

Common Spec abstracts in Hardware. Please contact Kortick Engineering Department for specific properties. <http://www.astm.org/>

A123 This specification covers the standard requirements for hot-dip galvanized zinc coatings on iron and steel products made from rolled pressed and forged shapes, castings, plates, bars, and strips. This specification deals with both unfabricated products and fabricated products, for example, assembled steel products, structural steel fabrications, large tubes already bent or welded before galvanizing, and wire work fabricated from uncoated steel wire. Also covered here are steel forgings and iron castings incorporated into pieces fabricated before galvanizing or those too large to be centrifuged (or otherwise handled to remove excess galvanizing bath metal).

A153 This specification covers standards for zinc coatings applied through hot-drip process on iron and steel hardware. The hot-dip galvanizing process shall form layers of Zn/Fe alloy adhering to the steel surface. This specification is applicable to steel hardware items of Classes A, B, C, and D. The thickness or weight/mass of zinc coating shall conform to specified values for various classes of materials. The coated articles shall be free from uncoated areas, blisters, flux deposits, dross inclusions, and other defects. The coating shall be smooth and reasonably uniform in thickness. Tests shall be performed to determine the minimum coating weight or minimum coating thickness, finish and appearance, embrittlement, adherence, average weight/mass of coating, and average thickness of coating. Guidelines are also given for inspection, rejection and retest, packaging, and certification procedures.

A1059 1.1 This specification covers the general requirements for protective zinc coatings (hereinafter referred to as the coatings) to be applied by the thermo-diffusion coating (TDC) method, to various products made of carbon steel, including low and high tensile parts as well as of wrought iron, sintered iron steel-powder and various steel and stainless alloys. TDC is carried out by immersing the parts in a zinc alloy powder at elevated temperature for a period of time, causing a metallurgical diffusion process of zinc and iron. Further processing may be added, such as, passivation, topcoat application, paint application, etc.

1.2 This specification is applicable to orders in either inch-pound units (as A 1059) or in SI units (as A 1059M). Inch-pound units and SI units are not necessarily exact equivalents. Within the text of this specification and where appropriate, SI units are shown in brackets. Each system shall be used independently of the other without combining values in any way. In the case of orders in SI units, all testing and inspection shall be done using the metric equivalent of the test or inspection method as appropriate. In the case of orders in inch-pound units, such shall be stated to the applicator when the order is placed.

A36 This specification covers carbon structural steel shapes, plates, and bars of structural quality for use in riveted, bolted, or welded construction of bridges and buildings, and for general structural purposes. Heat analysis shall be used to determine the required chemical composition for carbon, manganese, phosphorus, sulfur, silicon, and copper. Tensile strength, yield strength, and elongation shall be evaluated using tension test and must conform to the required tensile properties.

A307 This specification covers the chemical and mechanical requirements for three grades (Grades A, B, and C) of carbon steel bolts and studs in specified sizes. This specification does not cover the requirements for machine screws, thread cutting/forming screws, mechanical expansion anchors, or other similar externally threaded fasteners. When tested, sampled specimens shall adhere to specified values for chemical composition, hardness, tensile strength, yield point, elongation, and dimensions.

A325 This specification covers the chemical, mechanical, and dimensional requirements for two types of heavy hex structural bolts made of quenched and tempered steel that are intended for use in structural connections. These bolts are designated by type, denoting chemical composition, as follows: Type 1—medium carbon, carbon boron, or medium carbon alloy steel; and Type 3—weathering steel. The steel bolts shall undergo heat and product analysis for chemical composition measurements. The bolts shall also undergo test that shall examine their conformance to specified properties such as dimensions and thread fit, surface discontinuities, coating weight and thickness, hardness, tensile strength, yield strength, elongation, reduction of area, proof load, and rotational capacity.

ASTM F1470 Sampling Protocol

