

**OBJECTIVE:** To clarify the benefits of applying Goldseal CSI on face to face joints, where moisture can gather, to stressed or vibration prone joints, or in overlap / bolt through situations.

**END USE SUGGESTIONS:**

- Where folded sheet sections are bolted together.
- Where heavy steel sections overlap or are joined with nut and bolt plates (e.g Bridges)
- Where flat flanges are bolted to other structural members (diagonal brace)
- Where mild steel valves are joined into pipe lines and require service removal.
- Where overlapped or bolted steel frames will expand / contract or move with vibration or temperature, especially if they are painted (Bridges and process environments)

**SYSTEM OPTIONS**

**Existing crevice corrosion:**

Where contaminants and moisture have created corrosion that has expanded the joint , mechanically remove as much flake as possible without further damage to the flange.

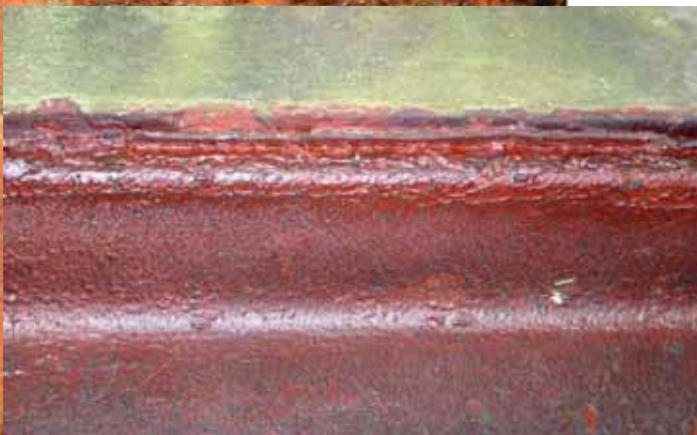
1. Apply Goldseal Coldspray as a soft penetrating rust kill primer and oxygen barrier. Leave this to soak for 24 hours and replenish as necessary.
2. Finally fill the crevice with Goldseal Hotspray or Cold Brush Grade to fill and level the crevice. This will produce a moisture, marine and chemical proof seal

that is durable to sun, wind and rain.

3. On Bridges where the deck has been removed for maintenance, remove the damp proof membrane and descale the upper beam surface. Clean out any pitting and coat the flat surface with Hot or cold compound .Fill all pits to produce a level surface. Replace the damp proof membrane if desired (although this is not necessary, as the Goldseal will separate the timber and steel from chemicals used in wood preservation).



*Goldseal moisture proofs the steel flange and pile connection.*



*10 year old seal -steel to wood, no corrosion*



## INFORMATION BULLETIN

# 16

There should be adequate Goldseal to squeeze out along the length of the beam.

Overcoating the whole beam with Goldseal will give long life encapsulation protection.

**New Connections:** To avoid crevice corrosion apply either Goldseal Brush grade or Hot spray (depending on the area to be covered) to both faces prior to assembly. If for logistic reasons the joints must be assembled dry, then encapsulate the joint after assembly. The joint may be clean steel, corroded steel, new or weathered hot dip galv or painted.

Both the above techniques produce an immediate seal. The formulations will penetrate the joints and create an airtight seal that is self healing to damage and will flex readily with significant movement. Goldseal Hot spray is a 97% solid at room temperature and will fill large cracks depressions and holes without sagging. It is sprayed hot by Airless Spray and sets immediately on contact with anything cooler than itself.

Hot spray and Brush Grade can be cold knifed into narrow gaps between steel or wooden members or can be used to encapsulate imperfect welding repairs, particularly where plate repairs are not welded on all 4 sides.

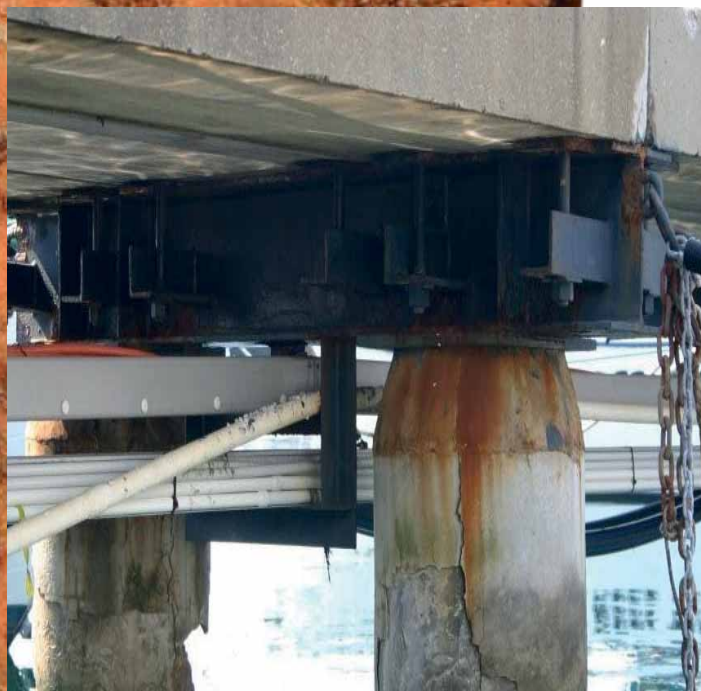
Crevice corrosion often occurs at the seam joint of dissimilar materials. Goldseal CSI Technology has been specifically formulated to bridge, penetrate or encapsulate areas prone to early breakdown. An added benefit is the ability to reinforce, repair or replace the coating in localised areas such as flanges or valves.

### Case Study: Small Fittings or Damage Repairs

In this case Goldseal will fill crack damage to concrete and prevent or terminate spalling. It will seal the concrete to steel interface and encapsulate the steel repair with minimal preparation and no grit blasting.



*Goldseal CSI can be applied directly to clean descaled steel. It will seal the nut, bolt and unwelded front crevice*



*Damage repair to wharf*





*These two bridges are in the same valley coated in the same year.*



## Case Study : Seam Corrosion

When a dry film paint is applied to the steel beam, it is unable to protect the steel to wood joint. Water and contaminants will quickly invade this crevice and corrosion will undercut the paint coating. The red Goldseal has protected the wood to steel join for over 10 years. Although the coating is dry to the touch, it remains pliable and can even be removed if necessary. There is no damage, or steel loss at 10 years and if the bridge is recoated every 15 years the beams will never need replacing or removed for blast and complete repainting.

## Case Study : Foundation protection in chemical and damp environments



Where painted structures are bolted to other substrates in chemical or damp environments, paint coatings may only last a few years. In this case two pack epoxy in a marine fertiliser environment. Goldseal can be applied in clear or coloured form to the interface area. It should overlap by at least 50mm onto each substrate.

## Case Study : Flange maintenance



The piping adjacent to this flange has been protected. Coating this flange and connection nuts will protect against crevice corrosion and bolt seizure allowing for easy dismantling of the valve. Goldseal CSI has been developed as a stand alone coating that does not need wrap protection.

## GOLDSEAL GROUP

**Rustproof Services (NO) 2005 Ltd**

P.O. Box 186, Whitianga, 3542. N.Z.

Mobile: 0276 315 657

E-mail: [rustproofservices@goldseal.co.nz](mailto:rustproofservices@goldseal.co.nz)

[www.goldsealrustproofing.com](http://www.goldsealrustproofing.com)