

Insulation Does NOT Prevent Corrosion

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Corrosion Attacks Piping



Corrosion Attacks Structural Supports

Here's What Happened

Under insulation corrosion does not discriminate. It attacks process piping, vessels, and structural supports.

The photograph on the left shows major external corrosion of a pipe transferring Phenol. The pipe was insulated and failed before the corrosion was discovered. Although no one was injured, it was very expensive to correct the environmental damage and make piping system repairs.

The sphere in the photograph on the right collapsed during hydro testing. The legs were fire proofed, hiding corrosion of the structural steel. When the sphere was partially filled with water, it collapsed. One person was killed and one was seriously injured.

PSID members see: Free Search--Corrosion

Why This Happened

Thermal insulation and fire proofing provide the "cover" for corrosion to hide under and the right environment for it to start and grow in. This cover may trap moisture or spilled chemicals, that under certain circumstances, form corrosive conditions that attack the underlying steel. Because it is hidden from sight, the corrosion often progresses undetected for many years and may result in failure.

What You Can Do to Detect or Prevent Hidden Corrosion

- Know what structures and equipment in your process have the potential for under insulation corrosion.
 - ❑ Check low points where moisture might accumulate
- Be aware of and look for the signs of hidden corrosion:
 - ❑ Rust stains or discoloring
 - ❑ Bulges, blisters or bubbles
 - ❑ Small leaks, drips or wisps of vapor or odors
- Inspect—look, but don't touch.
 - ❑ If you disturb a severely corroded area, a leak may occur. Plan inspections and, when necessary, shut down systems before removing corrosion.

Be alert for the signs of hidden corrosion !