PLAINTIFF'S EXHIBIT
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ESSO STANDARD OIL COMPANY
BATON ROUGE REFINERY
Mechanical Technical Service Department

METHODS AND MATERIALS FOR INSULATION OF STEAM TRACED LINES
MTS PROJECT NO. 4022

During January, 1958, the Field Coordination Department established a committee to develop the best method and materials for insulating steam traced piping. The Mechanical Technical Service Department coordinated this investigation. The review is complete and this memorandum contains a summary of the committee's findings and recommendations.

Recommendations

1. Expand the stock of rigid insulation to include the sizes required to insulate steam traced lines. Calcium silicate or Unibestos are equally satisfactory.

2. Install insulation in accordance with Esso Engineering Standard B18-2-2, Figure 4, and the attached sketch.

Discussion

For several years, sponge felt, a laminated asbestos paper, has been sed to insulate all steam traced lines in the Refinery. Sponge felt, however, is soft and easily damaged. In addition, it is more expensive than several other materials. During the investigation, four other types of insulation were evaluated.

1. Spun mineral wool
2. Fiber glass
3. Unibestos
4. Calcium silicate

Spun Mineral Wool and Fiber Glass

Since both materials have the same disadvantage as sponge felt, i.e., they are soft and easily ruined by foot traffic, they were not considered acceptable.

Unibestos and Calcium Silicate

Unibestos and calcium silicate are rigid materials manufactured in half sections for pipe and a variety of other shapes for valves and fittings. Unibestos fabricated ells and calcium silicate pipe insulation are presently in stock for insulating non-steam traced lines. Since both products are essentially equal with regard to installation procedure, material costs, and most physical properties, they may be used interchangeably. However, Unibestos is stronger; and in larger sizes where breakage is a problem, additional experience may prove it superior to calcium silicate. Both materials have three advantages over sponge felt insulation:

1. 10% to 20% lower installation costs
2. 10% to 30% lower material costs
3. Greater durability

Kayto is a calcium silicate material

For these reasons, Unibestos or calcium silicate are recommended as stock insulation for steam traced lines.

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