



Firwin Hard Coat Insulation



DESCRIPTION:

Firwin Hard Coat Insulation consists of a high alumina, ceramic fiber insulation surrounded by a rugged, high heat resistant composite outer surface.

ADVANTAGES:

Black color; Water and Oil resistant – prevents fluids from seeping into insulation; Nonflammable – outer surface creates a char when exposed to flame which keeps flame from penetrating substructures; Hard rugged exterior.

APPLICATIONS:

Engine compartment components requiring long term exposure to high temperatures.

Property Data for Firwin Hard Coat Insulation

Continuous use limit, °F (°C)

	1" insulation	1800°F (982°C)
	½" insulation	1300°F (704°C)
Flammability		Self Extinguishing per FAR part 25.853
Thermal Conductivity		
BTU•in/hr•ft²•°F (w/m•k)	@ 500°F (260°C)	0.48 (0.07)
	@ 1000°F (538°C)	0.72 (0.10)
	@ 1500°F (816°C)	1.03 (0.15)
	@ 2000°F (1093°C)	1.52 (0.22)



Mechanical Data

	Laminate Properties	
Property	30 PSI (0.20 MPa) cure with postcure	Method
Ultimate Tensile Strength		
Warp-RT	47,000 PSI (324 MPa)	ASTM D638, Type 1
Fill-RT	42,000 PSI (290 MPa)	ASTM D638, Type 1
Ultimate Flexural Strength		
Warp-RT	78,000 PSI (538 MPa)	ASTM D790
Fill-RT	69,000 PSI (476 MPa)	ASTM D790
Flexural Modulus		
Warp-RT	2.6 MSI (18 GPa)	ASTM D790
Fill-RT	2.6 MSI (18 GPa)	ASTM D790
Short Beam Shear Strength		
Warp-RT	6,670 PSI (46 MPa)	ASTM D2344

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