

SECTION 08800

GLASS AND GLAZING

PART 1 GENERAL

1.01 SUMMARY

A. Related Sections:

1. 08110 - Steel Doors and Frames.
2. 08210 - Wood Doors.
3. 08510 - Steel Windows.
4. 08520 - Aluminum Windows.

1.02 REFERENCES

- A. Florida Department of Education, Office of Educational Facilities - State Requirements for Educational Facilities 1999 (SREF).
- B. Florida Building Code (FBC).
- C. Flat Glass Marketing Association (FGMA): Glazing Manual, 1986 Edition.
- D. CPSC Standard 16CFR 1201 Category II.
- E. American Society for Testing and Materials (ASTM):
 1. C1036-91 Specification for Flat Glass.
 2. C1048-92 Specification for Heat-Treated Flat Glass-Kind HS, Kind FT Coated and Uncoated Glass.
 3. E119-95a Test Methods for Fire Tests of Building Construction and Materials.
 4. E152-81a Methods of Fire Tests of Door Assemblies.
 5. E163-84 Methods of Fire Tests of Window Assemblies.
- F. ANSI Z97.1 - Safety Performance and Methods of Test for Safety Glazing Materials Used in Buildings.

1.03 SUBMITTALS

- A. Product Data: Manufacturer's specifications, recommendations for setting blocks, spacers and edge clearance, and installation instructions.

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- B. Color Charts: For preformed glazing materials and glazing sealant.
- C. Certification:
 - 1. Certification of tempered and laminated glass complying with Consumer Product Safety Commission 16CFR 1201-CII.
 - 2. Certification of Miami-Dade County product approval demonstrating compliance with FBC missile impact criteria.
 - a. Comply with calculations, signed and sealed by a Florida registered professional engineer, establishing wind velocity pressure values for the specific project according to American Society of Civil Engineers (ASCE) 7-98 using a wind speed of 146 mph, exposure category "C", and a wind load importance factor of 1.15.

1.04 QUALITY ASSURANCE

- A. Labels:
 - 1. Label each unit of glass with manufacturer's sticker showing quality, grade, thickness, and type of glass.
 - 2. Labels shall remain in place until approval by the A/E.
- B. Trademarks: Each panel of tempered glass shall bear the manufacturer's trademark.
- C. Glass of each type shall be supplied by the same manufacturer.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Glazing:
 - 1. Guardian.
 - 2. LOF, Libby-Owens-Ford.
 - 3. PPG.
 - 4. St.Gobain Architectural Glass Products.
 - 5. Viracon.
- B. Missile Impact Resistant Glazing:

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1. Saf-Glas by Security Impact Glass.
 2. Accepted Equivalent.
- C. One-way Glass:
1. Mirrorpane E.P. by LOF Company
 2. Accepted equivalent.
- D. Fire Rated Safety Glazing:
1. Superlite by O'Keefe, San Francisco, CA.
 2. Firelight Series, Pyrostop, and Pyro Swiss by Technical Glass Products, Kirkland, WA.
- E. Glazing Sealant: Dow Corning 999-A Silicone Building and Glazing Sealant or General Electric Contractors 1000 Sealant.
- F. Backer Rod: Dow Corning Ethafoam SB polyethelene cord or butyl rubber foam cord.
- G. Edge Protection Tape for Laminated Glass: "Scotch Brand Cellopane Tape", manufactured by 3M Company.
- H. Moisture-Resistant Paint for Frameless Mirror Glass: Palmer Products Corp., Mirro-Bac Paint.
- I. Bond Sealer Coat for Mirrors: Palmer Products Corp., Mirro-Mastic Bond.
- J. Mirror Adhesive: Palmer Products Corp., Mirro-Mastic.

NOTE TO SPECIFIER: The security film may be used (but is not required) at the interior face of low security glass to reduce tempered glass breakage hazard. It is not a mandatory requirement by The Board and it shall not be considered as an alternate for security or missile impact resistant glazing requirements.

- K. Security Film: Madico (Protekt), Profilon (P100, P200), or 3M (SH4 CLAR).

2.02 MATERIALS

- A. Tempered Glass: Comply with ASTM C1036 and further

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- processed according to ASTM C1048, Kind FT, which has been fully tempered by the manufacturer's standard horizontal process. Minimum thickness of 1/4".
- B. Missile Impact Resistant Glazing:
1. 0.070" polycarbonate between two 1/4" annealed glass sheets.
- C. Fire Rated Glazing:
1. Wired Glass: ASTM C1036, Type II, Class 1, Form 1, Quality q8, Mesh M2, bearing UL label.
 2. Safety Glazing: ASTM E152, ASTM E163, ASTM E119, NFPA 80, NFPA 251, NFPA 252, NFPA 257, CPSC 16 CFR Part 1201, bearing UL label.
- D. Laminated Glass: Two sheets of equal thickness clear heat strengthened glass according to ASTM C1036, Type I, Class 1, Quality q3 permanently laminated with a 0.060 inch thick sheet of clear polyvinyl butyral.
- E. One-way Glass: ASTM C1036, 1/4" thick clear float glass.
- F. Wall Mirrors: 1/4" tempered or laminated glass with electrolytic copper plated backing, guaranteed for 1 year.
- G. Glazing Materials:
1. Glazing Sealant: Curing type gunable elastomeric sealant complying with TT-S-001543A, Type II Class A. Color as selected by A/E.
 - a. Glazing sealants for use with insulating glass units shall be approved by the fabricator of the insulating glass units.
 2. Unshimmed Glazing Tape: Butyl-polyisobutylene with 20 to 30 "Shore A" hardness, self-sticking; _____ color.
 3. Pre-Shimmed Glazing Tape: Butyl-polyisobutylene with built-in synthetic rubber spacer; 20 to 30 "Shore A" hardness, self-sticking; _____ color.
 4. Setting Blocks: Solid neoprene, 80 to 90 Shore A durometer hardness; sizes as required.
 5. Edge Blocks: Solid neoprene, 60-70 Shore A durometer hardness; sizes as required.
 6. Shims: Solid neoprene, 40 to 60 Shore A durometer

- hardness; sizes as required.
- 7. Glazing Gaskets: Compression gaskets, closed cell, neoprene, EPDM or silicone rubber composition designed to provide a water-resistant seal between glass and frame.
- 8. Primers and Cleaning Agents: Type recommended by the sealant, glass, and glazing accessories manufacturer.

PART 3 EXECUTION

3.01 INSPECTION

- A. Verify glazing frames are acceptable for the correct installation of glass and glazing accessories.

3.02 INSTALLATION

- A. Glass Cutting: Make cuts clean, only moderately convoluted, with flare or bevel not exceeding 1/8 of glass thickness.

1. Unacceptable defects:

- a. Impact chips, spalls, or nipped edges.
- b. Flake chips or shark teeth deeper than 1/4 of glass thickness.
- c. Serration hackle deeper than 1/8 of glass thickness.

- B. Comply with recommendations of FGMA Glazing Manual, glass manufacturer, manufacturer of sealant, and other glazing accessories.

- C. Do not attempt to cut, seam, nip, or abrade glass tempered or heat strengthened.

- D. Remove and replace glass broken, chipped, cracked, abraded, or damaged during construction.

NOTE TO SPECIFIER: In the following paragraph, use hangers or adhesive.

- E. Install wall mirrors and fasten with non-corrosive, theftproof, concealed hangers according to standard practices. [Fasten with mirror adhesive according to manufacturers instructions.]

F. Manufacturer's label showing strength, grade, thickness, type, and quality of glass shall remain on each piece of glass until it has been set and inspected.

G. Guarantee work to be waterproof.

3.03 CLEANING

A. After glass has been inspected and approved, remove labels and wash and polish glass on both faces before the Board's approval of the project.

1. Comply with glass manufacturer's recommendations for cleaning materials and methods.

END OF SECTION