

# Corrosion Under Insulation

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## De Challenge

Corrosion under insulation (CUI) is a serious concern both in terms of monetary loss and danger to personnel safety. It is a top culprit for piping leaks and near misses and results in significant maintenance costs.

CUI is the corrosion caused by moisture and other corrosive media that enter insulation after water barrier wraps or jackets are compromised or when condensation builds up beneath the insulation. Moisture trapped between insulation and metal surfaces, such as piping, encourages corrosion that may go undetected for long periods of time. This can cause serious maintenance and repair costs and potentially dangerous leaks.

## De Solution

Presserv works with corrosion inhibitors specifically designed to protect against corrosion under insulation (CUI). We have both solvent-based (up to 170 °C) and water-based (up to 600 °C) solutions. The solvent-based inhibitor is to be injected into existing insulation and allowed to migrate through the insulation. The water-based inhibitor is applied to the insulation prior to wrapping or coating pipes. Possible applications include insulated piping or exhaust manifolds in: • Power Plants • Refineries • Ships • Offshore Rigs • Other Industrial Facilities



Pipe surfaces after 210 days of corrosion testing. CorroLogic® CUI Inhibitor was applied to the bottom pipe.

## De Businesscase

Approximately \$0.35 of every general maintenance dollar goes to costs for fixed equipment, such as vessels and piping. Of fixed equipment costs, about 54% is spent on piping (about \$0.20 of every maintenance dollar), with CUI making up 40 to 60% of piping cost (or \$0.10 of every maintenance dollar).

Our corrosion inhibitors reduces the frequency of maintenance and repair related to CUI and increases overall plant safety by reducing dangerous corrosion related failures.