

After-Fabrication Galvanizing Specification Details

AS/NZS 4680:2006

'Hot dip galvanized (zinc) coatings on fabricated ferrous articles'

Standard Specification for Hot Dip Galvanized Coatings to be used in conjunction with the Australian/New Zealand Standard 4680 for use with materials specifications.

Scope

This specification covers the after-fabrication galvanized coating applied to general steel articles, structural sections, angles, channels, beams, columns, fabricated steel assemblies, castings, threaded fasteners, steel reinforcement and other steel components.

This specification does not apply to the galvanized coating on semi-finished products such as wire, tube or sheet galvanized in continuous, semi-continuous or specialised plants.

Galvanizing

All articles to be galvanized shall be handled in such a manner as to avoid any mechanical damage and to minimise distortion.

Design features that may lead to difficulties during galvanizing should be pointed out prior to dipping.

Galvanizing parameters such as galvanizing temperature, time of immersion and withdrawal speed shall be employed to suit the requirements of the article.

The composition of the zinc in the galvanizing bath shall not be less than 98.0% zinc.

Coating Requirements

1. Thickness

The thickness of the galvanized coating shall conform to Table 1 and Table 2 in AS/NZS 4680:

Table 1			
Requirements for coating thickness and mass for articles that are NOT centrifuged.			
Article thickness mm	Local coating thickness Microns	Average coating thickness Microns	Average coating mass g/m ²
1.5 mm or less	35	45	320
Over 1.5 to 3 mm	45	55	390
Over 3 to 6 mm	55	70	500
Over 6 mm	70	85	600

Table 2

Requirements for coating thickness and mass for articles that are centrifuged.

Article thickness mm	Local coating thickness Microns	Average coating thickness Microns	Average coating mass g/m ²
Less than 8 mm	25	35	250
8 mm and over	40	55	390

The thickness of the galvanized coating shall first be tested by the purchaser/designer at the galvanizer's works, using an approved magnetic measuring device. In the event of any dispute, an independent test shall be carried out in accordance with AS/NZS 4680, Appendix G.

2. Surface Finish

The galvanized coating shall be continuous, adherent, as smooth and evenly distributed as possible, and free from any defect that is detrimental to the stated end use of the coated article. On silicon killed steels the coating may be dull grey, provided the coating is sound and continuous.

The integrity of the coating shall be determined by visual inspection and coating thickness measurements.

Where slip factors are required to enable high strength friction grip bolting, these shall be obtained after galvanizing by suitable mechanical treatment of the faying surfaces.

Where a paint finish is to be applied to the galvanized coating, this should be advised at the time of order. Galvanized coatings shall have all spikes removed and all edges shall be free from lumps and runs.

3. Adhesion

The galvanized coating shall be sufficiently adherent to withstand normal handling during transport and erection.

galvanizers

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