



Two pack epoxy after  
7 years in a fertiliser store

CSI Technology ( Continuous Substrate Interaction) is a variable film build , heavy weight anti corrosive technology developed in New Zealand.

Goldseal CSI Technology has evolved to fill a performance gap where industrial protective coatings deliver short service lives.

#### Overview:

Most protective coatings are based on a binder mixed with pigment additives. This is delivered to the substrate by a solvent. This solvent wets the surface and allows the coating to flow into an even wet film .The cure process allows the solvent to exit the film leaving a hard, dry coating adhering to the substrate surface.

This is standard paint technology which performs well in high traffic areas or where smooth or cleanable surfaces are required.

In highly corrosive environments chemicals accumulate on the coating surface. If the coating is stressed by expansion, vibration, mechanical damage or physical flexing it can lose surface integrity by chipping or cracking.

This may only involve a minor percentage of the coated area. However corrosion cells are immediately created which accelerate rapidly under the coating in both dry or wet chemical environments. This occurs in process environments such as Galvanizing plants and canneries, marine situations or in hidden environments such as barge interiors or cool store attics. (see photo bottom left)

#### A different Approach:

CSI Technology removes the critical adhesion interface where a corroding surface must be prepared to a high standard for a maintenance coating to gain and retain adhesion.

Goldseal CSI Coatings are the result of 40 years of cooperative evolution with industry. The result is the removal of the solvent and a binder is replaced by a 97% solids carrier. The carrier is melted prior to application and applied by hot airless spray.

CSI stands for Continuous Substrate Interaction. There is no separation between the Goldseal and the substrate. Throughout its service life the Goldseal responds to vibration and expansion without cracking and is self healing to impact damage.



BHP mining barge Taharoa protected by Goldseal CSI currently 20 years old.

The contract application process and equipment remain standard but the coating and its capabilities deliver significant advantages in highly corrosive environments. The coating sets as soon as it touches the substrate without sagging. This creates a multi build capability, so any common film build can be achieved in one application (350-2000 micron). More if required.

The coating has a two phase cure

- Initially penetrants cross the adhesion interface and enter the physical structure of the steel, which kills existing corrosion and ensures no future coating damage can delaminate the protection.

- A second phase sets up a firm dry encapsulating barrier coat, that is resistant to vibration, cracking or peeling. Yet throughout its service life Goldseal CSI will self heal to scratch or impact damage.

- There is no requirement to grit or soda blast. Manual preparation to ST2 or Water jetting to WJ4 are sufficient.

Many clients owning road bridge assets or production lines are looking for reduced down times, simpler contract sequences and if possible lower cost and longer service life. In difficult access, highly corrosive or areas unwashed by rainfall...**GOLDSEAL CSI DELIVERS ALL FOUR**

There are a diverse range of difficult environments where dry film paints deliver their shortest service lives. Maintenance becomes very costly when these then need a complete strip and recoat. CSI Technology requires spot rectification and complete recoat at 15, 20 or 30 years depending on the application.

The Goldseal Group recognises the need to produce coatings that are less toxic, without solvents or catalysts. Industry is focusing on health and safety of personnel and the environment with low volatility coatings (VOC). There is emphasis on recycling, spill control, stock rotation, transport safety and land fill control.

Goldseal CSI incorporates the following

- Solids 97% with VOC 2.9%
- Multi build single coat
- No Grit Blast
- Non Dangerous Goods for transport, storage or handling
- No shelf life
- Confined space use
- Hi Temperature or Low Temperature application
- Encapsulates previous or toxic coatings
- Spill recyclable for return to commercial use.
- Back to back application/manufacturer support.

Modern corrosion seminars discuss the need for laboratory developed products to achieve more than 15 years usage in the field.

- Performance in the field is supported by 15 - 30 years in a variety of end uses
- Client testimonials support performance, value and repeated use.
- Independent scientific field inspection available.

Goldseal CSI Technology is available as

- Goldseal Industrial Hotspray for highly corrosive environments
- Goldseal Brushgrade as a support product applied cold
- Goldseal Coldspray, a light holding coating for transport protection or hidden internal surfaces.

## **GOLDSEAL GROUP**

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