

HC1131/7781 Prepreg consist of 7781 E-glass fabric impregnated with rigid, thermosetting, fire resistant, modified phenolic resin. It is a phenolic prepreg for aircraft interior applications.

The prepreg is intended for use in the fabrication of interior sandwich panels and laminates which are subject to FAR 25.853 heat and smoke release limits. It has moderate tack and drape with increased

## FEATURES

- Rigid, Thermosetting, Fire Resistant, Modified Phenolic Resin
- Low Flame, Smoke and Toxicity (FST) Properties
- OSU Heat Release Well Below Current Regulations
- Moderate Tack and Drape with Increased Volatiles and Flow
- For Aircraft Interior Applications

## PHYSICAL PROPERTIES

| PRODUCT NAME                 | HC1131/7781        |
|------------------------------|--------------------|
| Fabric                       | Glass Fabric #7781 |
| Resin Content (%)            | 41 ± 3             |
| Volatiles <sup>1</sup> (%)   | 2.7 ~ 4.2          |
| Resin Flow <sup>2</sup> (%)  | 25 ± 5             |
| Gel Time <sup>3</sup> (sec.) | 120 ~ 300          |
| Tack                         | Moderate Tack      |

<sup>1</sup> Test Condition : 10 min., 121 °C (250 °F)

<sup>2</sup> Test Condition : 10 min., 3.5 kgf/cm<sup>2</sup>, 121 °C (50 psi, 250 °F)

<sup>3</sup> Test Condition : 130 °C (266 °F)

## MECHANICAL PROPERTIES

| PROPERTIES       | VALUES         |
|------------------|----------------|
| Tensile          | Strength (ksi) |
|                  | 62.1 MPa       |
| Compression      | Modulus (msi)  |
|                  | 3.57 GPa       |
| Long Beam Flex.  | Strength (ksi) |
|                  | 63.8 MPa       |
| Flatwise Tensile | Modulus (msi)  |
|                  | 3.57 GPa       |
| Peel Strength    | Load (ksi)     |
|                  | 35.0 MPa       |
|                  | P/Y (lb/in.)   |
|                  | 126.0 lb/in.   |
|                  | Strength (psi) |
|                  | 328.2 MPa      |
|                  | Core           |
|                  | 11.8           |
|                  | Foam           |
|                  | 18.4           |

## FLAMMABILITY PROPERTIES

| PROPERTIES                 |                             | LAMINATE VALUES      | SANDWICH VALUES      |
|----------------------------|-----------------------------|----------------------|----------------------|
| 60 Second<br>Vertical Burn | Self-Extinguish Time (sec.) | 0                    | 0                    |
|                            | Burn Length (in.)           | 1.59                 | 1.43                 |
|                            | Drip Time (sec.)            | No Drip              | No Drip              |
| 30 Second<br>45° Brun      | Self-Extinguish Time (sec.) | 0                    | 0                    |
|                            | Afterglow                   | No Afterglow         | No Afterglow         |
|                            | Flame Penetration           | No Flame Penetration | No Flame Penetration |

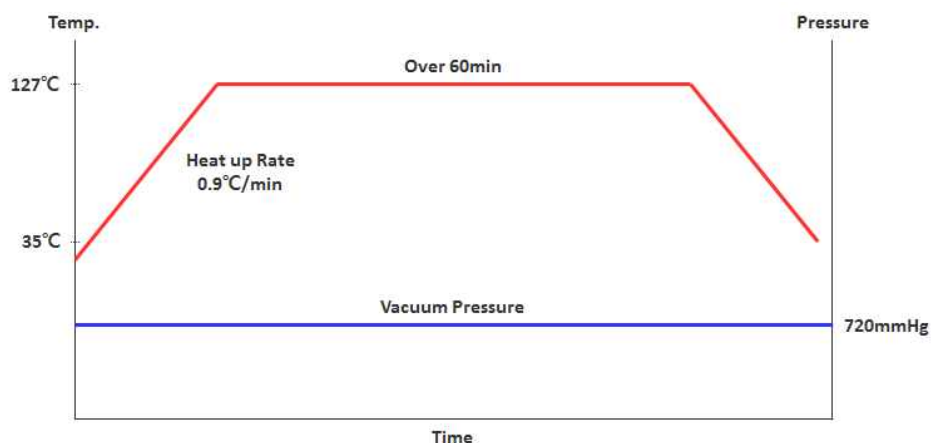
## OSU HEAT RELEASE and SMOKE DENSITY

| PROPERTIES   |  | LAMINATE VALUES | SANDWICH VALUES |
|--|--|-----------------|-----------------|
| 2 min. Total Heat Release<br>(kW-min./m <sup>2</sup> )                 |  | 32.5            | 37.1            |
|  |  |                 |                 |
| Peak Heat Release<br>(kW/m <sup>2</sup> )                              |  | 40.3            | 38.7            |
|  |  |                 |                 |
| NBS Smoke Chamber at 2.5 W/cm <sup>2</sup> Heat Flux<br>(Ds at 4 min.) |  | 10.8            | 5.4             |

## CURING CYCLE

|              |   |
|--------------|---|
| PRODUCT NAME | HC1131/7781                                 |
| Cure Method  | Vacuum Bag                                  |
| Cure Cycle   | 127 °C (+8 °C / -6 °C) for at least 60 min. |

Pressure Cure Cycle



## SHELF LIFE

|                                  |                                  |
|----------------------------------|----------------------------------|
| STORAGE TEMPERATURE              | SHELF LIFE                       |
| Frozen at or below -12°C (10 °F) | 300 day from date of manufacture |

## HANDING & USE

Prepreg which is impregnated with rigid, thermosetting, fire resistant, modified phenolic resin system must be stored in a freezer. When material is removed from the freezer, it is essential that the roll be allowed to thaw and reach room temperature before the plastic bag is opened. For example, the thaw time for a 20 linear meter roll taken from -18°C(0°F) storage into a 21°C(70°F) room is typically between 4 and 6 hours.

Condensation may form on the surface of the material if it is not fully thawed. Moisture within a curing laminate may be detrimental to final part quality and appearance. When materials are returned to the freezer, they must be resealed to prevent ingress of moisture.