1-3 bar.
 - ✓ Good tack and self-adhesive to molds.

Burning Performance as per FAR 25.853

E-Glass 7781 laminate FP-721/FP-400

- **Flammability**
 - ✓ Extinguishing time Nil
 - ✓ Burn length Nil
 - ✓ Drip extinguishing time No dripping
- **Heat Release**
 - ✓ HR - up to 3 min. (kW.min/m²) Nil
 - ✓ HR @ 4 min. (kW.min/m²) 7.5
 - ✓ HR @ 4 min. (kW/m²) 30
- **Smoke Density @ 4 min.**
 - ✓ With pilot flame 20.6
 - ✓ Without pilot flame 15.84

FP-400 Processing Way

- i. If stored in the cold chest, warm the roll to ambient temperature before unpacking it.
- ii. Make sure the surface of the mold has been well treated with mold release.
- iii. Place 1 layer of the surface film, FP-400, on the surface of the mold.
- iv. Place a peel ply on the top release and **perform a preliminary vacuuming for 5-10 minutes**. This will improve the final surface quality.
- v. Continue the normal prepreg lay-up and vacuum bag curing cycle.

Properties of vacuum cured material combined with FP-400

1. Excellent smooth and porosity free surface (two layers of FP-400 could be used if heavy prepreg is to be used and print through has to be avoided).
2. Excellent adhesion to paint according to EN ISO 2409.
3. Excellent burning resistance.

Storage and Handling

All prepregs are wrapped in a barrier film immediately after impregnation. During storing and handling, the following notes must be considered:

- Prepregs should be stored in their original packaging barrier film, or an equivalent film, at recommended temperature.
- If stored in a cold chest, before use, the prepreg roll has to be out of the freezer and remain tightly sealed for 48 hours, time required to reach ambient room temperature.
- It is highly recommended to handle the prepreg at a clean area where relative humidity is $\leq 50\%$ and ambient temperature is 20-23°C.

Safety Precautions

Usual precautions, as following, must be considered:

- During lamination, workers must avoid skin contact by wearing appropriate disposable protective gloves.
- Clean protective coveralls or equivalent clothes must be worn before laminating and also sanding.
- Protective glasses must be worn to avoid eyes contamination. In case of contamination, eyes must be flushed for 15 min and then medical treatment must be applied.
- After working, hands and contaminated skin, if any, have to be washed with soap and warm water. This has to be implemented as a routine practice.

Important Notice

The data reported in this sheet are based on representative samples. Since the method and circumstances of handling and processing are keys to the material performance, Gulf Composite Materials does not guaranty these data. Users should make their own assessment of the suitability of any product for the performance required.