PLAINTIFF'S EXHIBIT
CHV-37

Standard Oil Co. of Texas
El Paso, Texas

Job Number: 5064
Class : "N-1"

Dated : 4-26-51
Revised : 5-28-51 (R-1)

THE M. W. KELLOGG COMPANY

JOB SPECIFICATION

THERMAL INSULATION

DESIGN

I. SCOPE

A. This specification designates the extent of insulation, the thickness required and the type of insulation.

B. The fireproofing of structural steel and vessels is also covered in this specification.

II. INSULATION FOR HOT EQUIPMENT

A. General

1. All vessels and piping which have a normal operating temperature over 150°F. shall be insulated to conserve heat unless a loss is desired.

2. Surfaces which are normally 150°F. or less shall have insulation if it is required for process stabilization. The thickness shall depend on conditions.

3. Surfaces which are hotter than 150°F. which are so located as to be hazardous to personnel but which would not otherwise be insulated, shall be protected with insulation, railings or screens.

4. Piping insulation shall be indicated on the Flow Diagram Nomenclature and equipment insulation on the Equipment Insulation Schedule. A Bill of Material for piping insulation shall be given on each M. W. Kellogg Individual Pipe Line Drawing.

B. Vessels, and Piping over 36" in Diameter

1. The term "vessel" shall apply to any apparatus such as a tower, tank drum reactor or heat exchanger.

2. The major insulation shall be block form. Plastic insulating cement, 1/8" thick, shall be applied over the block insulation.

II. INSULATION FOR HOT EQUIPMENT (Cont'd.)

B. Vessels, and Piping over 36" in Diameter (Cont'd.)

3. Surfaces to which block insulation is not readily applicable may be insulated with plastic insulation.

4. The thickness of insulation for heat conservation shall be 1 1/2". This does not include the 1/8" dry thickness of insulating cement, nor the 1/4" wet thickness of weathercoating.

C. Pumps, Turbines and Compressors

1. Neither pump casings nor turbines are to be insulated except the compressor turbine, which shall be insulated by the manufacturer.

D. Piping, 36" O. D. and Smaller

1. The insulation shall be molded, sectional or segmental 85 per cent Magnesia pipe covering. Only "Standard" thickness shall be used.

2. Lines carrying steam which is not normally flowing, such as fire steam or steam tracing lines shall be insulated for the temperature of saturated steam at line pressure.

3. Steam traced lines shall be insulated for the temperature of the line.

4. Steam snuffing lines shall not be insulated beyond the last block valve.

5. Steam condensate lines shall be insulated except where condensate is being discarded.

6. Any uninsulated line which joins an insulated line shall be insulated for three feet from the junction or to a block valve which is less than three feet from the junction. The thickness of the insulation shall be the same as that of the insulated line.

7. 45 lb. asbestos roofing felt shall be used to weatherproof the insulation of all outdoor and indoor lines.

8. Generally, no lines which are buried underground shall be insulated. Doping with "Somastic" where required, shall be in accordance with the Job Specification, Class "LC".

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III. INSULATION FOR COLD EQUIPMENT

A. General

1. All refrigerated equipment shall be insulated according to The M. W. Kellogg Specification P30F, with Foamglas, 2" thick.

IV. FIREPROOFING

A. Structural Steel

1. Structural members directly supporting hydrocarbon vessels shall be fireproofed on all sides up to the point of load application. All other structural members shall be fireproofed at least 20 ft. above grade if their failure during a fire could be expected to cause rupture of any hydrocarbon lines, vessel, etc.. Secondary bracing members and supports for elevated walkways, stairs, and platforms need not be fireproofed. Pipe supports included in the above description shall be fireproofed except for the top flange of the horizontal member.

B. Vessel Skirts

1. Skirts of vessels containing hydrocarbons shall be fireproofed.

V. DESIGNATION OF INSULATION (R1)

A. Uses

1. The several uses of insulation shall be designated as follows:

Type 1. Full Heat Conservation
Type 2. Over Steam Tracing with Single Parallel Tracer
Type 2B. Over Stram Tracing with Spacer Blocks
Type 2D. Over Steam Tracing with Single Tracer, Doubled Back
Type 2S. Over Steam Tracing with Spiral Tracer
Type 3. Operators' Protection
Type 4. Fire Protection
Type 5.
Type 6. Anti-Sweat
Type 7. Refrigeration Conservation
Type 8. Over Steam Jacketing