Description
HexPly® 924 is a controlled flow epoxy matrix developed for the fabrication of high temperature resistant primary structures. When cured, HexPly® 924 becomes a tough composite with high impact resistance and damage tolerance. It is particularly suitable for aircraft primary structures and elevated temperature applications such as performance cars.

Benefits and Features
- Good ‘hot-wet’ properties up to 150°C
- Tough, with high impact resistance and damage tolerance
- Controlled flow matrix with low tack for ease of processing
- Effective translation of fibre properties, especially with intermediate modulus carbon fibre
- Simple cure schedule
- Excellent tack life of more than 30 days at 25°C; 40 days at 20°C

HexPly® 924 is best suited to autoclave or press cure to obtain optimum mechanical performance from the cured composite.

Resin Matrix Properties

Rheology

![Viscosity poise](chart)

Rheometrics dynamic spectrometer.
Heat up rate 2°C/min

Gel Time

![Gel Time](chart)

Prepreg Curing Conditions
2 hours at 180°C and 700kN/m² (7 bar) pressure.

Heat up rate 2°C to 8°C.

Components up to 30 mm thick can be cured without a dwell in the schedule provided that the heat-up rate is not more than 3°C/minute. There is no deterioration in performance after 3 times the recommended cure schedule (verified by interlaminar shear strength tests).
**Cured Matrix Properties** (cured at 180°C)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile strength</td>
<td>65 MPa</td>
<td>ISO R527 type 1</td>
</tr>
<tr>
<td>Tensile modulus</td>
<td>3.80 GPa</td>
<td>ISO R527 type 1</td>
</tr>
<tr>
<td>Tensile strain</td>
<td>2.4%</td>
<td>ISO R527 type 1</td>
</tr>
<tr>
<td>Poisson’s ratio</td>
<td>0.41</td>
<td>ISO R527 type 1</td>
</tr>
<tr>
<td>Calculated shear modulus</td>
<td>1.34 GPa</td>
<td>ISO R527 type 1</td>
</tr>
<tr>
<td>Flexural strength</td>
<td>120 MPa</td>
<td>ISO 178</td>
</tr>
<tr>
<td>Flexural modulus</td>
<td>3.12 GPa</td>
<td>ISO 178</td>
</tr>
<tr>
<td>Compression strength</td>
<td>175 MPa</td>
<td>ISO 604</td>
</tr>
<tr>
<td>Compression strain</td>
<td>13%</td>
<td>ISO 604</td>
</tr>
<tr>
<td>Toughness $K_{IC}$</td>
<td>0.83 MPa $\sqrt{m}$</td>
<td>Tested in accordance with EGF Task Group on Polymers and Composites protocol.</td>
</tr>
<tr>
<td>Toughness $G_{IC}$</td>
<td>150 J/m²</td>
<td>DMTA</td>
</tr>
<tr>
<td>Glass transition temperature ($T_g$)</td>
<td>190°C</td>
<td>DMTA</td>
</tr>
<tr>
<td>Cured density</td>
<td>1.30 g/cm³</td>
<td></td>
</tr>
<tr>
<td>Vol. shrinkage</td>
<td>1.6%</td>
<td></td>
</tr>
</tbody>
</table>

**Prepreg Storage Life**
- Tack Life @ 23°C 21 days
- Guaranteed Shelf Life -18°C 12 months (maximum from date of manufacture)
- Storage conditions.

HexPly 924 prepregs should be stored as received in a cool dry place or in a refrigerator. After removal from refrigerator storage, prepreg should be allowed to reach room temperature before opening the polythene bag, thus preventing condensation. (A full reel in its packaging can take up to 48 hours).

**Precautions for Use**
The usual precautions when handling uncured synthetic resins and fine fibrous materials should be observed, and a Safety Data Sheet is available for this product. The use of clean disposable inert gloves provides protection for the operator and avoids contamination of material and components.

**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® prepgs
- 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 US 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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