



Standard Specification for Glasses, Portlight, Circular, Fully Tempered¹

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1. Scope

1.1 This specification covers the requirements for circular, fully tempered, high clarity, flat glasses used for portlight applications.

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.3 The following safety hazard caveat pertains only to the test method portion, Section 11, of this specification: *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

C162 Terminology of Glass and Glass Products

C1036 Specification for Flat Glass

C1048 Specification for Heat-Strengthened and Fully Tempered Flat Glass

C1279 Test Method for Non-Destructive Photoelastic Measurement of Edge and Surface Stresses in Annealed, Heat-Strengthened, and Fully Tempered Flat Glass

2.2 *ANSI Standard*:

ANSI Z1.4 Sampling Procedures and Tables for Inspection by Attributes (DOD Adopted)³

3. Terminology

3.1 *Definitions*—For definitions of terms used in this specification, refer to Terminology C162 and also Specifications C1036 and C1048 and Test Method C1279.

¹ This specification is under the jurisdiction of ASTM Committee C14 on Glass and Glass Products and is the direct responsibility of Subcommittee C14.08 on Flat Glass.

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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 Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

4. Classification

4.1 Glasses covered by this specification shall be of the following types, as specified (see 5.1):

4.1.1 *Type I*—Plain edges, both faces polished,

4.1.2 *Type II*—Plain edge, one face polished, opposite face frosted,

4.1.3 *Type III*—Rabbeted edge, both faces polished, or

4.1.4 *Type IV*—Rabbeted edge, one face polished, opposite face frosted.

5. Ordering Information

5.1 Purchasers should select the preferred options permitted in this specification, and include the following information in procurement documents:

5.1.1 Title, number, and date of this specification,

5.1.2 Type of portlight glasses, as requested (see 4.1),

5.1.3 Dimensions of portlight glasses (see 8.1 and 9.3), and

5.1.4 Type, class, and quality of glass (see Specification C1036) and heat treatment (see Specification C1048).

5.2 *Samples*—If samples are to be supplied with bids, they should be specifically requested in the invitation for bids and the particular purpose to be served by the bid sample should be clearly stated.

6. Materials and Manufacture

6.1 *Material*—The glass used shall be glazing quality, float glass in accordance with the requirements for Specification C1036, Type I, Class 1, quality q³ or higher, if required, and heat-treated Specification C1048, kind FT.

6.2 *Marking*—Specimens shall exhibit the words “fully tempered” approximately ½ in. (12.7 mm) from the edge by means of etching or sand blasting. Marking shall be done before heat treating.

7. Other Requirements

7.1 *Breaking Strength*—Glasses shall exhibit satisfactory resistance to breakage (see 11.1.2.1).

7.2 *Surface and Edge Compression*—Type I and III glasses shall have a surface compression of not less than 10 000 psi or an edge compression of not less than 9700 psi (see 11.1.1.2).