AEROFLEX

TECHNICAL BULLETIN

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Why a Mechanical System Should be Shut Down Prior to and During the Installation of Insulation

It's understandable when building owners object to shutting down existing mechanical piping, equipment, and duct systems for maintenance in their facilities. There is a direct correlation between downtime and lost revenue.

While the lost revenue (cost) of a system shutdown is short term, the long-term cost of delayed system maintenance can add up quickly and eventually surpass short-term costs.

Existing mechanical insulation systems that are compromised due to missing insulation, insufficient thickness, mechanical damage, moisture infiltration, and mold growth lead to heat loss/gain, process inefficiencies, unnecessary loads on expensive equipment, and personnel safety hazards.

For below-ambient (cold) systems, the primary concern with insulating an operating system during installation is the naturally occurring formation of condensation on the outer surface of the mechanical component to be insulated. Moisture trapped beneath insulation typically results in corrosion under insulation (CUI). Left unchecked, CUI can eventually lead to system shutdown and failure. While wiping down the component ready to receive insulation can reduce the presence of moisture, it will not eliminate it.

For above-ambient systems, the primary concern with installation on active systems is personnel protection, plus the operating temperatures can exceed the insulation, adhesive, sealant, and accessory manufacturer recommendations for the installation of their products.

Unplanned disruptive downtime can be far more costly than planned downtime.

Aeroflex USA recommends that a mechanical system be shut down for 24 hours prior to installation to ensure that the surfaces to be insulated have reached an ambient temperature between 40ºF – 100ºF [4ºC – 38ºC]. This is the recommended temperature range for the successful installation of AEROFLEX® closed-cell insulation products and accessories.

To learn more, please reference Aeroflex USA's Installation Guide.

Source: https://insulation.org/io/articles/out-of-sight-out-of-mind/