

25-Year Design Life of Hot Dip Galvanised (HDG) Structural Steel

OVERVIEW

Hot Dip Galvanised (HDG) structural steel, such as Universal Columns (UC), Universal Beams (UB), and Equal Angles, are widely used in construction and infrastructure due to their proven durability and corrosion resistance.

GALVANISING PROCESS

HDG steel is created by immersing clean steel into molten zinc at approximately 450°C. This process forms a metallurgically bonded zinc coating that provides a tough, long-lasting protective barrier against corrosion.

STANDARDS AND COMPLIANCE

Doogood Australia's HDG products are manufactured in accordance with:

- AS/NZS 3679.1:2016 - Structural Steel - Hot-Rolled Bars and Sections
- AS/NZS 4680:2006 - Hot-dip Galvanized (Zinc) Coatings on Ferrous Articles

These standards ensure the structural steel meets the required mechanical properties and the galvanising offers consistent and reliable protection.

CARE AND MAINTENANCE REQUIREMENTS

To ensure optimal longevity, all HDG steel products must be maintained in accordance with Doogood Australia's Cleaning and Maintenance Procedure, available at:

[DG Care and Maintenance with Powder Coating Repair Procedure](#)

Key recommendations include:

- Regular removal of salt deposits, grime, and airborne pollutants (at least every 6 months or more frequently in coastal or industrial areas).
- Avoiding prolonged exposure to moisture accumulation and debris.
- Gentle cleaning with mild, non-abrasive materials.

Failure to comply with the cleaning guidelines may compromise the protective coating and reduce the effective design life.

WHY 25 YEARS?

The zinc coating thickness achieved through hot dip galvanising typically ranges from 85 to 100 microns. In most Australian conditions, this provides a design life of 25 years before first maintenance is required.

This expectation is supported by long-term durability modelling and environmental exposure data. In low to moderate corrosivity zones (urban, inland, and industrial), HDG steel often exceeds 25 years of service with minimal maintenance.

All recommendations provided in this document are based on data and guidance published by the Galvanizers Association of Australia (GAA), including durability estimates aligned with AS/NZS 2312.2 and AS/NZS 4680.

For more information please refer to: [Galvanizers Association of Australia - Durability Estimator](#)

Important Note:

The actual design life is directly influenced by environmental factors and the level of care taken during the product's lifespan. Regular maintenance and cleaning, particularly in areas prone to salt, pollutants, or industrial emissions, is essential to achieving the full 25-year performance.

APPLICATIONS

HDG structural steel is suitable for:

- Civil and infrastructure projects
- Commercial and industrial buildings
- Coastal and semi-coastal installations (with design consideration)
- Long-term fencing and structural framing applications

CONCLUSION

Doogood Australia's HDG structural steel products provide a durable, reliable solution with an expected design life of 25 years or more. This makes them ideal for projects where longevity and reduced maintenance are key factors in material selection.