Polyspeed®
Laminates

Polyspeed epoxy laminates are ideal wherever light, strong, durable materials are needed to resist high stresses and strains.
Polyspeed®
Laminates

- Light, strong and durable to resist high stresses and strains
- Shortens and facilitates manufacturing
- Reduce exotherms
- Wide range of varieties suitable for different demands and applications

Providing the lightness and strength of fiber-reinforced epoxies, Polyspeed® epoxy laminates are used in the manufacturing of winter sports and leisure equipment, wind turbine blades, automotive and many other industrial applications.

Wherever wet lay-up, prepregs, and infusion technologies are applied the additional use or replacement by Polyspeed® laminates helps to:

- Facilitate and reduce handling
- Reduce lay-up times
- Increase safety due to no exotherms

Wide range – all possibilities
Polyspeed® laminates are fiber-reinforced epoxy resin impregnated materials, which are supplied in a cured state. They are ideal wherever light, strong, durable materials are needed to resist high stresses and strains. The laminates are also suitable as skins for sandwich panels.

Hexcel manufactures a range of pressed and unpressed laminates made with woven, unidirectional or multidirectional carbon and glass reinforcements with weights from 200 to 1700 g/m².

Suitable for your requirements
As a world leader in composite technologies, Hexcel specializes in integrating materials into existing processes. Individual customer solutions are developed and tested in our technology centers, e.g. transparent glass laminate that allows viewing of the material below or extra thick laminate.

Polyspeed® laminates are fully compatible with many commercial thermoset infusion resins and PUR formulations as well as prepregs to obtain a smooth surface.

Polyspeed® product range

R-laminates
- Unidirectional glass or carbon fibers
- High mechanical properties with consistent strength in longitudinal direction
- Homogeneous, seamless surface
- Optimal for applications which require compounding with PU foam or adhesives
- Available thickness: 0,5 – 0,8 mm

R-combi laminates
- Combine the benefits of unidirectional fibers and fabrics
- Reinforcement 95-99% unidirectional
- Additional reinforcing in 90° direction
- High mechanical properties with consistent strength
- High glass transition temperature ensures increased structural resistance
- Available thickness: 0,8 – 1,2 mm

EV-Laminates
- Pressed fabric reinforcements with a minimum tolerance of thickness
- Suitable for all applications which require high strength material that needs to be bonded
- Available thickness: 0,35 – 0,9 mm

EU laminates
- Epoxy resin impregnated fabrics and cured under heat without pressure
- Smooth surface

Grid laminates
- Woven glass fiber epoxy laminates with an open grid structure
- Ideal for combined technologies where reactive liquid systems need to be combined with solid, already cured composite parts
- Optimal in combining infusion technology with laminates or other precured load carrying structures such as pultruded components
This table provides a basic overview of the Polyspeed® laminate characteristics. Our sales team and technical support will help you to determine the suitable material according to your individual requirements, e.g. (thermo) mechanical properties, tensile strength, resistance against environmental influences (UV, water, chemicals..), etc.

<table>
<thead>
<tr>
<th>Type</th>
<th>Key Features</th>
<th>Thickness mm</th>
<th>Mechanical Properties</th>
<th>Reinforcement</th>
<th>Weight g/m²</th>
<th>Min. - Max. mm</th>
<th>Glass Transition °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU</td>
<td>Cured without pressure, single layer, uni- and bidirectional reinforcement</td>
<td>0.35 - 1.2</td>
<td>300 - 850 13 - 30</td>
<td>woven</td>
<td>350 - 1200</td>
<td>38 - 1300</td>
<td>110</td>
</tr>
<tr>
<td>EV</td>
<td>Press cured, 1 - 3 layers, uni- and bidirectional reinforcement</td>
<td>0.35 - 1.8</td>
<td>400 - 900 18 - 42</td>
<td>woven glass</td>
<td>400 - 1200</td>
<td>38 - 1000</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>Press cured, 1 layer, bidirectional</td>
<td>0.35</td>
<td>&gt;1060 &gt;2</td>
<td>woven carbon</td>
<td>200</td>
<td>38 - 1000</td>
<td>125</td>
</tr>
<tr>
<td>R</td>
<td>Press cured, single layer, unidirectional, high mechanical properties, high fiber weight</td>
<td>0.4 - 1.8</td>
<td>800 - 1100 35 - 44</td>
<td>UD</td>
<td>500 - 2400</td>
<td>38 - 1000</td>
<td>125</td>
</tr>
<tr>
<td>R-Combi</td>
<td>Press cured, 2 - 3 layers, high fiber weights, high mechanical properties, UD glass fiber plus 1-2 layers of woven fabric</td>
<td>0.8 - 2.0</td>
<td>800 - 1100 35 - 42</td>
<td>UD and woven</td>
<td>1000 - 2400</td>
<td>38 - 1000</td>
<td>125</td>
</tr>
</tbody>
</table>

It is also possible to make a combination of both glass and carbon fibers.

Polyspeed® laminates can be delivered as rolls or sheets.

The maximum roll length is 250 meter, and width from 38 to 1200 mm.

The maximum length of sheets is 2500 mm.

In order to ensure an enhanced bonding with other materials Polyspeed® laminates can be ground on both or one side.

Kittings consisting of different sheet or roll lengths or preforms can be prepared for enhanced manufacturing handling.

The high quality Polyspeed® laminates are produced in Austria.
Hexcel Product Family

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
- HexFlow® RTM resins
- Redux® adhesives
- HexTool® tooling materials
- HexWeb® honeycombs
- Acousti-Cap® sound attenuating honeycomb
- Engineered core
- Engineered products

For US quotes, orders and product information call toll-free 1-866-601-5430. For other worldwide sales office telephone numbers and a full address list, please go to:

http://www.hexcel.com/contact/salesoffice

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