



Metalplate Galvanizing, L.P.

## QUESTION

*What are the most commonly used specifications & standards for hot-dip galvanized steel?*

## ANSWER

Hot-dip galvanizing must maintain a strict adherence to standards and specifications issued by ASTM International. Established in 1898, ASTM International provides a global forum for the development and publication of international voluntary consensus standards for materials, products, systems and services. ASTM is composed of more than 30,000 technical experts from 135 countries around the world, with each expert serving on one of 141 technical committees. These technical committees maintain approximately 12,000 standards that help guide a wide range of industries.

Hot-dip galvanizing complies with numerous ASTM standards. The most common are A123, A153, A780, A385, A384 and A143. These ASTM specifications along with others can be obtained by visiting <http://www.astm.org>

- ❖ **A123 – Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products**
  - Defines the requirements of the zinc coating on various iron and steel products and assemblies
  - Defines methods for verification of the zinc coating thickness and the procedures for lot assessment
  - Defines valid procedures for inspection, rejection and retest of hot-dip galvanized coatings
- ❖ **A153 – Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware**
  - Defines the requirements of the zinc coating on various iron steel products that are centrifuged
  - Defines methods for verification of the zinc coating thickness and the procedures for lot assessment
  - Defines valid procedures for inspection, rejection and retest of hot-dip galvanized coatings
- ❖ **A780 – Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings**
  - Defines various methods and materials that are acceptable for repair of hot-dip galvanized coatings
- ❖ **A385 – Standard Practice for Providing High-Quality Zinc Coatings (Hot-Dip)**
  - Defines the steel chemistry that is most desirable in producing a quality hot-dip galvanized coating
  - Defines the potential problems that arise from creating fabricated assemblies from different types of steel
  - Defines the potential problems that arise from incorrect welding and failure to remove chemical fluxes
  - Defines the correct methods for proper vent placement in fabricated steel assemblies
  - Defines proper material marking methods for identification
- ❖ **A384 – Standard Practice for Safeguarding Against Warpage and Distortion During Hot-Dip Galvanizing of Steel Assemblies**
  - Defines steel shapes prone to warpage and ways to avoid assemblies containing them
  - Defines the effects of improperly vented pieces fabricated together
- ❖ **A143 – Standard Practice for Safeguarding Against Embrittlement of Hot-Dip Galvanized Structural Steel Products and Procedure for Detecting Embrittlement**
  - Defines Strain-Age Embrittlement and Hydrogen Embrittlement as they pertain to galvanizing
  - Defines practices fabricators can take to ensure embrittlement issues are not encountered

Available for download at <http://www.metalplate.com/faqs/specs.pdf>

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