



Designation: ~~C735-93 (Reapproved 1999)~~ Designation: C 735 – 04 (Reapproved 2009)

Standard Test Method for Acid Resistance of Ceramic Decorations on Returnable Beer and Beverage Glass Containers¹

This standard is issued under the fixed designation C 735; 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 This test method covers qualitative determination of the acid resistance of ceramic decorations on returnable beer and beverage containers, to assure the necessary durability of the decoration.

1.2 This test provides an indication of performance when and if the decoration is to be exposed to the acid solutions used in reclaiming bottles, and it also covers those instances where the beverages themselves have acidic properties.

~~1.3~~

1.3 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.4 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

C 224 [Practice for Sampling Glass Containers](#)

3. Summary of Test Method

3.1 This test method is a qualitative method which determines by visual inspection the degree of attack of a nominal 10 % hydrochloric acid solution on the ceramic decoration.

4. Significance and Use

4.1 This test method evaluates the quality and serviceability of ceramic decorations on returnable beer and beverage containers.

4.2 This test method is also suitable for specification acceptance. Its significance is that bottles with good acid resistance coatings have longer service life.

5. Reagent

5.1 *Hydrochloric Acid (27 + 73)*—Dilute 27 volumes of concentrated hydrochloric acid (HCl, sp gr 1.19) with 73 volumes of distilled water. This will produce nominal 11.5 weight % HCl. The volume of the solution may be varied as needed.

6. Test Specimen

6.1 The decorated ware should be representative of the lot, or run, and should be taken in accordance with the principles stated in Practice C 224.

7. Procedure

7.1 Pour the HCl (27 + 73) into a beaker large enough to accept all of the test specimen and the reference sample. Keep this solution at room temperature ($25 \pm 5^\circ\text{C}$).

7.2 Place the test specimen into the HCl so that approximately one half of the label is immersed, and cover the beaker.

7.3 Remove the specimen from the HCl after 20 min. Rinse with water and dry.

7.4 Record the temperature of the HCl at both the beginning and the end of the test period.

¹ This test method is under the jurisdiction of ASTM Committee ~~C-14~~ [C14](#) on Glass and Glass Products, Products and is the direct responsibility of Subcommittee [C14.10](#) on Glass Decoration in cooperation with the Society of Glass Decorators' Committee A-20.

~~Current edition approved Nov. 15, 1993. Published January 1994. Originally published as C735-72T. Last previous edition C735-93.~~

~~Current edition approved May 1, 2009. Published September 2009. Originally approved in 1972. Last previous edition approved in 2004 as C 735 – 04.~~

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*, Vol 15.02, volume information, refer to the standard's Document Summary page on the ASTM website.