



AEROSPACE: THERMALLY CONDUCTIVE GLASS-REINFORCED COMPOSITES



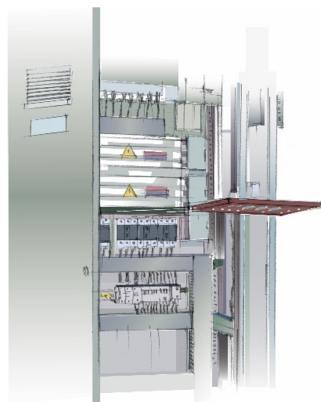
WHY?

High thermal conductivity glass-fabric epoxy composites match carbon-based materials in heat dissipation while remaining electrically insulating – ideal for electronics needing thermal management without conductivity.

APPLICATION

Improved heat dissipation leads to higher efficiency and higher power density in electro-technical equipment; this is specifically relevant to equipment operating at high temperatures or close to sources of heat:

- Engine parts
- Electrical panels in the cabin
- Cockpit parts (nose, windows frames)
- Subcomponents for LSP and Edge glow prevention in fuel tank



TECHNOLOGY

Epoxy resin modification to enhance specific thermal conductivity.

KEY PRODUCT: VETRONITE EGS 619 HTC

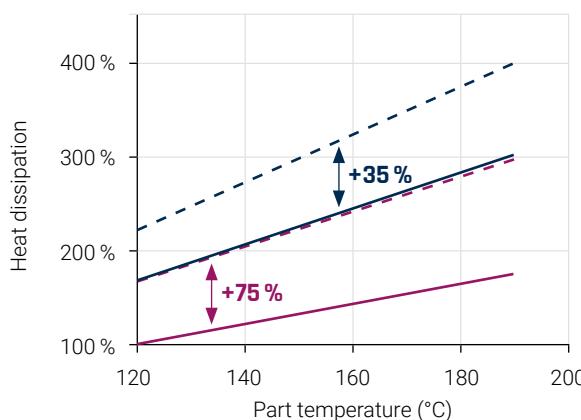
HIGH THERMAL CONDUCTIVITY GLASS-FABRIC EPOXY COMPOSITE

FEATURES

- Composite laminate made of **glass cloth** and **high temperature epoxy**, type **FR-4** (NEMA LI 1)
- Outstanding thermal conductivity**
- Excellent mechanical** and electrical properties
- Flame retardant**

	Unit	Value
Mechanical properties		
Flexural strength	MPa	450
E-modulus	GPa	24
Compressive strength //, at 23°C	MPa	250
Compressive strength L, at 23°C	MPa	420
Tensile strength	MPa	300
Thermal properties		
Temperature index (TI)	°C	130 (Class B)
Thermal conductivity (ISO 8301)	W / m K	0.86

	Unit	Value
Electrical properties		
Insulation resistance	Ohm	10^{12}
Breakdown voltage //, 90°C in oil	kV	65
Electric strength I, 90°C in oil	kV/mm	15
Comparative tracking index CTI	V	500
Relative permittivity at 1 MHz	(-)	5.3
Dissipation factor at 1 MHz (-)	0.01	0.01
Physical properties		
Density	g/cm ³	2.05



1.0 mm laminate allows for an increased heat dissipation by about 75% (compared to standard composite)

— 0,4 mm — 1,0 mm
- - - 0,4 mm - HTC - - - 1,0 mm - HTC

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