

Technical Directorate:  
**Galvanizing Care & Maintenance**

Ref: 0011 rev 0

**Introduction:**

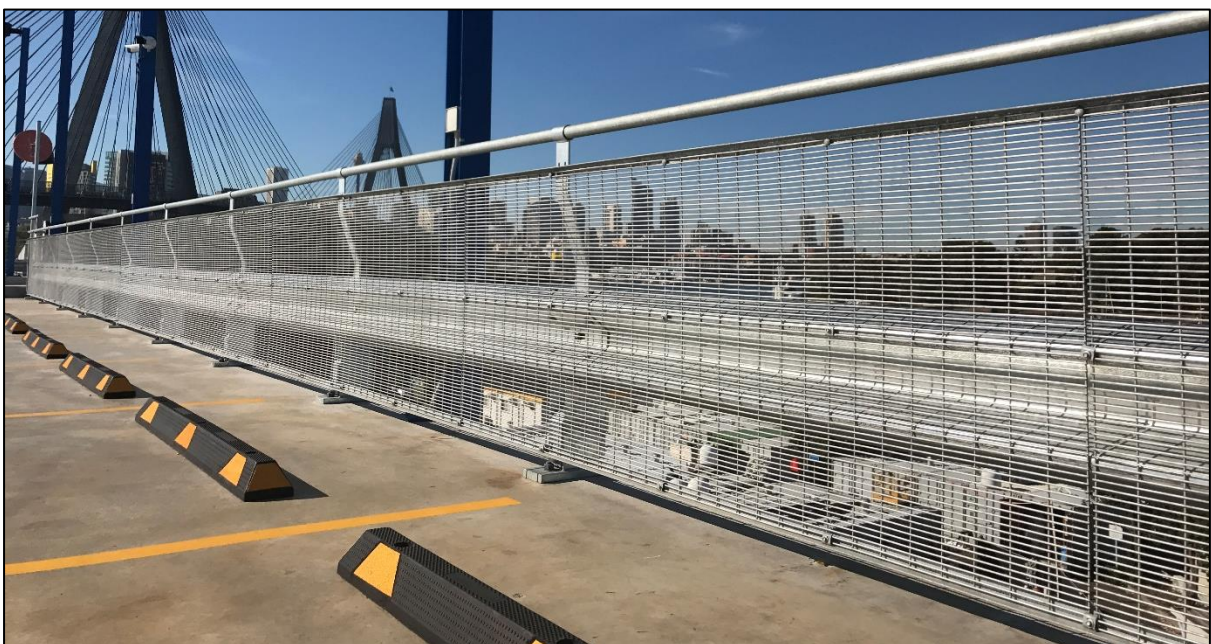
The protective life of a galvanized coating in a particular location must take into account factors such as climatic conditions, the presence in the atmosphere of contaminants introduced by urban or industrial activity, and chlorides in the air due to proximity to the sea.

Environments which appear to be generally similar often produce considerable differences in corrosive conditions due to relatively minor variations such as the effects of prevailing winds, proximity to corrosive effluents and general atmospheric conditions.

Mesh panels are particularly susceptible to accelerated corrosion if not regularly cleaned as they trap atmospheric contaminants at the wire joints.

Other factors that may affect galvanizing durability include:

- Long periods of exposure to environments where the pH is below 6 and above 12. Outside the range of pH 6-12 the galvanized coating can suffer greater corrosion than normal.
- Direct contact with dissimilar metals, such as brass and copper, particularly in corrosive environments. Where dissimilar metals are to be used together ensure that there is an insulator between the dissimilar metal and the galvanized product.
- Long term storage in damp and poorly ventilated conditions. Ensure the storage location is dry and there is effective ventilation.
- Water draining from other adjacent steelwork that is rusting can flow on to galvanized steel and cause conspicuous brown staining. This can be treated with the use of commercial oxalic acid or a proprietary solution that has been developed for descaling pots and pans. Thorough rinsing with water is again important to remove any corrosive residues of the cleaner.



### Recommended Care & Maintenance Schedule

It is recommended in environments with low salt, low pollutant and urban areas cleaning should take place at a minimum of every twelve months.

In areas where salts, pollutants and high corrosivity levels are prevalent, e.g. coastal or industrial areas, it is recommended a cleaning program should be carried out more frequently at a minimum of every six months.


Sheltered areas can have a higher risk of coating degradation as wind-blown salt and other debris or pollutants may adhere to the surface and not be removed when it rains. These areas may require cleaning monthly.

Use the following table to identify the recommended minimum cleaning schedule for your project. The table references AS 4312 corrosivity zones in Australia to define the environmental conditions.

Environment	Conditions	Corrosivity Zone	Example Environments	Recommended Minimum Cleaning
Exterior Environment	Mild	C2 Low	Arid, urban, inland, city,	Every 12 months
		C3 Medium	Light industrial & coastal	Every 6 months
	Severe	C4 High	Sea shore (calm)	Every 6 months
		C5 Very High Industrial	Heavy industrial	Every 3 months
		C5 Very High Marine	Sea shore (surf)	Every 3 months
	Tropical	Tropical (T)	High, humid and monsoonal	Every 3 months
Interior Environments	General Interior	C1 Very Low	Dry	Every 12 months
		C2 Low	Minor condensation	Every 12 months
	Moderate Interior	C3 Medium	High Moisture	Every 6 months
		C4 High	Significant contamination	Every 3 months

**Method for Cleaning:**

1. Remove any loose surface deposits with a wet sponge by gently rubbing.
2. Clean by gently rubbing the surface with a soft brush (non-abrasive) and a dilute solution of a mild detergent, e.g. pH-neutral liquid hand or dishwashing detergent in warm water to remove dust, salt and other deposits. For stubborn stains the use of a pressure washer (lower than 1450 psi) may be used.
3. Rinse the surfaces with clean fresh water after cleaning to remove all residues.

	
Use recommended detergents.	Use aggressive solvents.
Use a water-based emulsifier, alkaline-based cleaners with a pH of 12 or lower or organic solvents and rinse off with clean fresh water.	A cleaner with a pH of more than 12 to 13 can begin to dissolve the zinc coating.
Regularly inspect.	Rub galvanized surfaces with steel bristles
Clean more regularly if required, particularly under sheltered conditions (i.e. not exposed to rain and sun)	Steel bristle brushes will cause discolouration and damage the zinc coating.

**Repairing Damage:**

If there is physical damage to the galvanized coating (e.g. following a vehicle impact) it is recommended that the damaged area be repaired by applying two coats of an organic zinc rich paint. An aluminium paint may be applied over the hardened zinc rich paint if colour matching is required.

**References:**

- Galvanizers Association of Australia [www.gaa.com.au](http://www.gaa.com.au)
- AS/NZS 4680 Hot-dip galvanized (zinc) coatings on fabricated ferrous articles