Description
HexPly® F149 is a structural and electrical grade polyester resin system. It is self-extinguishing and exhibits high laminate strengths. HexPly® F149 can be tailored to any tack and drape, and cures at relatively low temperatures and pressures. It is a good oven cure type prepreg.

Features
- 250°F (121°C) Cure
- Vacuum Bag, Autoclave, or Press Cure
- Service Temperature up to 300°F (149°C)
- Meets Requirements of MIL-R-7575C, Grades A and B, Class 0 and 4
## Mechanical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Temp °F (°C)</th>
<th>Condition</th>
<th>Glass Reinforcement</th>
</tr>
</thead>
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<td></td>
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<tr>
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<td></td>
<td></td>
<td>Vacuum</td>
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<tr>
<td>Tensile strength, ksi</td>
<td>75 (24)</td>
<td>Dry</td>
<td>52</td>
</tr>
<tr>
<td>Tensile modulus, msi</td>
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<td>Dry</td>
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<td>Wet</td>
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<td>Tensile modulus, msi</td>
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<tr>
<td>Compression strength, ksi</td>
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<tr>
<td>Compression modulus, msi</td>
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<td>Compression strength, ksi</td>
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<tr>
<td>Compression modulus, msi</td>
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<tr>
<td>Flexural strength, ksi</td>
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<tr>
<td>Flexural modulus, msi</td>
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<td>Flexural strength, ksi</td>
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<td>Flexural modulus, msi</td>
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<tr>
<td>Short beam shear, ksi</td>
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<td>Laminate resin content %</td>
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<td>Specific gravity</td>
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<td>Barcol hardness</td>
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</table>

### Electrical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Dielectric constant dry</th>
<th>Dielectric constant wet</th>
<th>Loss tangent dry</th>
<th>Loss tangent wet</th>
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<tr>
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<td>4.25</td>
<td>4.33</td>
<td>0.011</td>
<td>0.015</td>
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</table>

8,500–10,000 megacycles
Cure Cycle

Cure Procedure

**Autoclave**
1. Apply vacuum of 20 in Hg minimum.
2. Apply 50 ± 5 psig pressure for laminates.
3. Vent vacuum bag to atmosphere when pressure reaches 5–10 psi.
4. Raise temperature to 250–275°F (121–135°C) at 4–8°F (2.4–4.8°C) per minute and hold for 60–90 minutes.
5. Cool to 140°F (60°C) at a maximum rate of 5°F (3°C) per minute. When the part cools to below 140°F (60°C), pressure can be relieved and the panel removed from the autoclave and debagged.

**Oven (Vacuum Bag)**
1. Apply vacuum of 20 in Hg minimum.
2. Raise temperature to 250–275°F (121–135°C) at 4–8°F (2.4–4.8°C) per minute.
3. Cure for 60–90 minutes at temperature.

**Oven (Flexible Wrapping Pressure)**
1. Apply pressure with flexible wrap.
2. Raise temperature to 180 ± 10°F (82°C) at 4–8°F (2.4–4.8°C) per minute. Hold for 30 minutes.
3. Raise temperature to 295 ± 10°F (146°C) at 4–8°F (2.4–4.8°C) per minute.
4. Cure for 60–90 minutes at temperature.
Handling and Safety Precautions
Hexcel recommends that customers observe established precautions for handling resins and fine fibrous materials. Operators working with this product should wear clean, impervious gloves to reduce the possibility of skin contact and to prevent contamination of the material.

Safety Data Sheets (SDS) have been prepared for all Hexcel products and are available to company safety officers on request from your nearest Hexcel Sales Office.

Storage
F149 prepreg should be sealed in a polyethylene bag and refrigerated, preferably below 32°F (0°C). Following removal from refrigerated source, allow the prepreg to reach room temperature before opening the polyethylene bag to prevent moisture condensation.

Shelf Life*
6 months at 0°F (−18°C)  
3 months at 40°F (4°C)  
1 month at 70°F (21°C)  
* (maximum, from date of manufacture)

Shipping
Prepreg is generally shipped in a sealed polyethylene bag in refrigerated transportation or in containers with dry ice.

Disposal of Scrap
Disposal of this material should be in a landfill in accordance with state and federal regulations.

For more information
Hexcel is a leading worldwide supplier of composite materials to aerospace and industrial markets. Our comprehensive range includes:

- HexTow® carbon fibers
- HexForce® reinforcements
- HiMax® multiaxial reinforcements
- HexPly® prepregs
- HexMC®-i molding compounds
- HexFlow® RTM resins
- HexBond™ adhesives
- HexTool® tooling materials
- HexWeb® honeycombs
- Acousti-Cap® sound attenuating honeycomb
- Engineered core
- Engineered products
- Polyspeed® laminates & pultruded profiles
- HexAM® additive manufacturing

For U.S. quotes, orders and product information call toll-free 1-800-688-7734. For other worldwide sales office telephone numbers and a full address list, please go to:

https://www.hexcel.com/contact

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