

TECHNICAL DATA SHEET

PRODUCT: GC50 EPOXY COMPATIBLE POLYESTER GEL COAT

DESCRIPTION

Easy Composites' GC50 Epoxy Compatible Polyester Gelcoat is a very special type of polyester gelcoat designed specifically for use with epoxy based wet-lay or resin infused laminates in place of an epoxy gelcoat or post-production paint/lacquer.

As a polyester-based gelcoat it brings the advantages over epoxy gel coat of being highly polishable and offering excellent UV stability. What distinguishes GC50 from a conventional polyester gelcoat is its exceptional bond to epoxy laminates.

This fast curing gelcoat is ready for the application of the epoxy laminate, either by wet-lay or resin infusion, within 2-3hrs (@20°C) but also remains bondable for up to 24hrs making it easy to achieve optimum bond strength.

The gelcoat offers extremely good inter-laminate strength to a wide range of epoxies and has been tested and found fully compatible with the entire range of Easy Composites epoxy resin systems.

USES

GC50 is ideal for us as an in-mould surface coat for epoxy-based laminates. The gelcoat can be left clear for 'bare' carbon fibre appearance parts or pigmented using polyester dispersion pigment pastes to any colour required. GC50 exhibits excellent resistance to UV light and will offer a good level of UV protection to epoxy resin systems.

If composite parts are subsequently to be painted then the use of a gelcoat makes wet-lay, vacuum bagged or resin infused laminates easier to paint by eliminating surface pin-holes.

GC50 can also be used for tooling applications requiring moderate heat resistance (up to 76°C) and a very polishable surface finish however care should be taken to ensure release compatibility of a polyester-based gelcoat with the resin system used for part production.

PROPERTIES

Viscosity @ 25° C	Thixotropic
Colour	Mauvish, Cloudy
Volatile Content	43 %
Barcol Hardness	42 (model GYZJ 934-1)
Density	1.11 g/cm ³
Pot Life @15° C	25mins
Pot Life @20° C	15mins
Pot Life @25° C	10mins
Cure Time (200g @ 25°C)	8-14hrs
Water Absorption 24hrs	18 mg
Elongation at Break	2.2 %
Tensile Strength	67 MPa

Tensile Modulus	3960 MPa
Heat Distortion Temperature (HDT)	76°C

MIXING RATIO GC50 should be allowed to attain workshop temperature (18°C- 20°C) and mixed before use. Use MEKP and incorporate this into the gelcoat at 2% by weight.

APPLICATION ONLY EVER APPLY GC50 IN A SINGLE, FULL APPLICATION. DO NOT ATTEMPT TO 'DOUBLE GEL' BECAUSE GC50 WILL NOT STICK TO ITSELF AND WILL DELAMINATE IF USED IN THIS WAY.

GC50 is a low viscosity gelcoat designed for spray application however it can also be applied by brush.

Spray at the minimum pressure to achieve an acceptable spray pattern. Apply the gelcoat in thin even passes, building up the film thickness to 0.5 – 0.6 mm wet. Ensure adequate mould ventilation.

Do not exceed a wet film thickness of 0.8 mm or drainage may occur. Avoid allowing vapour to be retained in deep mould sections as this will slow the cure. Don't apply excessive gelcoat in corners of moulds as this can cause pre-release.

Unsaturated polyester products release heat when they cure in bulk. If manually adding catalyst to the product prior to spraying, do not prepare more material than is required to complete the job and spray within 3 minutes. Care should be taken to avoid air entrapment and make certain that material at bottom and sides of container is thoroughly stirred into centre. Ensure that all equipment is thoroughly cleaned after use.

CURE After 2-3hrs the gelcoat is ready to be 'backed-up' with the epoxy resin based laminate which can be by wet-lay or resin infusion. For resin infusion the slight tack of the gel coat can be very helpful in the positioning of carbon fibre or other reinforcements into the mould.

Once the laminate is cured the part can be de-moulded and is ready for use; no further treatment is needed and the part will have a highly polishable, glossy, UV stable gelcoat with an incredible, proven bond to the epoxy part.

STORAGE GC50 should be stored in its original container and out of direct sunlight. It is recommended that the storage temperature should be less than 20°C where practical, but should not exceed 30°C. Ideally, containers should be opened only immediately prior to use. KEEP THE PACKING TIGHTLY SEALED WHEN NOT IN USE.

SHELF LIFE If stored under the above conditions the resin and hardener will have a shelf life of 12 months, from the date of production.

Our technical advice, whether verbal, or in writing is given in good faith, but without warranty - this also applies where proprietary rights of third parties are involved. It does not release you from the obligation to test the products supplied by us as to their suitability for the intended processes and uses.

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