Proxxima™

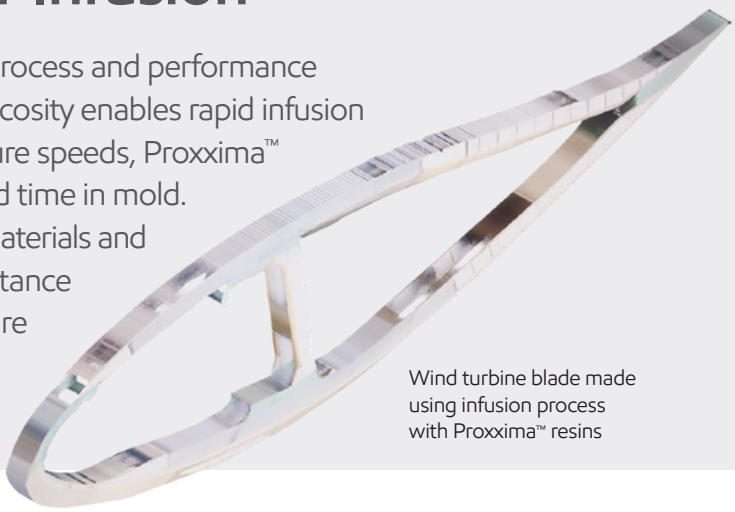
Infusion

Enabling rapid processing

Proxxima™ polyolefin thermoset resin systems

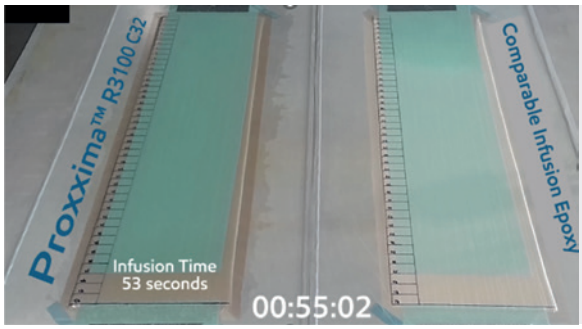
Tailored performance for Infusion

Proxxima™ offers an unparalleled combination of process and performance advantages for infusion processes. Its ultra-low viscosity enables rapid infusion speeds and low void content. Coupled with fast cure speeds, Proxxima™ systems allow for improved cycle time and reduced time in mold. The low resin density produces lighter composite materials and exceptional toughness and delivers improved resistance to challenging environments. Proxxima™ systems are uniquely formulated to work well in VARTM, HP-RTM and other RTM processes.



Wind turbine blade made using infusion process with Proxxima™ resins

- Ultra-low viscosity
- Fast heat cure
- Tougher
- Lighter



Side by side infusion of Proxxima™ R3100 and a standard infusion epoxy. After 53 seconds, the Proxxima™ panel has fully infused. The epoxy panel infusion is complete after 17 min 43 sec.

Proxxima™ resin grades for infusion processes

All grades deliver the key attributes listed above with additional benefits and balance of properties as highlighted in the table. Speak to your ExxonMobil representative for more information on which grade is best suited to your application needs.

Resin grade	Stiffness	Viscosity (cP)	Fiber compatibility	Tg
R3650	Higher	~40	Carbon, Glass, Flax, etc.	Lower
R3630		~20		Higher
R3600	Lower	~15		
R3100			Glass	

Proxxima™

Proxxima™ resin systems processing information

The Proxxima™ technology offers controllable curing speed from seconds to hours, matching your specific processing parameters or part design/size constraints. For all Proxxima™ resin and catalyst systems, the mix ratio of resin to catalyst is 50:1 by weight. The tables below summarize cure conditions, which are a starting point for optimization in your process, for the highlighted processes.

Vaucum Infusion Processing

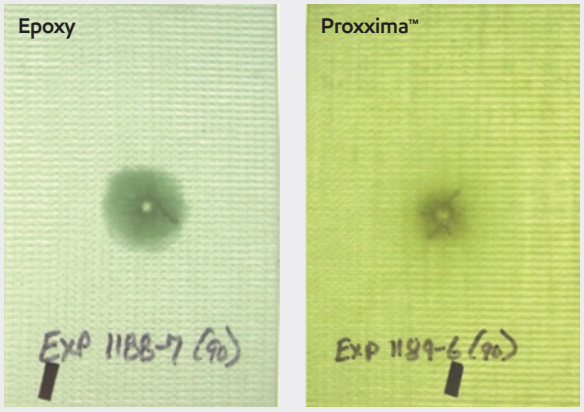
Proxxima™ for Vacuum Infusion Processing Catalyst: C32	
Stage description	Tooling temperature / Time
Dwell	40 °C / 1h
Ramp	1-2 °C / min
Post-cure	100 °C / 2h
Cooldown	1-2 °C / min

RTM Processing (e.g. HP-RTM)

Proxxima™ for RTM Processing (e.g. HP-RTM) Catalyst: C34, C36	
Stage description	Tooling temperature / Time
Cure-time	100 °C / 5 min

Proxxima™ resins should be degassed before processing via infusion. Due to the low viscosity, the resins do not require heating before injection into the mold.

With any fiber type or weave, whether it is long flow paths, complex geometries, multiple thicknesses, or super thick cross sections, Proxxima™ systems will outperform competing resin systems... by far.



Falling weight impact ASTM D7136-07

Our sweetspot: toughness!

Whether it is the one-time killing thump, repeated impacts or fatigue, Proxxima-made parts will exceed lifetime usually observed with composite parts including when used in cold or hot-wet environments.

- excellent G1C results
- much delayed and predictable fatigue break
- reduced delamination area under impact, with maintained tenacity
- ductile failure mode

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

Proxxima@exxonmobil.com | Proxxima.com

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