



Division
Zonolite Company
135 S. LaSalle St.
Chicago 3, Ill.

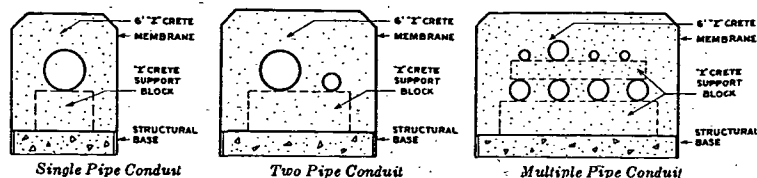
UNDERGROUND PIPE INSULATION

Z-CRETE* is a Lightweight Insulating Concrete which is poured directly and monolithically around heated underground piping.

GENERAL DATA The Z-CRETE system of underground insulation is a field fabrication adaptable to any size, number or arrangement of pipes. Six inches of insulation is ordinarily used on the outside of all pipes. A minimum of four inches is economical spacing between piping.

Z-CRETE insulation serves as a monolithic, jointless insulating filler around pipes. A curing and waterproofing membrane completes the installation.

Z-CRETE installations have no joints to leak heat or collect water—they are as permanent as the earth itself. Anchors, guides and expansion devices (except loops) are the same as used in any other system. The curing membrane provides external water protection and imparts a tensile strength to the conduit.



TYPICAL Z-CRETE CONDUITS

Commonly used designs of Z-CRETE are shown above. The single pipe and double pipe conduit consist of a structural concrete pad, pre-cast Z-CRETE support blocks on which the pipes rest, a pour of Z-CRETE insulating concrete and a curing and waterproofing membrane. The multiple pipe conduit at the right has a second pre-cast support for the upper group of pipes.

REINSULATION OF EXISTING CONDUITS

The ruinous effect of water on steel pipe and insulation is well known. Z-CRETE insulation restricts moisture, keeps the conduit dry. Inorganic Z-CRETE concrete naturally resists deterioration. Many existing hollow or Box Type Conduits may be reinsulated by *pumping* them full of Z-CRETE. The mass of water resistant Z-CRETE restricts the

movement of moisture, so special drainage provisions are not ordinarily required. Z-CRETE is sold and installed by licensed applicators of Zonolite Company under U. S. Patent No. 2355966—Canadian Patent No. 439356. There is an applicator near you. For further data or information, write Dept. HV-3.

*Z-Crete is a registered trade mark of Zonolite Company.

Owens-Illinois Glass Company

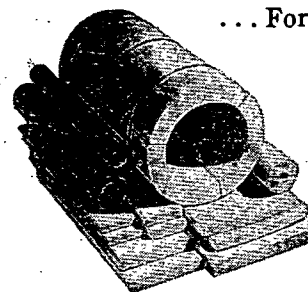
Kaylo Division Toledo 1, Ohio

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KAYLO® Heat Insulation

... For Temperatures Up to 1200° F.



PHYSICAL CHARACTERISTICS

DENSITY	Approximately 11 lb per cu. ft.
FLEXURAL STRENGTH	50 lb per sq in.
COMPRESSIVE STRENGTH (at 5% deformation)	
Before heating	150 lb per sq in.
After heating for 24 hours	
at 750° F.	144 lb per sq in.
at 1000° F.	123 lb per sq in.
at 1200° F.	117 lb per sq in.
After boiling for 24 hours (while wet)	74 lb per sq in.

LOSS IN WEIGHT

After heating for 24 hours	
at 750° F.	5.5%
at 1000° F.	7.9%
at 1200° F.	9.8%
After boiling for 24 hours (after drying)	0.2%

RESISTANCE TO ABRASION

(Conventional tumbling test—loss in weight after 10 minutes)	
Before heating	2.2%
After heating for 24 hours	
at 750° F.	3.7%
at 1000° F.	5.7%
at 1200° F.	6.9%

DIMENSIONAL STABILITY

Linear shrinkage after heating for 24 hours	
at 750° F.	0.8%
at 1000° F.	0.9%
at 1200° F.	1.5%
Elongation after saturation (max.)	0.04%

MOISTURE ADSORPTION (volume)

After 6 hours exposure in atmosphere of 120° F and 90% Relative Humidity	0.9%
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CONDUCTIVITY (K)

At 100° F mean temperature	0.39
At 500° F mean temperature	0.54



WRITE FOR
LITERATURE ON
KAYLO HEAT
INSULATION

KAYLO HEAT INSULATION, a hydrous calcium silicate, is effective up to 1200° F. It performs efficiently through the hot water and low pressure steam range, also through temperatures in the superheated steam range. Therefore, a single material can be used for high temperatures which usually require combinations of two different insulating materials. Kaylo Heat Insulation is incombustible and insoluble in water. Its light weight simplifies handling, shipping and application. High strength makes breakage almost negligible. Kaylo Heat Insulation can be cut, scored or sawed with ordinary tools. The material is non-irritating to the skin and non-toxic.

KAYLO PIPE INSULATION is made to Simplified Dimensional Standards of thicknesses and diameters for snug nesting, when necessary. Coverings are sectional for tube and pipe sizes 1/4 in. to 12 in.; tri-segmental up to 23 in.; quad-segmental up to 41 in.; K-segmental (18 in. wide segments) up to 72 in. in diameter.

KAYLO HEAT INSULATING BLOCK is made in all standard sizes, up to 18 in. wide and in thicknesses from 1 in. to 6 in. Where necessary, on special order, the block can be shipped for broken joint, single-layer application in thicknesses of 3 in. or greater.