PLAINTIFF'S EXHIBIT

MON-2270

RECOMMENDED SPECIFICATIONS AND APPLICATION PROCEDURES

These specifications are of a general nature. Application procedures and material approval are the responsibility of the design engineer.

NEW CAREYTEMP 1500 PIPE INSULATION

Pipe insulation shall be applied over a clean, dry surface. Sectional insulation under 12" in diameter shall be installed with joints closely butted and secured by neatly pasting down canvas laps furnished with the covering.

Insulation on pipes over 12" in diameter and all outdoor insulation shall be wired in place on 9" centers with 16 gauge soft annealed iron wire. Where double layer insulation is applied, joints shall be staggered and each layer must be secured with wire.

Elbows shall be insulated with Premolded Elbows wired in place and covered with a pasted-on 4-oz. canvas jacket. Fittings, flanges and valves shall be insulated with covers fabricated from NEW CAREYTEMP 1500 Pipe Insulation or built-up with MW-One Cement.

Indoor piping under 12" diameter supplied with a factory-applied jacket requires no additional finish under normal conditions. Indoor piping over 12" diameter shall be finished with a 6-oz. canvas jacket neatly pasted in place.

Outdoor piping shall be finished with a 45-lb. organic or asbestos felt jacket with both longitudinal and horizontal joints lapped a minimum of 2". The jacket shall be secured with 16 gauge copperweld wire on 9" centers or ½" wide galvanized bands on 12" centers. Other types of jacketing such as aluminum, sheet metal, plastic coating, etc. may be installed as recommended by the manufacturer.

All indoor fittings, flanges and valves shall be pointed to a smooth surface and finished with a canvas jacket neatly pasted in place. Outdoor fittings, flanges and valves shall be finished with a ¼" (⅛" dry) coat of Thermotex-B Emulsion reinforced with 1" wire mesh.

NEW CAREYTEMP 1500 BLOCK INSULATION AND SEGMENTS

Surfaces over 24" diameter up to and including 60" diameter shall be insulated with NEW CAREYTEMP 1500 curved segments securely fastened with 16 gauge black annealed wire or ½" x .020 galvanized steel strapping and seals on 12" to 18" centers. All joints in the segments shall be staggered. All voids and joints shall be pointed-up with Careytemp or MW-One Cement. Then apply wire mesh over the insulated surface. Finally, apply a ⅛" to ½" coat of Careytemp or MW-One Cement over the wire mesh. If Careytemp Cement is used, it shall be applied in two coats with the second layer troweled smooth. Indoor work shall have a final 6 or 8-oz. canvas jacket neatly pasted in place over the insulated surfaces. Outdoor application shall be weatherproofed by applying a ¼" (⅛" dry) thickness of Thermotex-B Emulsion reinforced with 1" wire mesh.

Surfaces over 60" diameter shall be insulated with Careytemp flat block securely fastened with 16 gauge black annealed wire or ½" x .020 galvanized bands and seals on 12" to 18" centers using staggered joint construction. Point all voids and joints with Careytemp or MW-One Cement. Then apply wire mesh over the insulated surface. Over the mesh, apply a ⅛" to ½" coat of Careytemp or MW-One Cement. If Careytemp Cement is used, cement shall be applied in two coats, the final coat to be troweled to a smooth finish. Indoor work shall have a final 6 or 8-oz. canvas jacket neatly pasted in place over the insulated surface. Outdoor application shall be weatherproofed by applying a ¼" (⅛" dry) thickness of Thermotex-B Emulsion reinforced with 1" wire mesh.

It is recommended for large vessels, such as towers, tanks, stills, etc., that angle iron supports be installed on 12-ft. centers. On large vessels, vertical angle iron members should be installed to hold a 30-ft. maximum length of the securing wire or band. Horizontal vessels over 6 feet in diameter should have two steel angles welded to the vessel shell approximately 30 degrees below the horizontal center line. The depth of these supports should be held to ½" less than the insulation thickness.

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OWENS CORNING FIBERGLAS

December, 1971

Glaslag Type I-S Pipe Insulation

For Power & Process, high temperature piping system 850°F



uses

Glaslag pipe insulation is particularly suitable for use on long run piping in process and power plant systems where high temperatures do not exceed 850°F. It is only recommended where physical abuse resistance is not required or desired.

description

Glaslag Type I-S pipe insulation is a flexible wrap around type insulation fabricated from special Intermediate Service Board lags adhered to metal jacketing.

benefits

Economical application

Glaslag is applied quickly and easily particularly in the larger sizes as the insulation and jacketing are applied in one operation. Three foot lengths also result in more lineal feet per man hour.

Easy fabrication

Only a knife and metal shears are needed for fabrication and fitting around valves, flanges, hangers, etc.

Will not cause stress corrosion cracking

Glaslag is suitable for use on austenitic stainless steel piping as the base material (I-S Board) is extremely low in leachable chlorides and contains sufficient sodium plus silicate to meet MIL-I-24244 Amendment 3.

Dimensionally stable

Glaslag will not shrink or rot and will withstand thermal shock.

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performance characteristics

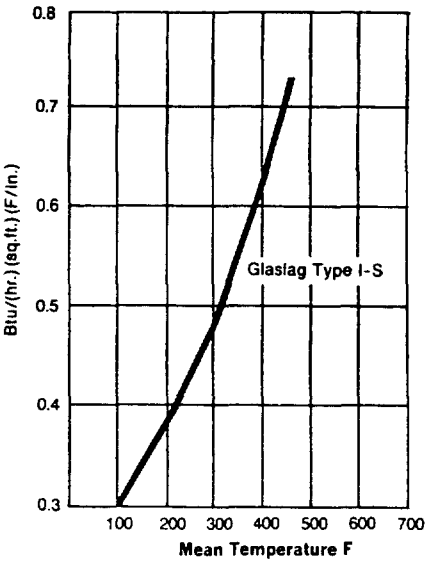
		PSF
Compressive Strength,	5% deformation	65
	After hot pipe 700°F for 96 hours @ 5% deformation	17

Corrosion resistance does not cause or accelerate corrosion of steel, aluminum, or stainless steel.

Dimensional stability Stable — will not grow or shrink

Specification compliance Meets MIL-I-24244 Amendment 3, Insulation materials, thermal, with Special Corrosion and Chloride requirements, type 13B

Thermal conductivity



Recommended 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.

Sizes

pipe sizes — Glaslag Type I-S Pipe Insulation is available to fit nominal pipe sizes from 4″ to 40″ in diameter.

thickness — Glaslag Type I-S Pipe Insulation is available in single layer thicknesses from 1″ to 4″ depending upon pipe size.

Form

Glaslag Type I-S is available only in 3 foot lengths cut to length so that it will wrap around and enclose the pipe O.D. with insulation. It has a 2″ circumferential overlap and a 2″ longitudinal overlap.

Jackets

The insulation is furnished adhered to metal jacketing.

metal types—

.016 smooth, corrugated, and embossed aluminum. These weatherproof jackets provide resistance to mechanical damage and present a neat finished appearance to power and process pipe lines. The jackets are oversized to provide a circumferential and longitudinal lap. For the purpose of sealing against weather conditions.