Lingrove

Version 1/6/2021

EKOATAPE P-UD 1.5 TECHNICAL DATA SHEET

Lingrove's Ekoa is a fiber reinforced pre-impregnated composite material with high performance and low environmental impact. This product is made from D-UD 1.5 flax linen and conventional epoxy resin.

Fabric Specification

Fabric Type	Flax (EU)
Construction	0°
Fabric Weight	1.5 oz/yd² (50 gsm +/- 5%)
Standard Width	15.7 inches (400mm)
Standard Roll Length	164 ft (50 m)

Mechanical Properties

Composite Properties: Properties measured on samples with 2 layers aligned at 90°, manufactured in a press with 5 bars pressure (57% fiber weight after process).

Tensile Modulus	33 GPa	4.8 Msi
Specific Tensile Modulus	25 GPa	3.6 Msi
Tensile Strength parallel to fibers	275 MPa	39.9 Ksi
Specific Tensile Strength	220 MPa	31.9 Ksi
Tensile Strain to failure parallel to fibers	1.22%	

Properties measured on a composite made with 24 layes of D-UD 1.5 and an epoxy resin processed by RTM

Tensile Modulus parallel to fibers	35 GPa	5.1 Msi
Specific Tensile Modulus	27 GPa	3.9 Msi
Tensile Strength parallel to fibers	365 MPa	52.9 Ksi
Specific Tensile Strength	281 MPa	40.7 Ksi
Tensile Strain to failure parallel to fibers	1.35%	

Processing Guidelines

Near-zero CTE, hence good processing compatibility with carbon fibers. Compatible with vacuum molding, autoclave molding, bladder inflation molding (BIM), compression molding.

Pre-preg Specifications

Lingrove® pre-preg systems are available in CORAL, a traditional high temperature cure (250°F, 120°) pre-preg resin system, or SHARK, a lower activation temperature (220°F, 100°C), faster curing pre-preg resin system. Both systems exhibit excellent mechanical properties—CORAL is our standard system.

Recommended Cure Cycles

For best results, a heat ramp of 1-2°/min with a dwell at 180°F (80°C) for 30 minutes and an additional dwell at the minimum activation temperature for 30 minutes is recommended.

Typical fiber weight ratio: 50% (+/- 3%)
Out LIfe at 68°F (20°C): 15 days (Shark), 30 days (Coral)

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Storage

The material should be kept frozen at -18°C. It must be kept in sealed plastic bags which must not be opened until fully thawed to room temperature. Shelf life at -18°C is no less than 12 months.

Health & Safety

Exposure to these materials represents hazards typical to all epoxy resins. Exposure should be minimized and avoided through the use of proper protective clothing and equipment and appropriate manufacturing controls. All persons who use, store, or transport these materials should properly understand the handling precautions and recommendations as stated in the MSDS. Please refer to the MSDS for the most up-to-date Safety and Handling information.

Processing Guidelines

Near-zero CTE, hence good processing compatibility with carbon fibers.
Suitable for: Vacuum molding, autoclave molding, bladder molding (BIM), and compression molding.