

DIVISION 8 – DOORS AND WINDOWS

SECTION 08800

GLAZING

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to this Section.
- B. Related Sections:
 - 1. Section 01 00 00 - Basic Requirements
 - 2. Section 06 20 00 – Finish Carpentry
 - 3. Section 08 11 00 - Standard Steel Doors and Frames
 - 4. Section 08 14 00 – Wood Stile and Rail Doors
 - 5. Section 08 41 00 – Aluminum entrances and Storefronts

1.02 SUMMARY

- A. Insulated and non-insulated glass and glazing for Aluminum Storefront windows and Doors and products and installation.
- B. Tempered glass and Safety Glass.
- C. Glass Color for the exterior storefront units and exterior windows, transoms, sidelights and doors are to be ¼ inch tempered, safety, insulated or regular Grey Tinted glass as required for specific conditions.
- D. Interior Doors with glass panels are to have ¼ inch clear regular, tempered or safety glass as required for specific conditions.

1.03 SYSTEM DESCRIPTION

- A. Glass and glazing materials of this section shall provide continuity of building enclosure air barrier and vapor retarder.
- B. Size glass to withstand dead loads and positive and negative live loads acting normal to plane of glass and shall conform to the consistency and make-up of the existing historic glass as much as possible and feasible.

1.04 SUBMITTALS

- A. Product Data on Glass Types Specified: Provide physical and environmental characteristics, size limitations, and special installation requirements.
- B. Product Data on Glazing Compounds: Provide chemical characteristics, limitations, and special application requirements. Identify available colors.
- C. Samples: Submit two samples 12 inch x 12 inch in size, illustrating glass to be used in windows, exterior doors, interior doors, mirrors, coloration and design.

1.05 QUALITY ASSURANCE

- A. Perform Work in accordance with FGMA Glazing Manual, FGMA Sealant Manual, SIGMA, and Laminators Safety Glass Association - Standards Manual, for glazing installation methods.

PART 2 PRODUCTS

2.01 FLAT GLASS MATERIALS

- A. Float Glass (Type FG): Glass for the exterior storefront units, windows, transom, sidelight and doors are to be ¼ inch or double insulated, tempered, safety, or regular Low-E Grey Tinted glass as required for specific conditions. Glass for interior glass used in storefront units, bay windows, transoms, sidelights, doors are to be ¼" clear tempered, safety or regular glass as required for specific conditions. Annealed float glass shall comply with ASTM C1038, Type 1, Class 1 (clear) and Class 2 (Tinted).
- B. Safety Glass (Type FG): Heat strengthened or fully tempered; conforming to ANSI Z97.1; in required thickness for application. Glass for the exterior storefront units and exterior windows, transoms, sidelights and doors are to be ¼ inch or double insulated, tempered, safety, or regular Low-E Grey Tinted glass as required for specific conditions. Glass for interior glass used in storefront units, bay windows, transoms, sidelights, doors are to be ¼" clear tempered, safety or regular glass as required for specific conditions. Shall comply with heat-strengthened float glass ASTM C1048, Type 1, Class 1 (clear) and Class 2 (tinted).
- C. Mirror Glass (Type FG): Clear float type with copper and silver coating, organic overcoating, raised edges, ¼ inch thick, in widths and heights as indicated on drawings.
- D. Insulated Glass:
 - 1. Exterior Lite: ¼ inch Low-E Grey Tinted Float Glass
 - 2. Interior Lite: ¼ inch Clear Float Glass
 - 3. Cavity: 1/2 inch Air Filled.
 - 4. Performance Characteristics:
 - a. Shading Coefficient: 0.57
 - b. Solar Heat Gain Coefiecient: 0.40
 - c. Tvis: 69%
 - d. Rvis (out): 12%
 - e. Uwinter: 0.47
- G. Tempered Float Glass: Comply with ASTM C1048, Type 1, Class 1 (clear) and Class 2 (tinted).
- H. Laminated Glass: Comply with ASTM C1172.

2.02 GLAZING COMPOUNDS

- A. Modified Oil Type GC): ASTM C669, non-hardening, knife grade consistency; Gray color.
- C. Butyl Sealant (Type GC): ASTM C920, (Grade, Class, Use as required for application); single Component; Shore a hardness of 10 to 20 black color; non-skinning.
- D. Acrylic Sealant (Type GC): ASTM C920, Type S, Grade NS, (Class & Use as required for application) single component, solvent curing, non-bleeding; cured Shore A hardness of 15 to 25 color as selected.
- E. Polysulfide Sealant (Type GC): ASTM C920, Type M, Grade NS, Class & Use as required for application; two component; chemical curing, non-sagging type; cured Shore A hardness of 15 to 25 color as selected.
- F. Polyurethane Sealant (Type GC-E): ASTM C920, Type S, Grade NS, (Class and Use as required for application); single component, chemical curing, non-staining, non-bleeding, Shore A Hardness Range 20 to 35 color as selected.

- G. Silicone Sealant (Type GC): ASTM C920, Type S, Grade NS, (Class & Use as required for application); single component; chemical curing; capable of water immersion without loss of properties; non-bleeding, non-staining, cured Shore A hardness of 15 to 25 color as selected.

2.03 GLAZING ACCESSORIES

- A. Setting Blocks: Neoprene; 80 to 90 Shore A Durometer hardness.
- B. Spacer Shims: Neoprene; 50 to 60 Shore A durometer hardness, self-adhesive on one face.
- C. Glazing Tape: Preformed butyl compound with integral resilient tube spacing device. Closed cell polyvinyl chloride foam, maximum water absorption by volume of 2 percent, designed for compression of 25 percent to affect an air and vapor seal.
- D. Glazing Spline: Resilient polyvinyl chloride extruded shape to suit glazing channel-retaining slot; color as selected.
- E. Glazing Clips: Manufacturer's standard type.
- F. Mirror Attachment Accessories: Stainless steel clips. Mirror adhesive, chemically compatible with mirror coating and wall substrate.

PART 3 EXECUTION

3.01 EXAMINATION AND PREPARATION

- A. Verify that openings for glazing are correctly sized, within tolerance, and glazing channels or recesses are clean, free of obstructions, and ready to receive glazing.
- B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.

3.02 INSTALLATION - EXTERIOR DRY METHOD (PREFORMED GLAZING)

- A. Cut glazing tape or spline to length; install on glazing pane. Seal corners with butyl sealant.
- B. Place setting blocks at 1/4 point.
- C. Rest glazing on setting blocks and push against fixed stop with sufficient pressure to attain full contact.
- D. Install removable stops without displacing glazing spline. Exert pressure for full continuous contact.
- E. Trim protruding tape edge.

3.03 INSTALLATION-EXTERIOR WET/DRY METHOD (PREFORMED TAPE AND SEALANT)

- A. Cut glazing tape to length and set against permanent stops. Seal corners with butyl sealant.
- B. Apply heel bead of butyl sealant along intersection of permanent stop with frame ensuring full perimeter seal between glass and frame to complete the continuity of the air and vapor seal.
- C. Place setting blocks at 1/4 point.
- D. Rest glazing on setting blocks and push against tape and heel bead of sealant to attain full contact at perimeter of pane or glass unit.

- E. Install removable stops, with spacer strips inserted between glazing and applied stops, 1/4 inch below sight line. Place glazing tape on glazing pane or unit with tape flush with 1/4-inch sight line.
- F. Fill gap between glazing and stop with applicable sealant to depth equal to bite of frame on glazing, but not more than 3/8 inch below sight line.
- G. Apply cap bead of applicable type sealant along void between the stop and the glazing, to uniform line, flush with sight line. Tool or wipe sealant surface smooth.

3.04 INSTALLATION - EXTERIOR WET METHOD (SEALANT AND SEALANT)

- A. Place setting blocks at 1/4 points and install glazing pane or unit.
- B. Install removable stops with glazing centered in space by inserting spacer shims both sides at 24-inch intervals, 1/4 inch below sight line.
- C. Fill gaps between glazing and stops with applicable type sealant to depth of bite on glazing, but not more than 3/8 inch below sight line to ensure full contact with glazing and continue the air and vapor seal.
- D. Apply sealant to uniform line, flush with sight line. Tool or wipe sealant surface smooth.

3.05 INSTALLATION - INTERIOR DRY METHOD (TAPE AND TAPE)

- A. Cut glazing tape to length and set against permanent stops, projecting 1/16 inch above sight line.
- B. Place setting blocks at 1/4 points with edge block no more than 6 inches from corners.
- C. Rest glazing on setting blocks and push against tape for full contact at perimeter of pane or unit.
- D. Place glazing tape on free perimeter of glazing in same manner described above.
- E. Install removable stop without displacement of tape. Exert pressure on tape for full continuous contact.
- F. Knife trim protruding tape.

3.06 INSTALLATION - INTERIOR WET/DRY METHOD (TAPE AND SEALANT)

- A. Cut glazing tape to length and install against permanent stops, projecting 1/16 inch above sight line.
- B. Place setting blocks at 1/4 points with edge block no more than 6 inches from corners.
- C. Rest glazing on setting blocks and push against tape to ensure full contact at perimeter of pane or unit.
- D. Install removable stops; spacer shims inserted between glazing and applied stops at 24-inch intervals, 1/4 inch below sight line.
- E. Fill gaps between pane and applied stop with applicable type sealant to depth equal to bite on glazing, to uniform and level line.
- F. Trim protruding tape edge.

3.07 INSTALLATION - INTERIOR WET METHOD (COMPOUND AND COMPOUND)

- A. Install glazing resting on setting blocks. Install applied stop and center pane by use of spacer shims at 24-inch centers, kept 1/4 inch below sight line.
- B. Locate and secure glazing pane using spring wire clips or glazers' clips.
- C. Fill gaps between glazing and stops with glazing compound until flush with sight line. Tool surface to straight line.

3.08 INSTALLATION - MIRRORS

- A. Set mirrors with adhesive, applied in accordance with adhesive manufacturer's instructions.

OR

- B. Set mirrors with clips. Anchor rigidly to wall construction.
- C. Place plumb and level without visible distortion.

3.09 CLEANING

- A. Remove glazing materials from finish surfaces.
- B. Remove labels after Work is complete.
- C. Clean glass, mirrors and adjacent surfaces.

END OF SECTION – 08800