



**SECTION 08 8813  
FIRE-RESISTANT GLAZING**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Glazing units.

**1.02 RELATED REQUIREMENTS**

- A. Section 08 4313 – Fire-Rated Storefronts: Glazing fire-tested as part of the wall assembly.

**1.03 REFERENCE STANDARDS**

- A. 16 CFR 1201 - Safety Standard for Architectural Glazing Materials; current edition.
- B. ANSI Z97.1 - American National Standard for Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test; 2015.
- C. ASTM C1036 - Standard Specification for Flat Glass; 2016.
- D. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2012.
- E. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials; 2016a.
- F. ASTM E1300 - Standard Practice for Determining Load Resistance of Glass in Buildings; 2016.
- G. GANA (SM) - GANA Sealant Manual; 2008.
- H. ICC (IBC) - International Building Code; 2015.
- I. INTERKTEK (DIR) - SpecDirect of Listed Products; current edition.
- J. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies; 2012.
- K. UL (DIR) - Online Certifications Directory; current listings at [database.ul.com](http://database.ul.com).
- L. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.
- M. UL 263 - Standard for Fire Tests of Building Construction and Materials; Current Edition, Including All Revisions.

**1.04 SUBMITTALS**

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

**PART 2 PRODUCTS**

**2.01 MANUFACTURERS**

- A. Basis of Design Glass Fabricator:
  - 1. GGI - General Glass International; Pyrobel: [www.generalglass.com/#sle](http://www.generalglass.com/#sle).

**2.02 GLASS MATERIALS**

- A. Float Glass: Provide float glass based glazing unless noted otherwise.
  - 1. Annealed Type: ASTM C1036, Type I - Transparent Flat, Class 1 - Clear, Quality-Q3.
  - 2. Heat-Strengthened and Fully Tempered Types: ASTM C1048, Kind HS and FT.
  - 3. Fully Tempered Safety Glass: Complies with ANSI Z97.1 and 16 CFR 1201 criteria.

**2.03 GLAZING UNITS**

- A. Type G-3 - Fire-Resistance-Rated Glazing: Type, thickness, and configuration of glazing that contains flame, smoke, and blocks radiant heat, as required to achieve indicated fire-rating period exceeding 45 minutes.
  - 1. See Section 08 4013 for glazing in fire-rated framing assemblies.

2. Applications:
  - a. Glazing in fire-rated door assembly.
  - b. Glazing in fire-rated window assembly.
  - c. Glazing in sidelites, borrowed lites, and other glazed openings in fire-rated wall assemblies.
  - d. Other locations as indicated on drawings.
  - e. \_\_\_\_\_.
3. Glass Type: Multi-laminate annealed glass with intumescent fire retardant interlayers.
4. Provide products listed by INTERTEK (DIR) or UL (DIR) and approved by authorities having jurisdiction.
5. UL Design Number: \_\_\_\_\_.
6. Safety Glazing Certification: 16 CFR 1201 Category II.
7. Glazing Method: As required for fire rating.
8. Fire-Rating Period: **60, 90, 120** minutes.
9. Markings for Fire-Resistance-Rated Glazing Assemblies: Provide permanent markings on fire-resistance-rated glazing in compliance with ICC (IBC), local building code, and authorities having jurisdiction.
  - a. "W" - meets wall assembly criteria of ASTM E119 or UL 263 fire test standards.
  - b. "D" - meets fire door assembly criteria of NFPA 252, UL 10B, or UL 10C fire test standards.
  - c. "H" - meets fire door assembly hose stream test of NFPA 252, UL 10B, or UL 10C fire test standards.
  - d. "T" - meets temperature rise of not more than 450 degrees F (232 degrees C) above ambient at end of 30 minutes fire exposure in accordance with NFPA 252, or UL 10C fire test standards.
  - e. "XXX" - placeholder that represents fire-rating period, in minutes.
10. Manufacturers:
  - a. GGI - General Glass International; Pyrobel: [www.generalglass.com/#sle](http://www.generalglass.com/#sle).

## **PART 3 EXECUTION**

### **3.01 VERIFICATION OF CONDITIONS**

- A. Verify that openings for glazing are correctly sized and within tolerances, including those for size, squareness, and offsets at corners.
- B. Verify that the minimum required face and edge clearances are being provided.
- C. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and support framing is ready to receive glazing system.
- D. Verify that sealing between joints of glass framing members has been completed effectively.
- E. Proceed with glazing system installation only after unsatisfactory conditions have been corrected.

### **3.02 PREPARATION**

- A. Clean contact surfaces with appropriate solvent and wipe dry within maximum of 24 hours before glazing. Remove coatings that are not tightly bonded to substrates.
- B. Prime surfaces scheduled to receive sealant where required for proper sealant adhesion.

### **3.03 INSTALLATION, GENERAL**

- A. Install glazing in compliance with written instructions of glass, gaskets, and other glazing material manufacturers, unless more stringent requirements are indicated, including those in glazing referenced standards.
- B. Install glazing sealants in accordance with ASTM C1193, GANA (SM), and manufacturer's instructions.

- C. Do not exceed edge pressures around perimeter of glass lites as stipulated by glass manufacturer.
- D. Set glass lites of system with uniform pattern, draw, bow, and similar characteristics.
- E. Set glass lites in proper orientation so that coatings face exterior or interior as indicated.
- F. Prevent glass from contact with any contaminating substances that may be the result of construction operations such as, and not limited to the following; weld splatter, fire-safing, plastering, mortar droppings, etc.

#### **3.04 FIELD QUALITY CONTROL**

- A. See Section 01 4000 - Quality Requirements, for additional requirements.
- B. Glass and Glazing product manufacturers to provide field surveillance of the installation of their products.
- C. Monitor and report installation procedures and unacceptable conditions.

#### **3.05 CLEANING**

- A. See Section 01 7419 - Construction Waste Management and Disposal, for additional requirements.
- B. Remove excess glazing materials from finish surfaces immediately after application using solvents or cleaners recommended by manufacturers.
- C. Remove non-permanent labels immediately after glazing installation is complete.
- D. Clean glass and adjacent surfaces after sealants are fully cured.
- E. Clean glass on both exposed surfaces not more than 4 days prior to Date of Substantial Completion in accordance with glass manufacturer's written recommendations.

#### **3.06 PROTECTION**

- A. Remove and replace glass that is damaged during construction period prior to Date of Substantial Completion.

**END OF SECTION**