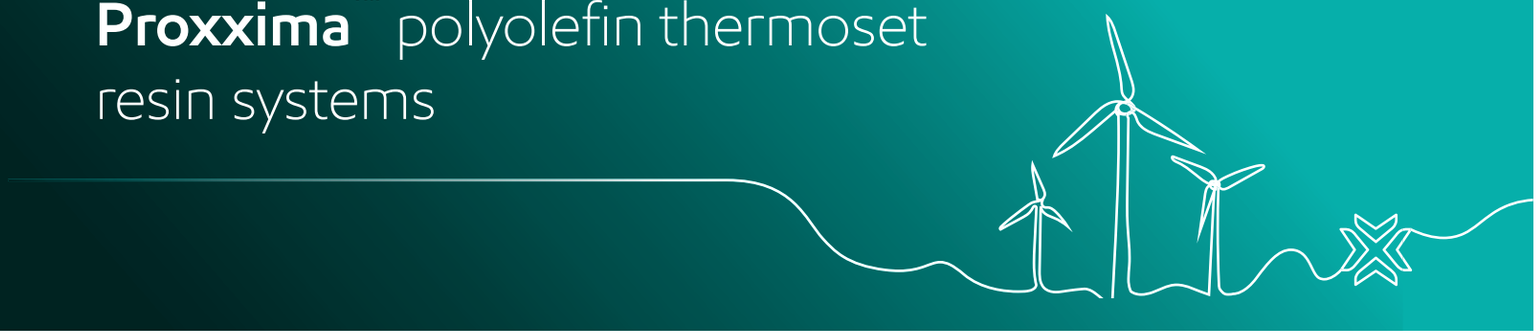
Proxxima™

Wind

Proxxima™ polyolefin thermoset resin systems



A revolution in wind blade production

Enabling lighter blades with an exceptional balance of strength and toughness, DNV-certified Proxxima™ polyolefin thermoset resin systems are a real game changer in wind blade manufacture.

Ultra-low viscosity and controllable fast cure reduce manufacturing time, cutting component production costs often with little or no change to conventional processing equipment and methods. Proxxima™ resin systems provide a durable, efficient solution for the wind energy sector.

Proxxima™ solution benefits

5x Faster

infusion time due to ultra-low viscosity

Faster processing

Process high quality thick parts (such as spar caps) and high density components with ease.

Ultra-low viscosity enables excellent fibre wet-out, and low peak exotherm produces higher quality laminates. The result is lighter parts with superior toughness.

Tougher

Proxxima™ resin systems improve turbine blade crack and fatigue performance, reducing downtime while helping to extend operational lifespans.

Engineered to meet the rigorous demands of wind energy, its enhanced fracture toughness ensures exceptional durability under stress, and it is certified by DNV for long-lasting, reliable performance in wind energy applications.

Lighter

Proxxima™ resin systems are lighter than traditional materials offering 5-10% reduction in resin usage. This enables the production of lighter, longer blades that enhance energy capture.

5-10% less resin used

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ExxonMobil's Proxxima™ polyolefin thermoset resin system offers nextgen performance for wind blades of both onshore and offshore designs, delivering:

- **Reduced weight, boosting energy efficiency.**
- **Extended service life through improved fatigue resistance.**

Demonstrated weight savings in wind blade manufacturing

	Weight in kg		Weight savings	
	Epoxy	Proxxima	kg	%
Shear Web	220	212	-8	-4%
SS Spar Cap	499	485	-14	-3%
PS Spar Cap	498	488	-10	-2%
Shells (SS+PS)	3004	2873	-131	-4%
TOTAL	**4221**	**4058**	**-163**	**-4%**

Measurements of 31-meter blade with Proxxima™ resin systems, Source Fraunhofer Institute IWES

Lower carbon footprint

A recent panel-reviewed third-party study* indicates that our Proxxima™ resin system has a reduced cradle-to-manufacturing output gate carbon footprint compared to other traditional thermosets.

Proxxima™ resin systems have a carbon footprint of product (CFP) estimate:

~60% lower than comparable epoxy resin.**

Scan the QR code for our LCA Study and disclaimers

Contact us to discover how Proxxima™ resin systems can help you bring innovation to your business.

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*Source: Comparative Carbon Footprint of Product - ExxonMobil's Proxxima™ Resin System to Alternative Resin Systems, June 2023, prepared by Sphera Solutions, Inc. for ExxonMobil Technology and Engineering Company. The study was confirmed to be conducted according to and in compliance with ISO 14067:2018 (Greenhouse gases - Carbon footprint of products - Requirements and guidelines for quantification) by an independent third party critical review panel.

**All resins assessed in this Life Cycle Assessment (LCA) study were of the type used in molding applications. Specifically, the epoxy resin system was of the type used in VARTM wind blade production. The resin systems are representative of formulated resin systems and include any required curing hardeners or catalysts. Sensitivity ranges of CFP estimates from the LCA study for polyurethane, vinyl ester, and epoxy systems are based on literature review and data from Sphera Solutions, Inc.

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