# 15. DOCUMENTATION, DELIVERY, TRANSPORT AND STORAGE

## INTRODUCTION

A hot-dip galvanizing plant is unlike any other industrial manufacturing operation in that products manufactured elsewhere are delivered, largely in an unscheduled manner, by a large number of diverse clients, with an expectation that the finished product will be available in less than a week from the time of delivery.

*Items are individually tagged for identification. The metal tag remains attached throughout the galvanizing process.*

Steel fabrications that are required to be hot-dip galvanized come in an infinite variety, from small parts to large or complex structural sections. Each item has to be evaluated by the galvanizer to determine how it will best be handled through the galvanizing process.

One consignment of steel may need to go via three separate routes through the galvanizing process because of its specific handling requirements. To ensure that each order is processed efficiently, and is collated correctly on exiting the galvanizing process, the delivery documentation and the communication between galvanizer and customer needs to a high standard.

## DOCUMENTATION

On delivery, the work should be accompanied by documentation containing the following information:

- Customer contact details
- Quotation number if appropriate
- Order number for the work
- Detailed description of each item (e.g. 6 off 250 x 250 x 9 SHS  1450 mm long)
- Any special requirements for inspection, packaging or delivery.

## IDENTIFICATION

Each item or batch needs to be clearly identified by permanent marking (stamping or welded mark numbers) or my marking with an approved type of marking paint. Using incorrect types of marking paint will result in galvanizing defects as the chemical pre-treatment may not remove the wrong type of paint. At this point, the item is tagged with an embossed metal tag indicating the Factory Order Number allocated to the job. This tag remains attached to the item or part of a batch.

On major projects involving quantities of scheduled steelwork, arrangements can be made to mark individual items with clearly visible mark numbers after galvanizing (using black marking pens) to facilitate sorting and erection on site.

## PROJECT ADMINISTRATION

On major construction projects, fabricated steel may be sourced from a number of fabricators, with the galvanizing plant controlling the scheduling and dispatch of loads to the construction site. Industrial Galvanizers Australian Galvanizing Division has managed a number of large projects of this nature, involving up to 6000 tonnes of fabricated structural steel.

Close liaison between the project managers and Industrial Galvanizers' operations is essential to ensure that documentation and processing is done in accordance to the construction requirements. Special process documentation, including bar coding systems, has been implemented on specific projects, permitting close control of tracking items through the process.

## LOADING AND PACKAGING

Industrial Galvanizers' aim is to return the finished galvanized products to its customers in good condition. The regular processing of manufactured products can be facilitated through the use of purpose built containers or stillages for transporting product to and from the galvanizing plant.

Special arrangement can be negotiated for items to be packed for final shipment at the galvanizing plant and this is currently done for a number of customers around Australia. Arrangements can also be made to store finished work to reduce transport and handling costs.

*Documentation accompanying fabricated steel deliveries for galvanizing should detail all items in the consignment. The galvanizers describes and tags items after delivery to track items through the galvanizing process.*

## TRANSPORT

Each Industrial Galvanizers plant has its own fleet of delivery vehicles, including table-tops and semi-trailers. Pick and delivery services can be negotiated or included within the galvanizing cost for established account customers.

For long-haul transport, Industrial Galvanizers can assist clients with transport arrangements.


*Clearly marked items make processing of loads easier for both client and galvanizer. The correct type of strippable marking paint should be use to ensure removal in the pre-treatment process prior to galvanizing.*

## STORAGE OF GALVANIZED WORK

The storage of work following galvanizing is the responsibility of the customer. It is important that stored galvanized work is stacked so that each item is well ventilated and can adequately drain rainwater from its surfaces.

Poor storage of finished product can give rise to white storage staining (white rust) which is caused by rapid corrosion of the freshly applied galvanized coating by pure water (rain or condensation).in badly drained or ventilated conditions. Severe white rusting can occur very quickly, particularly in warm, humid conditions and may result in the coating becoming unserviceable prior to installation.

The use of hardwood dunnage may also cause tannin staining of the galvanized coating if the stacked work is wet during storage. While this does not affect durability, the dark brown staining that occurs may be aesthetically unacceptable and is difficult to remove.


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# 01 - SPECIFIERS MANUAL — THIRD EDITION

Industrial Galvanizers Australian Galvanizing Division (IGAG) operates nine galvanizing plants around Australia, ranging in size from large structural galvanizing facilities to specialised small plants designed to process small parts.

The Australian Galvanizing Division has galvanized in excess of 2 million tonnes of steel products in Australia since its first plant was commissioned in 1965 and is recognized for its ability to handle complex and difficult projects, as well as routine contracts.

This experience has been collated in the Specifiers Design Manual, to assist those involved in the design of steel products and projects to better understanding the galvanizing process and allow the most durable and cost-effective solutions to be delivered to these products and projects. All sections of this Third Edition have been completely updated and additional sections have been included to provide additional technical information related to the use of hot dip galvanized steel.

In addition to its Australian Galvanizing operations, Industrial Galvanizers Corporation has a network of manufacturing operations in Australia, as well as galvanizing and manufacturing businesses throughout Asia and in the USA.

The company's staff in all these locations will be pleased to assist with advice on design and performance of hot dip galvanized coatings and products. Contact details for each of these locations are located elsewhere in this manual.

This edition of the Industrial Galvanizers Specifiers Manual has been produced in both html and .pdf formats for ease of access and distribution and all documents in the Manual are in .pdf format and can be printed if paper documents are required.

The Specifiers Manual is also accessible in its entirety on the company's web site at www.ingal.com.au.

Additional copies of the Specifiers Manual are available on CD on request.

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