

Foil-and-fiber composite helps manage thermal energy



Product Application

- Heavy-duty trucks*
- Automobiles*
- Recreational vehicles*
- Marine craft*
- Power generation equipment*
- Compressors*
- Equipment enclosures*
- High- temperature exhaust systems*
- Appliances*

High performance heat insulation and dissipation

- Reflects heat
- Prevents ‘hot spots’
- Safe and easy to handle—contains no fiberglass or asbestos

For applications requiring thermal insulation within tight space constraints, E-A-R offers TD-400-43 thermal insulating material. Comprising four alternating layers of aluminum and non-woven polyester fibers, TD-400-43 is designed for moderate temperature environments, up to 204C (400F). With its .05-mm aluminum layers, the composite conducts heat laterally away from hot areas. The shiny aluminum surface also reflects light into enclosures, greatly enhancing visibility during inspections or maintenance. TD-400-43 is available in pallets of 600 linear feet, fan-folded into 50-inch by 48-inch sheets.

Typical Properties		TD-400-43
Property		
Description		
Layers		Aluminum foil / polyester fiber / aluminum foil / polyester fiber
Thickness Nominal mm (in)		3.0 (0.12)
Weight Nominal kg/m² (lb/ft²)		0.68 (.14)
Density Nominal kg/m³ (lb/ft³)		224 (14)
Flammability		
MVSS-302		Meets
SAE J369, Self extinguishing		Meets
UL94		Meets HBF
Thermal Conductivity K Value		
ASTM C177 W/m • K (BTU in/hr ft ² F)		
	Normal	0.050 (.35)
	Lateral	0.281 (1.95)
Tensile Strength kPa (psi)		1,724 (250)
Tear Strength kN/m (lbf/in)		8.8 (50)
Compression Set (%)		
ASTM D3574, 50% for 22 hr		
	20C (68 F)	9.5
	70C (158F)	34
Indentation Force Deflection kPa (psi)		
ASTM D3575		
	25% deflection	4.48 (0.65)
	50% deflection	24.1 (3.50)
Light Reflectivity (foil side) (%)		95-97
Temperature Range C (F)		
Peak Performance		-54 to 204 (-65 to 400)

Normal Incidence Absorption Coefficient

Acoustical information is provided here for reference. TD-400-43 composite is employed primarily as thermal insulation.

100 Hz	125 Hz	200 Hz	250 Hz	400 Hz	500 Hz	800 Hz	1000 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz
0.04	0	0.01	0.05	0.05	0.07	0.23	0.41	0.53	0.33	0.20	0.16

The data listed are typical or average values based on tests conducted by independent laboratories or by the manufacturer. They are indicative only of the results obtained in such tests and should not be considered as guaranteed maximums or minimums. Materials must be tested under actual service to determine their suitability for a particular purpose.