



COMPARATIVE INSULATION MATRIX

www.techlite.net

PRODUCT	MATERIAL DESCRIPTION	RECOMMENDED TEMPERATURE RANGE	K FACTOR BTU/hr•ft•F (MEAN)	DENSITY Lb/Ft ³ Max.	Flame Spread & Smoke Dvlp per ASTM E-84	Resistance to Handling Breakage	Prevents Corrosion (Inhibited)	Size Availability	Moisture Resistance	Available w/ Factory Appl. Jacket	Qualification & Limitations
TechLite®	Melamine Foam	-40°F to +350°F	K=0.26 @ -40°F mean K=0.30 @ 75°F mean K=0.50 @ 300°F mean (Good)	0.6 - 0.7	5/10	Excellent (Flexible)	Excellent	1/2" thru 12" pipe & 4ft x 8ft sheets any thickness	Fair	Yes Indoor/ Outdoor	Will not fail when wet. Will continue to insulate when properly dried. Moisture permeates open cell insulation but will not cause collapse. Will deteriorate when exposed to acids, bases, and hydrocarbons.
Fiberglass	Glass Fibers with organic high-temp. binder	+150°F to +850°F	K=0.23 @ 100°F K=0.36 @ 300°F K=0.48 @ 450°F (Good)	4-5 pipe 2-3 board	25/50 or less	Good	Good	1/2" thru 24" pipe-6" thick max. 4' x 8' board	Poor	Yes Indoor Only	Will fail when wet- cannot be saved by drying. Constructed fibers which may be considered carcinogenic. Hydrocarbon absorption can cause auto-ignition. When crushed, it will not return to original shape. Above 400°F, the organic burn out causes strength loss and collapse of the material.
Cellular Glass (Foamglas®)	Cellular Glass foamed and fused	-290°F to +900°F	K=0.36 @ 100°F K=0.42 @ 200°F K=0.71 @ 500°F (Fair)	8.5	5/0	Poor	Fair	1/2" thru 24" pipe-3" thick max. 12" x 18" and 18" x 24" to 5" thick block	Excellent	No	Will fail in the presence of freeze-thaw. Will stress crack due to sudden temperature change above 250°F. Excellent against acids, bases and hydrocarbon absorption. Failure from vibration, direct exposure to hydrofluoric acid and caustics. Difficult material to cut and fabricate. High Breakage %.
Flexible Foam Plastic (Armaflex®)	Preformed Elastomeric Foam	-40°F to +220°F (pipe) -40°F to +180°F (sheet)	K=0.27 @ 75°F K=0.38 @ 90°F (Good)	2	25/50	Excellent	Fair	1/2" thru 5" pipe-1" thick max. 36" x 48" to 2" thick sheet	Good	No	Must be protected from U.V. in outdoor applications. Joint adhesive failure is common on cold systems.
Mineral Wool	Mineral Slag Wool with high-temp. binder	+150°F to +1200°F	K=0.36 @ 200°F K=0.60 @ 600°F (Fair)	5-10	25/50 or less	Good	Good	1/2" thru 32" pipe-6" thick max. 24" x 36" to 3" thick block	Fair	No	Will fail when wet - cannot be saved by drying. Constructed fibers which may be considered carcinogenic. Hydrocarbon absorption can cause auto-ignition. When crushed, it will not return to original shape. Failure from excessive vibration.
Polyisocyanurate (Polyiso)	Polyester Resins & fluorocarbon blowing agent	-320°F to +300°F	K=0.15 @ 50°F K=0.16 @ 100°F (Excellent)	1.8-2.0	25/160	Good	Fair	1/2" thru 24" pipe & 4ft x 8ft sheets any thickness	Good	Yes Indoor/ Outdoor	Will dissolve or deteriorate when exposed to acid, bases and hydrocarbons. Will resist limited moisture but insulation will fail under continuous exposure. Contains CFCs - environmental (ozone) concern. High rate of expansion & contraction may cause system failure at extreme temperatures.

TECHLITE INSULATION

A DIVISION OF THE ACCESSIBLE PRODUCTS COMPANY

2122 W 5TH PLACE, TEMPE, ARIZONA 85281

CORPORATE 800.922.5252

www.techlite.net

The user shall be responsible for determining suitability of the product for their intended use. The user assumes all responsibility for any injury, loss, or damage, direct or consequential, arising out of misuse. TECHLITE® INSULATION will supply a sample upon request to assist user in making determinations.