

Unique Technology Ultra-low Styrene Content Spray Gelcoat

Designed for use in general moulding, transportation, wind energy and building applications

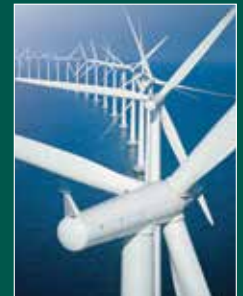
CRYSTIC Ecogel[®] S1PA

LM Wind Power Case Study

LM Wind Power Blades has been a market leader in the manufacture and supply of wind turbine blades for over three decades now. This has been achieved over the years through an unwavering commitment to continuous improvement, quality, cost, research, product development and excellent customer service.

LM Wind Power now uses Scott Bader's ultra-low styrene gelcoat products in its plants globally, and has seen a major reduction (more than 50%) in styrene emissions during spray gelcoat application, without any loss of performance and using the same standard spray equipment and catalysts as with conventional gelcoats. The use of Scott Bader's ultra-low styrene gelcoats has enabled LM Wind Power to greatly improve the environment for our workers and meet our own demanding in-house HSE standards.

Dan Lindvang, Senior Manager, Global Equipment Engineering



Independent laboratory tests confirm that

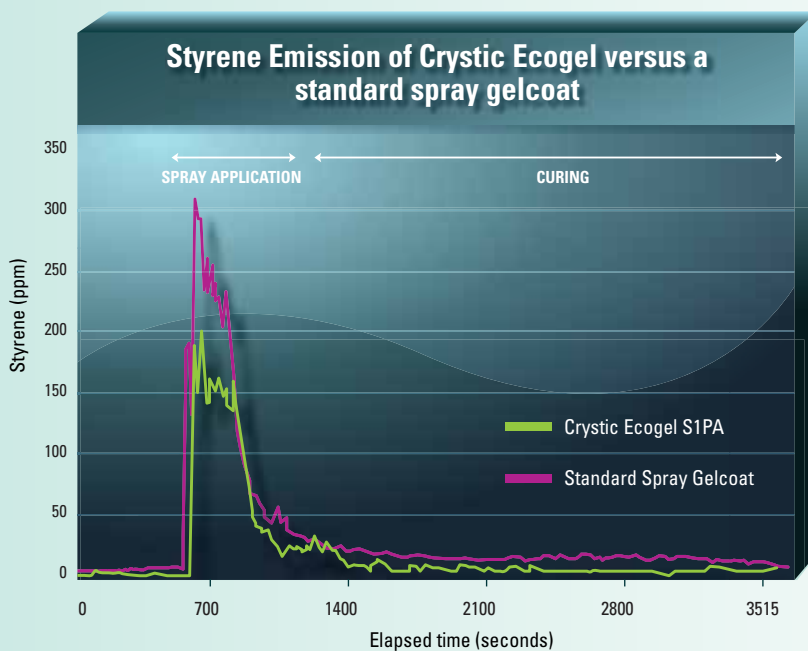
Crystic Ecogel S1PA

can cut total styrene emissions by over

55%

compared to using a standard technology polyester spray gelcoat when sprayed using extraction equipment with an air flow rate of 5000m³/hr

- Good weathering resistance
- Good interlaminar adhesion with standard polyester and vinylester resins
- Noticeably lower styrene smell emitted from the gelcoat
- Good gloss
- The gelcoat film will be ready for laminating approximately 1 hour after spray application



Tests show Crystic Ecogel S1PA has a much lower VOC emission for both the dynamic phase (airless spray) and static phase (gelation) than a standard spray gelcoat

Guidelines for use

Spray apply Crystic Ecogel S1PA using same technique as a standard gelcoat

Cures with a standard MEKP catalyst

Apply wet film thickness of 0.5-0.6mm

Ensure workshop temperatures are above 18°C

The 1st layer of laminate should be applied on the same day as the gelcoat

LAMPLAS Polymer Engineering Case Study

LAMPLAS Polymer Engineering are one of the largest composite general moulders in the UK and supply parts to many industries.

“ Crystic Ecogel is very low in odour and does cut styrene emissions significantly whilst still exhibiting a glossy, low porosity surface finish on the finished part. Our laminators are able to spray the gelcoat following the same technique used with a conventional spray gelcoat and use our standard catalyst. I am really pleased that Scott Bader are innovating with new technology like this to help us comply with health and safety regulations.

Keith Siddle, Operations Director



Properties for Crystic Ecogel S1PA	Typical Result
Viscosity, 25°C 0.6s ⁻¹	300 poise
Viscosity, 25°C 4500s ⁻¹	2.6 poise
Specific Gravity at 25 °C	1.25
Stability at 20°C	3 months
Styrene Content (wt)	16 %
Geltime 20 °C 1.5 % Butanox M50 (or equivalent catalyst)	15 - 20 mins

Mechanical properties	Value
Barcol Hardness (Model 934-1)	48
Heat Deflection Temperature*	95 °C
Water Absorption 24 hours at 23°C	18 mg
Tensile Modulus	4 GPa
Elongation at Break	2.4 %
Tensile strength	48 MPa

*Post cure 24 hours at 23 °C, 5 hours at 80 °C, 3 hours at 120 °C

