

SECTION 08800

GLAZING

PART 1 – GENERAL

WORK INCLUDED

Work in this section includes Glass and Glazing as shown on the drawings and in schedules. Refer to factory specs for glazing of units.

QUALITY ASSURANCE

References -

- ANSI Z 97.1 - Glazing Materials Used in Buildings, Safety Performance Specifications and Methods of Test.
- ASTM C 1036 - Standard Specification for Flat Glass.
- ASTM C 1048 - Standard Specification for Heat-Treated Flat Glass--Kind HS, Kind FT Coated and Uncoated Glass.
- ASTM C 1376 - Standard Specification for Pyrolytic and Vacuum Deposition Coatings on Glass.
- ASTM E 1886 - Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.
- CPSC 16CFR-1201 - Safety Standard for Architectural Glazing Materials.
- ASTM F 1233 – Standard Test Method for Security Glazing Materials and Systems.
- Glass Association of North America (GANA) Glazing Manual.

Installer (Glazer) - Firm with not less than 5 year successful experience in glazing work similar to required work.

DELIVERY, STORAGE, AND HANDLING

Comply with manufacturer's instructions for shipping, handling, storing, and protecting glass and glazing materials. Exercise exceptional care to prevent edge damage to glass and damage/deterioration to coatings (if any) on glass. Where insulating glass units will be exposed to substantial altitude changes, comply with insulating glass fabricator's recommendations for venting and sealing.

PROJECT/SITE CONDITIONS

Do not proceed with installation of liquid sealants under adverse weather conditions or when ambient and substrate temperatures are below or above manufacturer's recommended limits for installation.

WARRANTY

Provide insulating glass manufacturer's written warranty, agreeing to furnish replacement for insulating glass units which have defective hermetic seals (excluding defects caused by glass breakage), and defined to include: intrusion of moisture or dirt, internal condensation or fogging, deterioration of internal glass coatings, and other visual evidence of seal failure or performance failure, provided manufacturer's instructions for handling, installation, protection and maintenance have been adhered to during warranty period. Warranty period is 10 years after seal date is permanently imprinted on unit, but not less than 9 years after date of substantial completion.

PART 2 – PRODUCTS

MANUFACTURERS:

Cardinal Glass Industries, N. Salt Lake, UT
LoE²-272 coating, argon fill (MCOLO only)

or

PPG Industries, Pittsburgh, PA
Solarban 60 coating, argon fill (MCOLO only)

or

Approved equal

INSULATING GLASS UNITS

Provide preassembled units consisting of organically sealed panes of glass enclosing a hermetically sealed dehydrated air space as follows:

Use two 0.1875" thicknesses of glass of specified coated types as indicated or scheduled, with 0.625" anodized aluminum spacer channel (1" total), welded or sealed corners (manufacturer's standard); double seal units with polyisobutylene primary sealant and polyurethane secondary sealant.

Argon-filled glass units must be assembled at ~5,300 feet above sea level. Provide verification to Architect at time of shop drawing/product data submittal.

GLAZING SEALANTS AND TAPES

General - Provide black exposed glazing materials (unless another color is indicated or is selected by Architect from manufacturer's standard colors). Provide hardness as recommended by the manufacturer for the required application and condition of installation in each case. Provide only sealants and tapes which are known (proven) to be fully compatible with surfaces contacted, including glass products, seals of insulating glass units, and glazing channel surfaces.

1-Part Acrylic Glazing Sealant - Water-based, acrylic emulsion sealant, non-sag, mildew-resistant, paintable, and complying with ASTM C834-05.

MISCELLANEOUS GLAZING MATERIALS

Compatibility - Provide materials compatible with surfaces and sealants contacted in installation.

Setting Blocks - Neoprene, EPDM, or silicone 80-90 Shore A durometer hardness, with proven compatibility with sealants used.

Spacers and Edge Blocks - Neoprene, EPDM, or silicone with proven compatibility with sealants used, of size shape and hardness as recommended by glass and sealant manufacturers. Edge blocks to limit lateral movement of glass.

Compressible Filler Rod - Closed-cell or waterproof-jacketed rod stock of synthetic rubber or plastic foam, proven to be compatible with sealants used, flexible and resilient, with 6-10 psi compression strength for 25% deflection.

Cleaners, Primers, and Sealants - Type recommended by sealant or gasket manufacturer.

PART 3 – EXECUTION

INSTALLATION

Performance - Watertight and airtight installation of each piece of glass is required except as otherwise shown. Each installation must withstand normal temperature changes, wind loading, impact loading (for operating sash) without failure of any kind including loss or breakage of glass, failure of sealants or gaskets to remain watertight and airtight, deterioration of glazing materials and other defects in the work.

General - Glazing channel dimensions as shown are intended to provide for necessary minimum bite on the glass, minimum edge clearance and adequate sealant thicknesses, with reasonable tolerances. The Glazer is responsible for correct glass size for each opening within the tolerance and necessary dimensions established.

Comply with combined recommendations of glass manufacturer and sealant manufacturer (and other materials) used in glazing. Comply with "Glazing Manual" and other applicable publications by Flat Glass Marketing Association except as shown or specified otherwise, and except as specifically recommended otherwise by the manufacturers of the glass and glazing material.

Install insulating glass units to comply with recommendation by SIGMA and TSR No.230 "Installation Recommendations" by PPG Industries, Inc., except as otherwise specifically indicated or recommended by glass and sealant manufacturers.

PREPARATION

Clean the glazing channel or other framing members to receive glass just prior to glazing. Remove coatings which are not firmly bonded to the substrate. Remove lacquer from metal surfaces wherever elastomeric sealants are used. Apply primer or sealer to joint surfaces wherever recommended by sealant manufacturer.

GLAZING

General - Install setting blocks of proper size at quarter points of sill rabbet but not less than 6" from corner of glass to edge of setting block. Set blocks in thin course of the heel-based compound, if any.

Provide spacers inside and out and of proper size and spacing for all glass sized larger than 50 united inches (except where gaskets or glazing tapes are used for glazing). Provide 0.125" minimum bite of spacers on glass and use thickness equal to sealant width (with sealant tape use thickness slightly less than final compressed thickness of tape). Force sealants into channel to eliminate voids and to ensure complete "wetting" or bond of sealant to glass and channel surfaces.

Tool exposed surfaces of glazing sealants to provide a substantial "wash" away from the glass. Install pressurized tapes and gaskets to protrude slightly out of the channel so as to eliminate dirt and moisture pockets.

Clean and trim excess glazing materials from the glass and stops or frames promptly after installation, and eliminate stains and discoloration.

CURE, PROTECTION AND CLEANING

Installation: Install glass in accordance with glass manufacturer's instructions.

Curing: Cure glazing sealants and compounds in compliance with manufacturer's instructions and recommendations, to obtain high early bond strength, internal cohesive strength and surface durability.

Protection: Remove and replace glass which is broken, chipped, cracked, abraded, or damaged in other ways during the construction period, including natural causes, accidents, and vandalism.

Cleaning: Wash glass, as specified in Section 01710. This includes all new and existing glass.

END OF SECTION