



Designation: C286 – 99 (Reapproved 2017)

Standard Terminology Relating to Porcelain Enamel and Ceramic-Metal Systems¹

This standard is issued under the fixed designation C286; 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.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope

1.1 These definitions pertain to the terminology used in the porcelain enamel and ceramic-coated metal industries.

1.2 Words adequately defined in standard dictionaries are not included. Included are words that are peculiar to these industries.

1.3 Hyphenated words, double words, or phrases are listed alphabetically under the first word; additional important words are cross-referenced.

1.4 When a word or phrase, listed as a synonym, is not separately defined, the defined word or phrase is the accepted or preferred form.

1.5 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*²

A424 Specification for Steel, Sheet, for Porcelain Enameling
A919 Terminology Relating to Heat Treatment of Metals
(Withdrawn 1999)³

C282 Test Method for Acid Resistance of Porcelain Enamels (Citric Acid Spot Test)

C283 Test Methods for Resistance of Porcelain Enameled Utensils to Boiling Acid

C285 Test Methods for Sieve Analysis of Wet-Milled and Dry-Milled Porcelain Enamel

¹ This terminology is under the jurisdiction of ASTM Committee B08 on Metallic and Inorganic Coatings and is the direct responsibility of Subcommittee B08.12 on Materials for Porcelain Enamel and Ceramic-Metal Systems.

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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.

³ The last approved version of this historical standard is referenced on www.astm.org.

C313 Method of Test for Adherence of Porcelain Enamel and Ceramic Coatings to Sheet Metal (Withdrawn 1989)³

C314 Test Method for Flatness of Porcelain Enameled Panels (Withdrawn 1979)³

C346 Test Method for 45-deg Specular Gloss of Ceramic Materials

C347 Test Method for Reflectivity and Coefficient of Scatter of White Porcelain Enamels (Withdrawn 1990)³

C374 Test Methods for Fusion Flow of Porcelain Enamel Frits (Flow-Button Methods)

C448 Test Methods for Abrasion Resistance of Porcelain Enamels

C614 Test Method for Alkali Resistance of Porcelain Enamels

C633 Test Method for Adhesion or Cohesion Strength of Thermal Spray Coatings

C743 Test Method for Continuity of Porcelain Enamel Coatings

C756 Test Method for Cleanability of Surface Finishes

3. Terminology

abrasion resistance—the degree to which a porcelain enamel will resist attack by abrasive materials.

NOTE 1—See Test Methods C448.

acid annealing—an annealing process in which ferrous metal shapes are coated with acid before and in conjunction with the annealing.

acid resistance—the degree to which a porcelain enamel will resist attack by acids.

NOTE 2—See Test Method C283 and Test Method C282.

adherence—(1) the degree of adhesion of a porcelain enamel or other ceramic coating to a metal substrate.

NOTE 3—See Test Method C313.

(2) Stress necessary to cause separation of one material from another at their interface.

NOTE 4—See Test Method C633.

aging—the storing of porcelain enamel slips or powders before use. The change occurring in slips or powders with the lapse of time.