

**ARCH 478
OFFICE BUILDING**

SECTION 08800

GLAZING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. *Glass and plastic glazing.*
- B. *Glazing compounds and accessories.*

1.02 RELATED SECTIONS

- A. *Section 06200 - Finish Carpentry: Glazed relites*
- B. *Section 08110 - Steel Doors and Frames: Glazed relites.*
- C. *Section 08210 - Flush Wood Doors: Glazed lites*
- D. *Section 08410 - Aluminum Entrances and Storefronts.*

1.03 REFERENCES

- A. *ANSI Z97.1 - American National Standard for Safety Glazing Materials Used in Buildings, Safety Performance Specifications and Methods of Test; 1984 (R1994).*
- B. *ASTM C 864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers; 1999.*
- C. *ASTM C 920 - Standard Specification for Elastomeric Joint Sealants; 1998.*
- D. *ASTM C 1036 - Standard Specification for Flat Glass; 1991 (Reapproved 1997).*
- E. *ASTM C 1048 - Standard Specification for Heat-Treated Flat Glass--Kind HS, Kind FT Coated and Uncoated Glass; 1997b.*
- F. *ASTM C 1193 - Standard Guide for Use of Joint Sealants; 2000.*
- G. *ASTM E 773 - Standard Test Method for Accelerated Weathering of Sealed Insulating Glass Units; 1997.*
- H. *ASTM E 774 - Standard Specification for the Classification of the Durability of Sealed Insulating Glass Units; 1997.*
- I. *GANA (GM) - GANA Glazing Manual; Glass Association of North America; 1997.*
- J. *GANA (SM) - FGMA Sealant Manual; Glass Association of North America; 1990.*
- K. *SIGMA TM-3000 - Glazing Guidelines for Sealed Insulating Glass Units; Sealed Insulating Glass Manufacturers Association; 1997.*

1.04 SUBMITTALS

- A. *See Section 01300 - Administrative Requirements, for submittal procedures.*
- B. *Product Data on Glass Types: Provide structural, physical and environmental characteristics, size limitations, special handling or installation requirements.*
- C. *Product Data on Glazing Compounds: Provide chemical, functional, and environmental characteristics, limitations, special application requirements. Identify available colors.*

1.05 QUALITY ASSURANCE

- A. *Perform Work in accordance with GANA Glazing Manual, FGMA Sealant Manual, and SIGMA TM-3000 Glazing Guidelines for glazing installation methods.*
- B. *Installer Qualifications: Company specializing in performing the work of this section with minimum five years documented experience.*

1.06 ENVIRONMENTAL REQUIREMENTS

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

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1.07 WARRANTY

- A. See Section 01780 - Closeout Submittals, for additional warranty requirements.
- B. Provide a ten (10) year warranty to include coverage for sealed glass units from seal failure, interpane dusting or misting, and replacement of same.

PART 2 PRODUCTS

2.01 FLAT GLASS MATERIALS

- A. Manufacturers:
 - 1. AFG Industries, Inc: www.afgglass.com.
 - 2. Guardian Industries Corp: www.guardian.com.
 - 3. Pilkington Building Products North America: <http://buildingproducts.us.pilkington.com>.
 - 4. PPG Industries, Inc: www.ppg.com.
 - 5. Substitutions: Refer to Section 01600 - Product Requirements.
- B. Clear Float Glass: Clear, annealed.
 - 1. Comply with ASTM C 1036, Type I, transparent flat, Class 1 clear, Quality q3 glazing select.
- C. Safety Glass: Clear; fully tempered with horizontal tempering.
 - 1. Comply with ASTM C 1048, Condition A uncoated, Type I, transparent flat, Class 1, Quality q3 glazing select.
 - 2. Comply with ANSI Z97.1.
 - 3. Provide tempered glass where glazing is within 18 inches of finished floor, and at window units adjacent to doors where sill is less than 36 inches above finished floor, and as indicated on drawings.
- D. Tinted Glass: Float type, annealed (except as noted below), heat-absorbing and light reducing in grey color.
 - 1. Product: PPG Sungate 1000
 - a. Substitutions: Not allowed.
 - 2. Comply with ASTM C 1036, Type I, transparent flat, Class 2 tinted heat-absorbing and light reducing, Quality q3 glazing select.
 - 3. Provide tempered glass where glazing is within 18 inches of finished floor, and at window units adjacent to doors where sill is less than 36 inches above finished floor, and as indicated on drawings.
- E. Wired Glass: Clear, square pattern.
 - 1. Square mesh of woven stainless steel wire.
 - 2. 1/2 inch grid size.
 - 3. Comply with ASTM C 1036, Type II patterned and wired flat, Class 1 clear, Quality q8 glazing.
 - 4. Polished both sides.
 - 5. 1/4 inch thick.

2.02 SEALED INSULATING GLASS MATERIALS

- A. Insulated Glass Units: Double pane with glass to elastomer edge seal.
 - 1. Outer pane of tinted glass, inner pane of clear float glass.
 - 2. Provide units comprised of tempered glass, both panes, where glazing is within 18 inches of finished floor, and at window units adjacent to doors where sill is less than 36 inches above finished floor, and as indicated on drawings.
 - 3. Place low E coating on No.2 surface within the unit.
 - 4. Comply with ASTM E 774 and E 773, Class CBA.
 - 5. Purge interpane space with dry hermetic air.
 - 6. Total unit thickness of 1 inch.

2.03 GLAZING COMPOUNDS

- A. Manufacturers:
 - 1. Dow Corning Corp: www.dowcorning.com.

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2. *GE Plastics: www.geplastics.com.*
3. *Pecora Corporation: www.pecora.com.*
4. *Substitutions: Refer to Section 01600 - Product Requirements.*
- B. *Butyl Sealant: Single component; ASTM C 920, Grade NS, Class 12-1/2, Uses M and A; Shore A hardness of 10 to 20; black color; non-skinning.*
- C. *Acrylic Sealant: Single component, solvent curing, non-bleeding; ASTM C 920, Type S, Grade NS, Class 12-1/2, Uses M and A; cured Shore A hardness of 15 to 25; color as selected.*
- D. *Polyurethane Sealant: Single component, chemical curing, non-staining, non-bleeding; ASTM C 920, Type S, Grade NS, Class 25, Uses M, A, and G; Shore A Hardness Range 20 to 35; color as selected.*
- E. *Silicone Sealant: Single component; neutral curing; capable of water immersion without loss of properties; non-bleeding, non-staining; ASTM C 920, Type S, Grade NS, Class 25, Uses M, A, and G; cured Shore A hardness of 15 to 25; color as selected.*

2.04 GLAZING ACCESSORIES

- A. *Manufacturers:*
 1. *Norton Performance Plastics Corp.*
 2. *Pecora Corporation: www.pecora.com.*
 3. *Tremco, Inc: www.tremcosealants.com.*
 4. *Substitutions: Refer to Section 01600 - Product Requirements.*
- B. *Setting Blocks: Neoprene, 80 to 90 Shore A durometer hardness, ASTM C 864 Option I. 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.*
- C. *Spacer Shims: Neoprene, 50 to 60 Shore A durometer hardness, ASTM C 864 Option I. Minimum 3 inch long x one half the height of the glazing stop x thickness to suit application, self adhesive on one face.*

PART 3 EXECUTION

3.01 EXAMINATION

- A. *Verify that openings for glazing are correctly sized and within tolerance.*
- B. *Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and ready to receive glazing.*

3.02 PREPARATION

- A. *Clean contact surfaces with solvent and wipe dry.*
- B. *Prime surfaces scheduled to receive sealant.*
- C. *Install sealants in accordance with ASTM C 1193 and FGMA Sealant Manual.*
- D. *Install sealant in accordance with manufacturer's instructions.*

3.03 INSTALLATION - GENERAL

- A. *Glaze in accordance with referenced standards. Use one of the following glazing methods:*
 1. *Exterior - Wet/Dry Method (Preformed Tape and Sealant)*
 2. *Exterior - Wet Method (Sealant and Sealant)*
 3. *Interior - Dry Method (Tape and Tape)*
 4. *Interior - Wet/Dry Method (Tape and Sealant)*
 5. *Interior - Wet Method (Compound and Compound)*

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

- A. *Cut glazing tape to length and set against permanent stops, 3/16 inch below sight line. Seal corners by butting tape and dabbing 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 points with edge block no more than 6 inches from corners.*
- D. *Rest glazing on setting blocks and push against tape and heel bead of sealant with sufficient*

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- pressure 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 sight line.*
 - F. Fill gap between glazing and stop with polyurethane type 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 polyurethane/silicone type sealant along void between the stop and the glazing, to uniform line, flush with sight line. Tool or wipe sealant surface smooth.*

3.05 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 polyurethane/silicone 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.*

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3.06 INSTALLATION - INTERIOR DRY METHOD (TAPE AND TAPE)

- A. Cut glazing tape to length and set against permanent stops, projecting 1/16 inch (1.6 mm) 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.*

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

- A. Cut glazing tape to length and install against permanent stops, projecting 1/16 inch (1.6 mm) 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 acrylic type sealant to depth equal to bite on glazing, to uniform and level line.*
- F. Trim protruding tape edge.*

3.08 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 glazers' clips.*
- C. Fill gaps between glazing and stops with glazing compound until flush with sight line. Tool surface to straight line.*

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3.09 CLEANING

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

END OF SECTION