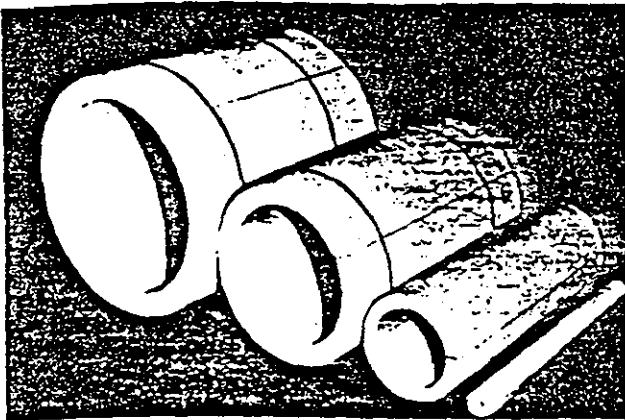




Commercial D.11
October, 1972

Kaylo 10 Asbestos Free Pipe Insulation

For hot water heating, high temperature hot water, steam condensate piping systems and all heated lines to 1200 F.



uses

Kaylo 10 Asbestos Free* is particularly suitable for use on high temperature piping systems where high performance and extended temperature range are required. Kaylo 10 Asbestos Free is widely used on hot piping where a great degree of physical abuse resistance is required, such as boiler and equipments rooms.

description

Kaylo 10 Asbestos Free Pipe Insulation is a rigid white hydrous calcium silicate insulation molded in sections for all types of indoor and outdoor piping that requires an abuse resistant, durable, efficient insulation, for temperatures up to 1200F. The insulation does not contain any asbestos fibers.

benefits

rugged—Kaylo 10 Asbestos Free Pipe Insulation is a strong and rigid material that resists mechanical damage during shipping, installation and service. It is well suited for riser piping in exposed locations.

versatile—Kaylo's extended temperature range offers broader use for all hot piping to 1200F.

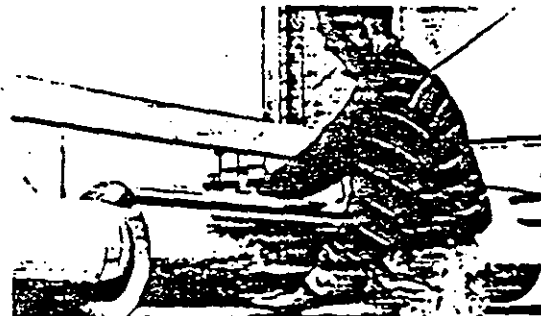
no asbestos—Kaylo 10 Asbestos Free can be safely used and applied in conformance with proposed OSHA regulations.

will not cause stress corrosion cracking—Kaylo 10 Asbestos Free will not cause stress corrosion cracking of stainless steel because Kaylo 10 Asbestos Free contains an inhibitor and has a very low soluble chloride content.

unaffected by moisture—Kaylo can be completely saturated in water without appreciable loss of strength and regains its strength and thermal value after drying out.



Kaylo Pipe Insulation cuts cleanly with straight square edges. The final result is well insulated piping with a neat finished appearance. Mitered fittings are finished with insulating cement and covered with canvas.

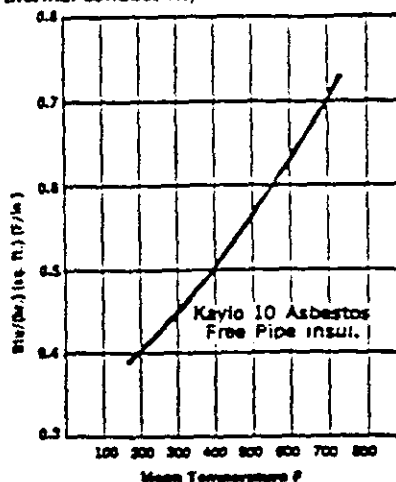


Kaylo Klad Pipe Insulation combines weather-proofing and insulation in one application. Attractive, maintenance-free factory-applied jackets of stainless steel and aluminum are complete with longitudinal locking seams and end joint butt strips.

Performance characteristics

density (approx.)	11 lb. pcf.
modulus of rupture (ASTM C-446)	75 lbs./sq. in.
resistance to abrasion (Conventional tumbling test-loss in weight before heating) (ASTM C-421)	after 10 minutes, 20% max. after 20 minutes, 45% max.
corrosion resistance	does not cause or accelerate corrosion of steel, aluminum, or stainless steel
dimensional stability linear shrinkage after heating for 24 hours in a muffle (ASTM C-356)	
% length loss	1.4 (at 1200F)
specification compliance	
HH-1-523c Insulation Block, Pipe Covering, Thermal, Calcium silicate (For temperatures up to 1200F) Type II (Pipe covering) Classes A thru F.	
MIL-1-2781D Insulation Pipe Covering, Thermal, Grade 1, Class B; Grade 2, Class D; Grade 3, Class E, Type 1 and 2.	

thermal conductivity



MIL-1-24244 (Ships)—Insulation Materials, Thermal, with Special Corrosion and Chloride Requirements, Type 1A, 1C, 1D, 1E.

ASTM C533-87

economic thickness—ambient air at 80F

Pipe Temp. Temp. Diff. IPS	ET	200 120 HL	ST	ET	400 320 HL	ST	ET	600 520 HL	ST
1/2	1	17	95	1 1/2	40	106	2	63	113
3/4	1	19	97	1 1/2	47	110	2	71	117
1	1	20	95	1 1/2	50	109	2 1/2	70	107
1 1/4	1	26	99	2	52	104	2 1/2	81	111
1 1/2	1	27	98	2	55	104	2 1/2	84	112
2	1	32	98	2	61	104	2 1/2	96	112
2 1/2	1 1/2	26	90	2	64	103	3	94	105
3	1 1/2	33	93	2	79	104	3	111	110
3 1/2	1 1/2	33	91	2 1/2	72	99	3	115	108
4	1 1/2	40	94	2 1/2	83	102	3 1/2	118	106
4 1/2	1 1/2	36	93	2 1/2	82	102	3 1/2	120	107
5	1 1/2	43	95	2 1/2	94	105	3 1/2	137	110

Pipe Temp. Temp. Diff. IPS	ET	200 120 HL	ST	ET	400 320 HL	ST	ET	600 520 HL	ST
6	2	46	91	3	98	100	4	140	104
7	2	47	92	3	104	103	4	155	107
8	2	55	91	3	115	100	4	169	106
9	2	56	92	3	123	102	4	182	110
10	2	65	91	3 1/2	124	98	4	200	107
11	2	73	92	3 1/2	133	98	4	205	107
12	2	81	92	3 1/2	142	98	4 1/2	210	105
14	2 1/2	72	90	3 1/2	157	99	5	213	103
16	3	70	88	4	159	97	6	207	99
18	3	78	88	5	147	92	6 1/2	212	97
20	3	85	88	5	151	93	6 1/2	229	98
24	3	100	89	5	176	93	6 1/2	256	99

economic thickness

table key

ET—economic thickness (inches)

HL—heat loss (Btu/eff. hr)

ST—surface temperature (F)

importance of specifying economic thickness

Selection of insulation thicknesses for any specific application should take into consideration at least the following criteria. 1. Cost of insulation applied. 2. Cost of heat energy. 3. Cost of capital. 4. Cost of depreciation—plant and insulation. 5. Capital investment in heat production equipment. 6. Temperature differential. 7. Size of the pipe or surface. 8. Conductivity of insulation.

for hot piping, the tabulated thicknesses are optimum thicknesses calculated on an "Economic" basis for heat conservation under average operating conditions and assure adequate temperature control. Special conditions may warrant the use of other thicknesses.

*From "How to Determine Economic Thickness of Insulation"—National Insulation Manufacturers Association.
economic thickness—Heated Piping to 1200F (80F ambient still air)

sizes

pipe sizes—Kaylo Pipe Insulation is available to fit nominal pipe sizes from 1/2" to 39" in diameter, and nominal copper tubing sizes from 1/8" to 3" in diameter. It is manufactured to Dimensional Standards Sizes to permit nesting in multiple-layer applications.

thickness—Kaylo Pipe Insulation is available in single layer thicknesses from 1" to 3" depending upon pipe size. Kaylo Copper Tubing Insulation is available in single layer thicknesses of 1" and 1 1/2".

forms—Kaylo Pipe Insulation is available in sectional or multi-

segmental form depending upon pipe size. All insulation is furnished in 3 ft. sections.

jackets

Jackets are factory-applied on Sectional Pipe and Tube Insulation. On Multisegmental forms they are furnished but not adhered.

canvas—Kaylo Sectional Pipe Insulation includes standard canvas jackets, at an additional charge, on thicknesses up to and including 3" depending on pipe size.

8 oz. canvas jacket is available for all types, sizes and thicknesses of Kaylo Pipe and Tube Insulation at an additional charge.

smooth and embossed aluminum—Kaylo is also available with smooth or embossed aluminum jacket .016" thick; or stainless steel .010". These weatherproof jackets provide greater resistance to mechanical damage and present a neat finished appearance to outdoor pipe lines. The longitudinal seam has a self-locking joint. Butt sealing strips are furnished with an integral weatherproof mastic for sealing end joints.



OWENS-CORNING FIBERGLAS CORPORATION
Mechanical Products Division
Fiberglass Tower, Toledo, Ohio 43659