ALPHA
engineered composites
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ALPHA TEMP-MAT

DESCRIPTION

ALPHA TEMP-MAT is manufactured to conform with the requirements of Military Specification MIL-I-16411F Type II, ASTM-C-1086-96 and Coast Guard Specification for Incombustible Materials #164.009 and MIL-DTL-24244. TEMP-MAT is a fiberglass mat composed of 100% "E" type glass fibers 9-13 microns ln diameter which are put into web form and mechanically needles together without chemical binders.

ADVANTAGES

ALPHA TEMP-MAT is an effective low cost replacement for asbestos mats, millboard, ceramic or refractory fiber paper, mat and sheets and mineral fiber boards. It is used as a thermal insulation and gasket material in home and industrial furnaces, package boiler and for special piping applications where heat resistance, flexibility and low special air and liquid chemical and thermal resistance are mandatory.

TEMP-MAT PROPERTIES

	Weight		Density		
Thickness	English	Metric	English	Metric	Service Temperature
1/4" (0.635 cm)	3 oz./ft.^{2}	915.6 g/m^2	9 lbs./cu.ft.	144.2 kg/cu.m	-80°F to 1200°F (649°C)
1/2'' (1.27 cm)	6 oz./ft.^{2}	1831.2 g/m^2	9 lbs./cu.ft.	144.2 kg/cu.m	-80°F to 1200°F (649°C)
3/4" (1.91 cm)	9 oz./ft.^{2}	2746.8 g/m^2	9 lbs./cu.ft.	144.2 kg/cu.m	-80°F to 1200°F (649°C)
1" (2.54 cm)	15 oz./ft^2	4578 g/m^2	11 lbs./cu.ft.	176.2 kg/cu.m	-80°F to 1200°F (649°C)

*All four Temp-Mat styles have extremely good fire resistance and are incombustible, have negligible moisture absorption, but will experience up to 2% weight loss at continuous use a 1200°F (649°C).

K=THERMAL CONDUCTIVITY

R=RESISTANCE TO HEAT TRANSFER

"K" BTU-Inch/Hour-ft.^{2}-°F

"R" Hour-ft.^{2}-°F/BTU

	1/4"		1/2"		3/4"		1"	
Mean Temp.	K	R	K	R	K	R	K	R
75°F (24°C)	0.29	0.86	0.29	1.72	0.29	2.59	0.29	3.45
300°F (149°C)	0.40	0.63	0.40	1.25	0.40	1.88	0.40	2.50
500°F (260°C)	0.50	0.50	0.50	1.00	0.50	1.50	0.50	2.00
700°F (371°C)	0.65	0.38	0.65	0.77	0.65	1.15	0.65	1.54

TENSILE STRENGTH

1" Machine	125 lbs
1" Cross-machine	90 lbs
½" Machine	80 lbs
½" Cross-machine	60 lbs

ACOUSTICAL RATINGS

Frequency (Hz)	1/4"	1/2"	1" .
250	.04+-.02	.07+-.02	.15+-.04
500	.12+-.01	.24+-.01	.80+-.03
1000	.29+-.01	.55+-.01	1.02+-.02
2000	.51+-.01	.79+-.02	1.08+-.02
4000	.85+-.01	.91+-.02	.92+-.02

Noise reduction Coefficient	0.25	0.40	0.70

Flame Resistance ASTM E-84/UL723 Flame Spread 0

Smoke Developed 0

DATA SHEET: 13412 REV: Q DATE: 10/10/2024 *All values are nominal unless otherwise specified.

Specializing in marine, aerospace, automotive and commercial fabrics for thermal and industrial applications