

6. Pressure, Shock and Abrasion

Insulations are frequently chosen from a structural standpoint because of the large number of small air cells. In selecting the correct insulating material, consideration should be given to insulations which are structurally stronger than others where the line or equipment might be subjected to shock or abrasion. Cork and asbestos felt are examples of insulating materials which can better withstand shock and abrasion.

The type of finish applied over the insulation can assist in reduction of failure due to shock or abrasion. Asbestos cloth or an aluminum jacket finish over the insulation will withstand more shock and abrasion than normal finishing materials.

7. Chemical Exposure

Generally, insulation products are not subject to chemical reactions; however, this must be checked in severe service areas. The insulation should be able to stand up in its chemical environment. The type of finish applied over the insulation will keep out detrimental chemical fumes or spills if selected properly.

8. Location and Degree of Exposure to Weather

Generally, outdoor conditions are more severe than indoor conditions since sun, wind, and rain can destroy unprotected insulation. The finish must be able to "take it." Normally, asphalts, mastic, or roofing felts are used for outdoor applications and canvas for indoors.

9. Reduction in Operating Cost Expected

Reduction in operating cost expected must be considered when selecting insulation for a job. The thicker the insulation, the less the heat loss. It is possible to furnish steam through an uninsulated line to a piece of equipment but the heat loss would be great. The thickness of insulation must be selected so that the reduction in operating cost expected is greater than the cost of insulating the line or equipment.