

Description of ASTM-C1279 2009

ASTM C1279 - 09

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

Active Standard ASTM C1279 | Developed by Subcommittee: C14.08

Book of Standards Volume: 15.02

ASTM C1279

Significance and Use

The strength and performance of heat-strengthened and fully-tempered glass is greatly affected by the surface and edge stress induced during the heat-treating process.

The edge and surface stress levels are specified in Specification C1048 , in the Engineering Standards Manual of GANA Tempering Division and in foreign specifications.

This test method offers a direct and convenient way to non-destructively determine the residual state of stress on the surface and at the edge of annealed and heat-treated glass.

1. Scope

1.1 This test method covers the determination of edge stresses and surface stresses in annealed, heat-strengthened, and fully tempered flat glass products.

1.2 This test method is non-destructive.

1.3 This test method uses transmitted light and is, therefore, applicable to light-transmitting glasses.

1.4 The test method is not applicable to chemically-tempered glass.

1.5 Using the procedure described, surface stresses can be measured only on the tin side of float glass.

1.6 Surface-stress measuring instruments are designed for a specific range of surface index of refraction.

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

1.8 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 (purchase separately) The documents listed below are referenced within the subject standard but are not provided as part of the standard.

ASTM Standards

C162 Terminology of Glass and Glass Products

C770 Test Method for Measurement of Glass Stress--Optical Coefficient

C1048 Specification for Heat-Strengthened and Fully Tempered Flat Glass

E691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method

Other Documents

SurfaceandEdg

Keywords

annealed glass; heat-strengthened glass; polariscopic examination; stress measurement; tempered glass; Annealed glass; Edge/surface stress; Flat glass; Glass; Heat-strengthened (HS) glass; Nondestructive evaluation (NDE); Nondestructive evaluation (NDE)--nonmetallic materials; Nondestructive photoelastic measurement; Polariscopic examination; Stress--glass materials/applications; Surface stress; Tempered glass;

ICS Code

ICS Number Code 81.040.20 (Glass in building)

DOI: 10.1520/C1279-09

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