



PLEXUS[®]
Wind Turbine
Repair Adhesives
for Blade Repair and Assembly

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.

MA5160 GL

For large repair applications requiring a GL-approved adhesive

Color: Grey

Working Time (min)

55-65

Mix Ratio: 1:1

Fixture Time (min)

210-240

Shear Strength (psi/Mpa)

2500-3200 / 17.2-22.0



MA560-1

For large repair applications requiring long open/working times

Color: Grey, White

Working Time (min)

55-70

Mix Ratio: 1:1

Fixture Time (min)

180-240

Shear Strength (psi/Mpa)

1700-2200 / 11.7-15.2

MA530

For medium-sized repairs, allows faster return to service

Color: Grey, White

Working Time (min)

30-35

Mix Ratio: 1:1

Fixture Time (min)

90-160

Shear Strength (psi/Mpa)

1900-2200 / 13.1-15.2

MA560 LV

Low-viscosity version of MA560-1 for use when adhesive injection repair is preferred

Color: Grey

Working Time (min)

55-70

Mix Ratio: 1:1

Fixture Time (min)

180-240

Shear Strength (psi/Mpa)

1700-2200 / 11.7-15.2

MA530 LV

Low-viscosity version of MA530 for use when adhesive injection repair is preferred

Color: Grey

Working Time (min)

30-35

Mix Ratio: 1:1

Fixture Time (min)

90-160

Shear Strength (psi/Mpa)

1400-1800 / 9.7-12.4



MA310

Low-viscosity, injectable adhesive for small repairs and retrofits

Color: Cream

Working Time (min)

15-18

Mix Ratio: 1:1

Fixture Time (min)

30-35

Shear Strength (psi/Mpa)

3000-3500 / 20.7-24.1

MA300

Low-viscosity, fast-curing injectable adhesive for small repairs and retrofits

Color: Cream, Black

Working Time (min)

4-6

Mix Ratio: 1:1

Fixture Time (min)

12-15

Shear Strength (psi/Mpa)

3000-3500 / 20.7-24.1



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.

Plexus Adhesives are available globally through the following regional offices.

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