DENSO™ STEELCOAT CUI CONTROL SYSTEM

CUI

The Denso Steelcoat CUI Control System offers high performance protection ideal for controlling a very common corrosion problem

CORROSION UNDER INSULATION or CUI:

Corrosion Under Insulation is a well known problem in the field of corrosion control. Insulation is used in a variety of different situations and is commonly used on pipelines in oil refineries, offshore installations and other processing situations.

Pipelines are clad with thermal insulation for a number of reasons: to protect personnel from hot surfaces, to reduce wasteful heat loss, to ensure full year service even during cold periods, for acoustic deadening, or as part of a fireproofing system.

A number of different types of material can be used for the purposes of providing thermal insulation including calcium silicate, mineral wool, asbestos fibre, cork, cellular glass and polyurethane foam.

These materials are applied to the pipe surface and are externally encapsulated within a weatherproof outer cladding. Over the course of time the cladding can become damaged, deteriorate, or otherwise fail.

In the event of a failure in the weatherproofing integrity of the outer cladding water ingress may occur due to the penetration of rainwater or melt water from snow or ice. Water can also penetrate into the system in the form of water vapour. In addition to these sources, trace amounts of water could also be present within the insulating materials as applied.

Many insulating materials, like wools and foams, exploit the insulating characteristics of air. To prevent convective heat transfer, the air is trapped within the structure of the insulating material. An unfortunate side effect is that these systems can be vulnerable to ingress of water because of their "open structure". Pipelines are potentially susceptible to CUI when water or moisture is present within the thermally insulating materials.

Although insulated pipes can look like they are in a satisfactory condition from the outside, the insulation often hides corrosion which is only seen when it is removed for inspection!

Insulation provides the perfect environment for corrosion to thrive!

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The Steelcoat CUI Control System is NOT a thermally insulating material. It does not trap water like some thermally insulating materials. In fact, it has very low water absorption and water vapour transmission characteristics. It is designed for use as corrosion prevention not as thermal insulation so, the risk of corrosion under insulation is diminished accordingly.

To deal with different pipe service temperatures we offer the following two systems:

SYSTEM 1:
For service temperatures +30°C to +110°C
Mastic for T junctions: Densoseal 16A™
Tape: *Denso Hotline™ Tape

SYSTEM 2:
For service temperatures -30°C to +70°C
Primer: Denso Paste™
Inner Layer: *Densyl™ Tape
Outer Layer: Denso Clear Wrap or Denso PVC Self-Adhesive Tape™

*Denso Hotline Tape and Densyl Tape are both applied with a 55% overlap.

SYSTEM FEATURES:

- Abrasive blast cleaning not essential

- Can be applied to thin layers of tightly adhered rust; surfaces coated with ageing lead paint or rough surfaces

- Not affected by salt contaminants, water, acids or soil organics

- Can be applied to cold, wet surfaces

- Conforms to irregular shapes and profiles

- Wide range of operating temperatures

- Range of compatible primers and mastics

- Easily inspected

STEELCOAT™

Typical hidden corrosion damage which is often only revealed by removing the pipe insulation!
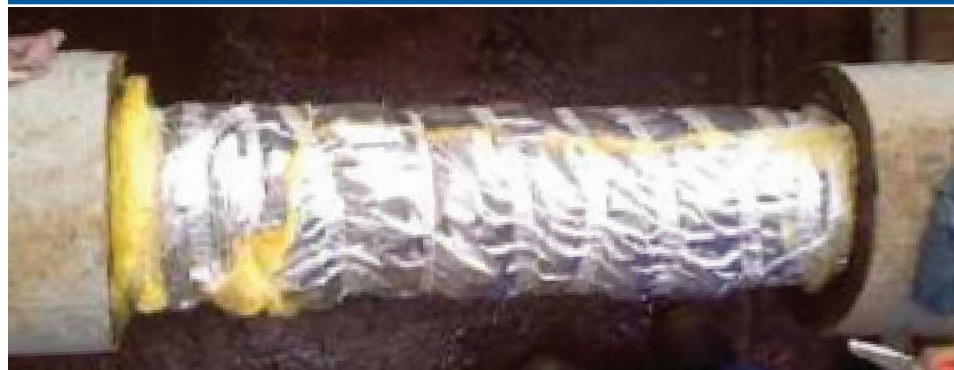

Steelcoat CUI Control System 2: First a layer of Denso Paste...

... is then followed by a layer of Densyl Petrolatum Tape...

...which is followed by a final layer of Denso PVC Self-Adhesive Tape.

Steelcoat CUI Control System 2 - covered with fibre glass wool.

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