



Standard Practice for Measuring Flatness Characteristics of Coated Sheet Products¹

This standard is issued under the fixed designation A 1030/A 1030M; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 Flatness is a significant quality characteristic of coated sheet products. Sheet flatness is affected by mill process factors plus the grade, thickness and width of the material supplied. It is the purpose of this practice to define the different flatness characteristics and to describe the method(s) most commonly used to measure particular characteristics. The methods described are designed and intended to be used in mill situations and environments.

1.2 Quantitative limits are not addressed and are established in the general requirements, or individual product specifications, or both; or when applicable, as agreed to between supplier and user.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:²

- A 308 Specification for Stainless Steel Sheet, Terne Lead-Tin Alloy Coated by the Hot-Dip Process
- A 463/A 463M Specification Steel Sheet, Aluminum-Coated, by the Hot-Dip Process
- A 591 Specification Steel Sheet, Electrolytic Zinc-Coated, for Light Coating Mass Applications
- A 653/A 653M Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed), by the Hot-Dip Process
- A 755/A 755M Specification for Steel Sheet, Metallic-Coated, by the Hot-Dip Process and Prepainted by the Coil-Coating Process for Exterior Exposed Building Products

- A 792/A 792M Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated, by the Hot-Dip Process
- A 875/A 875M Specification for Steel Sheet, Zinc-5% Aluminum Alloy-Coated, by the Hot-Dip Process
- A 879/A 879M Specification Steel Sheet, Zinc-Coated by the Electrolytic Process for Applications Requiring Designation of the Coating Mass on Each Surface
- A 917 Specification Steel Sheet, Coated by the Electrolytic Process for Applications Requiring Designation of the Coating Mass on Each Surface (General Requirements)
- A 918 Specification Steel Sheet, Zinc-Nickel Alloy-Coated by the Electrolytic Process for Applications Requiring Designation of the Coating Mass on Each Surface
- A 924/A 924M Specification for General Requirements for Steel Sheet, Metallic-Coated, by the Hot-Dip Process
- A 929/A 929M Specification for Steel Sheet, Metallic-Coated, by the Hot-Dip Process for Corrugated Steel Pipe

3. Classification

3.1 The substrate shall conform to all the requirements of the appropriate specifications as follows: Specifications A 308, A 463/A 463M, A 591, A 653/A 653M, A 755/A 755M, A 792/A 792M, A 875/A 875M, A 879, A 917, A 918, A 924/A 924M, and A 929/A 929M.

4. Significance and Use

4.1 The definitions and procedures for measuring flatness characteristics of coated sheet products are provided so that purchasers and suppliers have common definitions and measuring procedures for flatness characteristics. The intention of these definitions and measuring methods is not to provide a dimensional specification for flatness characteristics, but rather common procedure(s) for quantifying flatness anomalies. For determining compliance with flatness specifications, references are provided to appropriate ASTM standards.

5. Interferences

5.1 Measurement of flatness often has been subjective, at best. Successful measurement of various flatness anomalies on quantitative terms requires recognition of several factors that can interfere with accurate measurements.

¹ This practice is under the jurisdiction of ASTM Committee A05 on Metallic-Coated Iron and Steel Products and is the direct responsibility of Subcommittee A05.07 on Methods of Testing.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For Annual Book of ASTM Standards volume information, refer to the standard's Document Summary page on the ASTM website.