

**SECTION 08800  
GLAZING**

**PART 1 - GENERAL**

**1.1 SUMMARY:**

**A. Section Includes:**

1. Float glass.
2. Safety glass.
3. Wire glass.
4. Tinted glass.
5. Tempered glass.
6. Custom mirrors.
7. Insulating glass units.

**B. Related Sections:**

1. Section 08100 - Metal Doors and Frames.
2. Section 08210 - Wood Doors.
3. Section 08410 - Aluminum Entrances and Storefronts.
4. Section 08520 - Aluminum Windows.
5. Section 10800 - Toilet and Bath Accessories: Packaged mirror units.

**1.2 SUBMITTALS:**

- A. Submit manufacturer's product data showing thermal performance characteristics of tinted, coated, insulating glass units, or heat mirror insulating glass units.
- B. Submit two samples of each type of glass specified, 12" x 12" in size, illustrating glass, unit, and coloration. Indicate range of variation to be expected for color and "waviness" in final position.

**1.3 QUALITY ASSURANCE:**

- A. Installer shall have a minimum of 5 years experience in projects of similar size and complexity.
- B. Conform to Flat Glass Marketing Association (FGMA) "Glazing Manual" and "Sealant Manual" for glazing standards.
- C. All exterior glass shall withstand a minimum of 30 psf wind load, both positive and negative pressure. Conform to UBC wind loading requirements and the Boulder County Wind Map.
- D. Safety Glass: Comply with Colorado State Statutes, UBC Section 5406, UBC Standard 54-2 and ANSI Z97.1 with certifying label on each piece.

- E. Prime (Float) Glass: ASTM C1036.
- F. Fire-Resistant Glass: Tested per ASTM E163 (UL 9) and listed by UL for "Fire Resistance".
- G. Heat-Treated Glass: ASTM C1048.
- H. Insulating Glass: Seal Standard ASTM E774, Class A. Provide units manufactured by SIGMA member and bearing IGCC certification numbers.
- I. Elastomeric Sealant Standard: Comply with ASTM C920 requirements for Type, Grade, Class and Uses.
- J. Manufacturers: Provide each type of glass and primary sealant/gasket from a single manufacturer with not less than 5 years of successful experience in the production of materials similar to those required.

#### 1.4 WARRANTY:

- A. Provide insulating glass manufacturer's written warranty, agreeing to, within specified warranty period, furnish FOB project site, replacements for insulating glass units which have defective hermetic seals (excluding that due to glass breakage); defined to include intrusion of moisture or dirt, internal condensation at temperatures above -20° F., deterioration of internal glass coatings, and other visual evidence of seal failure or performance failure; provided manufacturer's instructions for handling, installation, protection and maintenance have been adhered to during warranty period.
- B. Warranty shall include replacement installation costs.
- C. Warranty period is 10 years after seal date permanently imprinted on unit, but not less than 9 years after the date of the Notice of Acceptance.

## PART 2 - PRODUCTS

### 2.1 PRIME (NON-PROCESSED) GLASS:

- A. Manufacturers:
  - 1. AFG Industries, Inc.
  - 2. Ford Glass Div.
  - 3. Guardian Industries.
  - 4. LOF Glass, Inc.
  - 5. PPG Industries, Inc.
  - 6. Viracon
- B. Clear Float Glass:
  - 1. Type I, Quality q3, Class 1 clear, 1/4" thick except as otherwise required to comply with applicable codes and regulating authorities.
  - 2. Low-E coating is required for all exterior glazing, except doors.

C. Clear Wired Glass:

1. Type II, Quality q8, Class 1, complying with ANSI Z97.1
2. 1/4" thick, wired and polished both faces.
3. Use for UL label door lights, fire-rated corridor openings, stair and other UL label openings.

D. Tinted Glass:

1. Type I, Quality q3, Class 2, 1/4" thick except as otherwise required.
2. Glazing must be color-compatible with the building and building location on campus.
3. Grey is the only color permitted on the main campus.
4. Historical character of the building and adjacent buildings must be considered when selecting tinted glass color.
5. Ultra violet filtering glass is desirable.
6. No mirrored exterior glazing permitted on the main campus.
7. Low E coatings are required for exterior glazing, except doors.

2.2 PROCESSED GLASS:

A. Tempered Glass:

1. Prime glass of color and type indicated, which has been heat-treated to strengthen glass in bending to not less than 4.5 times annealed strength. Fully temper glass by horizontally heat treating with minimal waviness or distortion and with all areas free of tong marks.
2. Provide tempered and/or laminated glass where safety glass is indicated or where required by applicable laws and safety Codes.

LAMINATED SAFETY GLASS IS  
PREFERRED OVER TEMPERED  
GLASS WHERE REQUIRED.

B. Mirror Glass:

1. Clear float glass (ASTM C1036, Type 1, Class 1, Quality q2), 1/4" thick except as otherwise indicated.
2. Silver coating, copper protective coating and 2 mil thick paint coating; comply with

CS 27.

2.3 FABRICATED GLASS UNITS:

ALL EXTERIOR GLASS SHOULD BE INSULATED WITH A "LOW E" COATING OR "HEAT MIRROR" INSULATING GLASS. HEAT MIRROR FILM MUST BE CLEAR. DO NOT USE HEAT MIRROR FILM IN CONJUNCTION WITH LAMINATED GLASS. LOW E COATING MAY BE EITHER PYROLYTIC OR VACUUM DEPOSITED.

- A. Factory assembled and sealed units with minimum 1/2" air space.
- B. Provide insulating units with an R-value of 3 minimum.

2.4 GLAZING COMPOUNDS:

- A. Containing no asbestos.

PART 3 - EXECUTION

Not Used

**END OF SECTION 08800**