

PART 1 GENERAL**1.1 SUMMARY**

- A. Section includes glass and glazing for glazed walls.
 - 1. Glass and glazing materials and installation requirements are included in this section for other sections referencing this section.
- B. Related Sections:
 - 1. NA.

1.2 REFERENCES

- A. American National Standards Institute:
 - 1. ANSI Z97.1 - Safety Glazing Materials Used in Buildings Safety.
- B. American Society for Testing and Materials:
 - 1. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
 - 2. ASTM C1036 - Standard Specification for Flat Glass.
 - 3. ASTM C1048 - Standard Specification for Heat-Treated Flat Glass-Kind HS, Kind FT Coated and Uncoated Glass.
 - 4. ASTM C1193 - Standard Guide for Use of Joint Sealants.
 - 5. ASTM E773 - Standard Test Methods for Seal Durability of Sealed Insulating Glass Units.
 - 6. ASTM E774 - Standard Specification for Sealed Insulating Glass Units.
- C. Glass Association of North America:
 - 1. GANA - FGMA Sealant Manual.
 - 2. GANA - Glazing Manual.
- D. National Fire Protection Association:
 - 1. NFPA 80 - Standard for Fire Doors, Fire Windows.
- E. Underwriters Laboratories Inc.:
 - 1. UL - Building Materials Directory.

1.3 PERFORMANCE REQUIREMENTS

- A. Size glass to withstand dead loads and positive and negative live loads acting normal to plane of glass as calculated in accordance with applicable code.
- B. Limit glass deflection to 1/200 or flexure limit of glass with full recovery of glazing materials, whichever is less.

1.4 SUBMITTALS

- A. Section 01330 - Submittal Procedures: Submittal procedures.
- B. Product Data:
 - 1. Glass: Provide structural, physical and environmental characteristics, size limitations, special handling or installation requirements.
 - 2. Glazing Sealants, Compounds and Accessories: Provide chemical, functional, and environmental characteristics, limitations, special application requirements. Identify available colors where exposed.
- C. Samples:
 - 1. Submit two samples 3 x 3 inch in size, illustrating each glass color.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with GANA Glazing Manual for glazing installation methods.
- B. Comply with safety standards for Architectural Glazing Materials 16 CFR 1201 issued by Consumer Product Safety Commission.

1.6 QUALIFICATIONS

- A. Installer: Company specializing in performing Work of this section with minimum three years documented experience.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Section 01600 - Product Requirements.
- B. Do not install glazing when ambient temperature is less than 50 degrees.
- B. Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.

1.8 WARRANTY

- A. Section 01700 - Execution Requirements: Product warranties.
- B. Furnish ten year warranty to include coverage for sealed glass units from seal failure, interpane dusting or misting, and replacement of same.

PART 2 PRODUCTS

2.1 ACCEPTABLE GLASS MANUFACTURERS

- A. Libbey-Owens-Ford Inc.
- B. Pittsburgh Plate Glass Co.
- C. Section 01600 - Product Requirements.

2.2 COMPONENTS

- A. Flat Glass: 1/4 inch thick, unless otherwise indicated.
 - 1. Clear Float Glass: ASTM C1036, Type 1 transparent flat, Class 1 clear, Quality q3 glazing select.
 - 2. Tinted Float Glass: ASTM C1036, Type 1 transparent flat, Class 2 tinted heat-absorbing and light reducing, Quality q3 glazing select. Azurlite tint.
 - 3. Low E Tempered Glass: Tinted heat strengthened glass with low emissivity coating on Number 3 surface.
 - 4. Spandrel Coated Glass: ASTM C1048 fully tempered, Condition C coated glass, coat back (Number 2 surface). Glass: Tinted to match adjacent non-spandrel glazing.
- B. Safety Glass: Conform to ANSI Z97.1, 1/2 inch thickness, unless otherwise noted.
 - 1. Obscured Tempered Glass: ASTM C1048, Fully Tempered, Condition A, uncoated, Type I transparent flat, Class 1 clear, Quality q3 glazing select with horizontal tempering.

- C. Insulating Glass Units Low E Glass: Total unit thickness 1 inch. Double pane insulated glass units meeting ASTM E774 Class A and E773, with glass elastomer edge seal. PPG Solarban go on number 3 surface, azurelite tint. Aluminum edge seal construction.
- D. Mirror Glass: ASTM C1036 Type I transparent flat, Class I clear, Quality q1 mirror select type with copper and silver coating. Edges ground and seamed. Minimum 1/4 inch thickness. Sized shown on drawings.
- E. Fire-resistive Glass: Glazing materials to be types approved for use with specified materials in fire rated applications, as indicated on drawings. Minimum 1/4 inch thick, unless otherwise indicated.
 - 1. Wire Clear Glass: ASTM C1036, Type II wired flat, Class 1 polished both sides, Quality q8 glazing; mesh m2 square of woven stainless steel wire, Manufacturer's standard grid size.

2.3 ACCESSORIES

- A. Elastomeric Glazing Sealants: Materials compatible with adjacent materials including glass, laminated glass core, insulating glass seals, and glazing channels.
- B. Glazing Splines Gaskets: ASTM C864 Option I, resilient polyvinyl chloride extruded shape to suit glazing channel retaining slot. Color black.
- C. Pre-Formed Glazing Tape: Size to suit application.
 - 1. Preformed butyl compound with integral resilient tube spacing device; 10 to 15 Shore A durometer hardness; coiled on release paper; black color.
 - 2. Butyl Corner Sealant: ASTM C920 single component non-skinning butyl compatible with glazing tape; color to match tape.
- D. Setting Blocks: ASTM C864 Option I, EPDM, 80 to 90 Shore A durometer hardness, length of **0.1 inch for each square foot** of glazing or minimum **4-inch** x width of glazing rabbet space minus **1/16 inch** x height to suit glazing method and pane weight and area.
- E. Spacer Shims: ASTM C864 Option I, Neoprene, 50 to 60 Shore A durometer hardness, minimum **3 inch** long x one half the height of glazing stop x thickness to suit application, self adhesive on one face.
- F. Glazing Clips: Manufacturer's standard type.
- G. Butt Glazing Sealant: Dow Corning 795, clear glazing sealant.
- H. Mirror Mounting Channels: Continuous polished aluminum J-channel edges.
- I. Mirror Adhesive: Type recommended by Manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Verify openings for glazing are correctly sized and within acceptable tolerance.
- C. Verify surfaces of glazing channels or recesses are clean, free of obstructions impeding moisture movement, weeps are clear, and ready to receive glazing.

3.2 PREPARATION

- C. Clean contact surfaces with solvent and wipe dry.
- B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.

- C. Prime surfaces scheduled to receive sealant.

3.3 INSTALLATION

- A. Perform installation in accordance with GANA Glazing Manual.
 - 1. Glazing Sealants: Comply with ASTM C1193.
 - 2. Fire Rated Openings: Comply with NFPA 80.
- B. Exterior Dry Method:
 - 1. Cut glazing spline to length; install on glazing pane. Seal corners by butting tape and sealing junctions with compatible butyl sealant.
 - 2. Place setting blocks at 1/4 points with edge block no more than 6 inches from corners.
 - 3. Rest glazing on setting blocks and push against fixed stop with sufficient pressure to attain full contact.
 - 4. Install removable stops without displacing glazing spline. Exert pressure for full continuous contact.
 - 5. Trim protruding tape edge.
- C. Interior Dry Method (Tape and Tape) Installation:
 - 1. Cut glazing tape to length and set against permanent stops, projecting 1/16 inch above sight line.
 - 2. Place setting blocks at 1/4 points with edge block no more than 6 inches from corners.
 - 3. Rest glazing on setting blocks and push against tape for full contact at perimeter of pane or unit.
 - 4. Place glazing tape on free perimeter of glazing in same manner described above.
 - 5. Install removable stop without displacement of tape. Exert pressure on tape for full continuous contact.
 - 6. Knife trim protruding tape.
- D. Custom Mirror Installation: Exposed vertical field joints shall butt glazed using clear sealant. Equally space joints provide stainless steel channel at perimeter. Flush mount with aluminum J-molding continuous and spot adhesive.

3.4 FIELD QUALITY CONTROL

- A. Section 01400 - Quality Requirements: Testing and Inspection Services.
- B. Monitor quality of glazing.

3.5 CLEANING

- A. Section 01700 - Execution Requirements: Final cleaning.
- B. Remove glazing materials from finish surfaces.
- C. Remove labels after Work is complete.
- D. Clean glass and adjacent surfaces.

3.6 PROTECTION OF INSTALLED CONSTRUCTION

- A. Section 01700 - Execution Requirements: Protecting installed construction.
- B. After installation, mark pane with an 'X' by using removable plastic tape or paste. Do not mark heat absorbing or reflective glass units.

3.7 GLASS SCHEDULE

Type 1: Wing Wall at PTM: 1/2 inch thick, obscured tempered float glass.

END OF SECTION