Plexus Adhesives produce durable, high-strength bonds to resin systems, gelcoats, engineered thermoplastics, and metals. They are dramatically changing the way wind turbines, wind turbine blades, nacelle assemblies, lightning suppression systems, and other wind power generation equipment are designed, built, and repaired. Joints that in the past were built up through hours of tedious labor can now be formed and repaired quickly and easily with Plexus Adhesives.

Simplifying and Speeding Wind Blade and Nacelle Repairs
Little or no surface preparation, lightweight manual and battery-powered dispensers, single-step mixing/dispensing, easy cleanup, rapid curing over a wide temperature range, superior cure strength and resistance... all these benefits make Plexus two-part adhesives the ideal method for repairing and retrofitting wind blades, either in the shop or up-tower.

Typical applications include:
- Drill-and-fill repairs (of internal debonding, delamination, or adhesive voids)
- Repairs of trailing edge splits, lightning strike damage, or shipping damage
- VG retrofits

Little or No Surface Preparation
Plexus Adhesives typically require little or no sanding, grinding, or other surface preparation. Depending on Plexus Adhesive used, metals may require priming.

Mixed as Dispensed
Plexus Adhesives are mixed using manual, pneumatic, or battery-powered dispensers for up-tower, field, or production repair/assembly. Adhesives can also be applied from bulk containers using larger pneumatic dispensers.

Rapid Curing Over a Broad Temperature Range
Plexus Adhesives can be applied and cure quickly over a wide range of temperatures. Fixture time can also be reduced through the application of gentle heat. Cure is unaffected by humidity.

Chemically Fuse Composites
Plexus Adhesives chemically fuse FRP and composites, forming high-strength bonds. Unlike epoxies and urethanes, they are very forgiving of off-ratio mixing.

Superior Bond Strength and Resistance
Plexus Adhesives offer superior strength, durability, flexibility, and impact resistance. Based on ITW-patented technology, they cure to a tough polymer system with excellent cycle fatigue resistance under high stress loads. They also offer excellent long-term environmental resistance (moisture and UV) as well as excellent resistance to chemicals.

Reduce Assembly Costs and Downtime
Plexus Adhesives simplify and shorten assembly and reduce production costs. They minimize or eliminate surface and preparation and snap cure at room temperature, allowing blade/rotor manufacturers to increase throughput. They also allow faster repairs and reduce downtime.
<table>
<thead>
<tr>
<th>Adhesive</th>
<th>For large repair applications requiring a GL-approved adhesive</th>
<th>For medium-sized repairs, allows faster return to service</th>
<th>Low-viscosity version of MA60-1 for use when adhesive injection repair is preferred</th>
<th>Low-viscosity version of MA50-3 for use when adhesive injection repair is preferred</th>
<th>Low-viscosity, injectable adhesive for small repairs and retrofits</th>
<th>Low-viscosity, fast-curing injectable adhesive for small repairs and retrofits</th>
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</thead>
<tbody>
<tr>
<td><strong>MA5160 GL</strong></td>
<td><strong>Color:</strong> Grey</td>
<td><strong>Working Time (min)</strong></td>
<td>55 - 65</td>
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<tr>
<td></td>
<td><strong>Mix Ratio:</strong> 1:1</td>
<td><strong>Fixture Time (min)</strong></td>
<td>210 - 240</td>
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<tr>
<td></td>
<td></td>
<td><strong>Shear Strength (psi/Mpa)</strong></td>
<td>2500 - 3200 / 17.2 - 22.0</td>
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<tr>
<td><strong>MA560-1</strong></td>
<td><strong>Color:</strong> Grey, White</td>
<td><strong>Working Time (min)</strong></td>
<td>55 - 70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Mix Ratio:</strong> 1:1</td>
<td><strong>Fixture Time (min)</strong></td>
<td>180 - 240</td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td><strong>Shear Strength (psi/Mpa)</strong></td>
<td>1700 - 2200 / 11.7 - 15.2</td>
<td></td>
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</tr>
<tr>
<td><strong>MA560 LV</strong></td>
<td><strong>Color:</strong> Grey</td>
<td><strong>Working Time (min)</strong></td>
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<td></td>
<td><strong>Mix Ratio:</strong> 1:1</td>
<td><strong>Fixture Time (min)</strong></td>
<td>180 - 240</td>
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<tr>
<td></td>
<td></td>
<td><strong>Shear Strength (psi/Mpa)</strong></td>
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<tr>
<td><strong>MA500</strong></td>
<td><strong>Color:</strong> Grey, White</td>
<td><strong>Working Time (min)</strong></td>
<td>30 - 35</td>
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<tr>
<td></td>
<td><strong>Mix Ratio:</strong> 1:1</td>
<td><strong>Fixture Time (min)</strong></td>
<td>90 - 160</td>
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<tr>
<td></td>
<td></td>
<td><strong>Shear Strength (psi/Mpa)</strong></td>
<td>1900 - 2200 / 13.1 - 15.2</td>
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<tr>
<td><strong>MA310</strong></td>
<td><strong>Color:</strong> Cream</td>
<td><strong>Working Time (min)</strong></td>
<td>15 - 18</td>
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<td></td>
<td><strong>Mix Ratio:</strong> 1:1</td>
<td><strong>Fixture Time (min)</strong></td>
<td>30 - 35</td>
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<td><strong>Shear Strength (psi/Mpa)</strong></td>
<td>3000 - 3500 / 20.7 - 24.1</td>
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<tr>
<td><strong>MA300</strong></td>
<td><strong>Color:</strong> Cream, Black</td>
<td><strong>Working Time (min)</strong></td>
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<td><strong>Mix Ratio:</strong> 1:1</td>
<td><strong>Fixture Time (min)</strong></td>
<td>12 - 15</td>
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<td></td>
<td></td>
<td><strong>Shear Strength (psi/Mpa)</strong></td>
<td>3000 - 3500 / 20.7 - 24.1</td>
<td></td>
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</tbody>
</table>
Plexus Adhesives is a brand of ITW Polymers Adhesives NA, a division of Illinois Tool Works and one of the largest manufacturers of structural adhesives and related technologies. Patented Plexus methacrylate adhesives are specially designed for structural bonding of composite materials, thermoplastics, and metals. Plexus Adhesives have an outstanding record of performance in wind energy OEM production and repair operations.

Plexus Adhesives are available globally through the following regional offices.

**ITW Performance Polymers**
Danvers
30 Endicott Street
Danvers, MA 01923
TEL: 855-889-7262
FAX: 978-774-0516
info@itwpp.com
www.performancepolymers.com

**ITW Performance Polymers**
Montgomeryville
130 Commerce Drive
Montgomeryville, PA 18936
TEL: +1 215-855-8450
customerservice.na@itwpp.com
www.performancepolymers.com

**ITW Performance Polymers**
Europe
Bay 150
Shannon Industrial Estate
Shannon, County Clare
Ireland
TEL: +353-61-771-500
customerservice.shannon@itwpp.com
www.performancepolymers.com

**ITW PP&F**
Brazil
Rua Antonio Felamingo, 430
Macuco, Valinhos, SP 13279-452
TEL: +55 19 2138-7600
www.itwppf.com.br

**ITW PP&F**
China
Room 2703
No. 418 Guiping Road
Caohejing Hi-Tech Park
Shanghai, China 200233
TEL: +86 21-5426-1212
FAX: +86 21-5426-5229
www.itwppfchina.com

Packaged for Plant or Up-Tower Bonding

Plexus Adhesives are available in two-component cartridges for manual, pneumatic, or battery-powered dispensers. They are also available in bulk for production bonding applications or ground-level field repairs.

Solving Structural Bonding Problems Worldwide

Plexus Adhesives is a brand of ITW Polymers Adhesives NA, a division of Illinois Tool Works and one of the largest manufacturers of structural adhesives and related technologies. Patented Plexus methacrylate adhesives are specially designed for structural bonding of composite materials, thermoplastics, and metals. Plexus Adhesives have an outstanding record of performance in wind energy OEM production and repair operations.

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