

SECTION 08 80 00 - GLAZING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Glazing for the following products and applications, including those specified in other Sections where glazing requirements are specified by reference to this Section:
 - a. Automatic doors.
 - b. Transom at automatic entrance doors.
 - c. Doors.
 - d. Glazed entrances.
 - e. Storefront framing.
 - f. Storefront framing at prep rooms.
 - g. Other interior and exterior lites.
 - h. Mirrored glass

1.2 PERFORMANCE REQUIREMENTS

- A. General: Provide glazing systems capable of withstanding normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, and installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.

1.3 SUBMITTALS

- A. Product Data: For each glass product and glazing material indicated.

1.4 QUALITY ASSURANCE

- A. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below, unless more stringent requirements are indicated. Refer to these publications for glazing terms not otherwise defined in this Section or in referenced standards.
1. GANA Publications: GANA's "Glazing Manual."
 2. IGMA Publication for Insulating Glass: SIGMA TM-3000, "Glazing Guidelines for Sealed Insulating Glass Units."
- B. Insulating-Glass Certification Program: Permanently marked either on spacers or on at least one component lite of units with appropriate certification label of the Insulating Glass Certification Council.

- C. Safety Glazing: Where safety glazing is indicated, provide glazing that complies with 16 CFR 1201, Category II.

1.5 WARRANTY

- A. Warranty information for glazing is specified in Division 01 Section "Product Warranties."

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers

1. AFG Industries, Inc.
2. Guardian Industries Corp.
3. Oldcastle BuildingEnvelope.
4. Pilkington
5. PPG Industries, Inc.
6. Viracon, Inc.

2.2 MONOLITHIC GLASS PRODUCTS

A. Uncoated Clear Float Glass: ASTM C 1036, Type I (transparent flat glass), Class 1 (clear)

1. **Glass A:** Uncoated Clear Annealed Float Glass: Minimum 1/4 inch (6 mm) thick.
2. **Glass B:** Uncoated Clear Kind HS Float Glass: Minimum 1/4 inch (6 mm) thick.
3. **Glass C:** Uncoated Clear Fully Tempered Float Glass: Kind FT (fully tempered); minimum 1/4 inch (6 mm) thick.

B. Coated Clear Float Glass: ASTM C 1036, Type I (transparent flat glass), Class 1 (clear) glass lites with low-E coating complying with the following:

1. **Glass F:** Coated, Clear, Kind HS Float Glass: Minimum 1/4-inch (6 mm) thick.
2. **Glass G:** Coated, Clear, Kind FT, Fully Tempered Float Glass: Minimum 1/4-inch (6 mm) thick.

C. Coated Tinted Float Glass: ASTM C 1036, Type I (transparent flat glass), Class 2 (tinted, heat-absorbing, and light-reducing) glass lites with tint color as specified in Division 1 Section "Product Finishes and Colors" and complying with the following:

1. **Glass J:** Annealed Transparent Mirrored Glass: Minimum 1/4-inch (6 mm) thick.
 - a. Visible Transmittance: 12 percent
 - b. Visible Reflectance on the Coated Side: 60 percent
 - c. Coating on inner side (subject side).
 - d. Basis of Design: Mirropane E.P.; Pilkington Building Products

- D. Glass with Decorative Film Overlay: Use translucent, dimensionally stable, cast PVC film, **3.8 mil- (0.1-mm-)** minimum thickness, with pressure-sensitive, clear adhesive back for adhering to glass and releasable protective backing.

1. **Glass L:** Uncoated clear fully tempered float glass with decorative film overlay.
 - a. Film Overlay Product: 3M; Scotchcal Frosted Crystal.
 - b. Glass Type: Type C
 - c. Film Location: Inward swing side of customer facing Patient Care doors.
 - d. Fabrication: Apply film in shop prior to delivering to Site.

2.3 INSULATING GLASS UNITS

- A. General: Factory-assembled units consisting of sealed lites of glass separated by a dehydrated interspace, and complying with ASTM E 774 for Class CBA units.

1. Sealing System: Dual seal, with manufacturer's standard primary and secondary sealants.
2. Spacer Specifications: Manufacturer's standard spacer material and construction.
3. Overall Unit Thickness: **1 inch (24 mm)** thick.
4. Interspace Content: Air.
5. Low-E Coating: Sputtered on second surface.

- B. Clear Insulating Glass Types:

1. **Type 1:** Clear Non-Tempered Insulating-Glass Units (Low E):

- a. Outdoor Lite: Glass F
- b. Indoor Lite: Glass B
- c. Visible Light Transmittance: 70 percent minimum.
- d. Winter Nighttime U-Factor: 0.29 maximum.
- e. Summer Daytime U-Factor: 0.27 maximum.
- f. Solar Heat Gain Coefficient: 0.38 maximum.

2. **Type 2:** Clear Tempered Insulating-Glass Units (Low E):

- a. Outdoor Lite: Glass G
- b. Indoor Lite: Glass C
- c. Visible Light Transmittance: 70 percent minimum.
- d. Winter Nighttime U-Factor: 0.29 maximum.
- e. Summer Daytime U-Factor: 0.27 maximum.
- f. Solar Heat Gain Coefficient: 0.38 maximum.

3. **Type 5:** Interior Clear Tempered Insulating-Glass Units:

- a. Outdoor Lite: Glass C
- b. Indoor Lite: Glass C

2.4 SILVERED FLAT GLASS MIRRORS

- A. Silvered Mirrored Glass: ASTM C 1503, type as indicated below.
 - 1. Mirror: Select Quality.
 - a. Glass Type: Uncoated clear annealed float glass, 1/4 inch (6 mm) thick.
 - b. Mirrored Glass Edge Treatment: Flat polished edge.
 - c. Seal edges of silvered mirrored glass after edge treatment to prevent chemical or atmospheric penetration of glass coating with coating compatible with glass coating and approved by mirror manufacturer for use in protecting against silver deterioration at mirrored glass edges.
 - d. Require mirrored glass manufacturer to perform edge treatment and sealing in factory immediately after cutting to final sizes.

2.5 MISCELLANEOUS GLAZING MATERIALS

- A. Soft Compression Gaskets: Extruded or molded, closed-cell, integral-skinned gaskets complying with ASTM C 509, Type II, black; and of profile and hardness required to maintain watertight seal:
- B. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based elastomeric tape with a solids content of 100 percent; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; packaged on rolls with a release paper backing; and complying with ASTM C 1281 and AAMA 800.
- C. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.
- D. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.
- E. Spacers: Elastomeric blocks or continuous extrusions with a Shore, Type A durometer hardness required by glass manufacturer to maintain glass lites in place for installation indicated.
- F. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).
- G. Elastomeric Glazing Sealants: Comply with ASTM C 920 and other requirements indicated for liquid-applied chemically curing sealant, black in color.
- H. Mirror Mastic (As Required): An adhesive setting compound, produced specifically for setting mirrored glass by spot application, certified by both mirrored glass manufacturer and mastic manufacturer as compatible with glass coating and substrates on which mirrored glass will be installed.
- I. Mirror Continuous Bottom Channel: As indicated.
- J. Mirror Spring-loaded Top Clips: As indicated.

2.6 FABRICATION OF GLAZING UNITS

- A. Fabricate glazing units in sizes required to glaze openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements.

PART 3 - EXECUTION

3.1 GLAZING

- A. General: Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.
 - 1. Glazing channel dimensions, as indicated on Drawings, provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances. Adjust as required by Project conditions during installation.
 - 2. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass is glass with edge damage or other imperfections that, when installed, could weaken glass and impair performance and appearance.
 - 3. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.
 - 4. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.
 - 5. Provide spacers for glass lites where length plus width is larger than 50 inches (1270 mm).
 - 6. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.

3.2 MIRROR INSTALLATION:

- A. General: Install mirrored glass units as indicated on Drawings and to comply with written instructions of mirrored glass manufacturer and with referenced GANA and NAAMM publications. Mount mirrored glass accurately in place in a manner that avoids distorting reflected images.
 - 1. Provide space for air circulation between back of mirrored glass units and face of mounting surface.
 - 2. Use mastic only when recommended by mirror manufacturer to support large mirror surfaces laterally and only in combination with channels and clips.

3.3 CLEANING AND PROTECTION

- A. Protect exterior glass from damage immediately after installation by attaching crossed streamers to framing held away from glass. Do not apply markers to glass surface. Remove nonpermanent labels, and clean surfaces. Protect glass from contact with contaminating substances resulting from construction operations, including weld splatter. If, despite such protection, contaminating substances do come into contact with glass, remove substances immediately as recommended by glass manufacturer.
- B. Remove and replace glass that is broken, chipped, cracked, or abraded or that is damaged from natural causes, accidents, and vandalism, during construction period.

END OF SECTION 08 80 00