

**SECTION 08 8 1 00
GLASS GLAZING**

PART 1 GENERAL

1.01 REFERENCE STANDARDS

- A. 16 CFR 1201 - Safety Standard for Architectural Glazing Materials; Current Edition.
- B. ASTM C509 - Standard Specification for Elastomeric Cellular Preformed Gasket and Sealing Material; 2006 (Reapproved 2021).
- C. ASTM C1036 - Standard Specification for Flat Glass; 2021.

1.02 GENERAL REQUIREMENTS

- A. Contractor is referred to the Instructions to Bidders and General Conditions, NYCHA Contracts; the Special Notice to Contractors; the Form of Proposal; the Form of Bid Bond; Division 01 - General Requirements of the Contract Specifications; the Contract Drawings and all Amendments and Addenda thereto; all of which govern the Work of this Section.

1.03 SCOPE OF WORK

- A. The Contractor shall furnish and install necessary labor, materials, equipment, services, tools, and any other incidentals necessary for the following:
- B. Laminated glass at building entrance doors as shown on the Drawings.
- C. Add Alt: Replace opaque and transparent glass and infill panels in all sections of aluminum storefront with laminated glass as shown on the Drawings.

1.04 RELATED WORK

- A. Section 07 92 00 Sealants and Joint Fillers
- B. Section 08 11 19 Stainless Steel Doors, Frames and Windows

1.05 SUBMITTALS

- A. Before any glass is delivered to the job site, submit sections and details of glass installation at framing members.
- B. 12" x 12" samples of all types of glass included in the scope of work, including edge conditions, all bearing manufacturer's label.
- C. Manufacturer's literature on all types of glass included in the scope of work.
- D. Certification from glass fabricator that all glazing details and thicknesses are in accordance with these specifications, including wind load and thermal stress analysis showing probability of failure of no greater than eight (8) lites per thousand.
- E. Certification from manufacturer that all glass units meet standards specified herein.
- F. Certification from manufacturer that all glazing accessories meet standards specified herein.
- G. All associated warranties and guarantees.

1.06 QUALITY ASSURANCE

- A. Qualifications of Installers: Use only personnel who are thoroughly trained and experienced in the skills required, who are completely familiar with the referenced standards and the requirements of this work, and who shall direct all installation performed under this Section of these specifications.

1.07 CODES AND STANDARDS

- A. Comply with all pertinent recommendations contained in the "Manual of Glazing" of the Flat Glass Marketing Association, latest edition.
- B. All work shall be as per industry guidelines set by the Laminators Safety Glass Association.
- C. Comply with combined recommendations and technical reports by manufacturers of glass and glazing products as used in each glazing channel, and with recommendations of Flat Glass

Marketing Association "Glazing Manual", except where more stringent requirements are indicated.

- D. Glass shall conform to the following standards:
 - 1. Federal Specification DD-G-451d
 - 2. ASTM C1036-85, 1349, 1422, 1048.
 - 3. Safety glass test requirements of ANSI Z97.1984
 - 4. CPSC 16 CFR 1201 Category I and II
 - 5. H.P. White HPW-TP-0500.02 Level B, 0.35 inch (Report HPW 7827-08A.
 - 6. H.P. White HPW-TP-0500.02 Level 2 Forced Entry (Report WJE 972491).
- E. Provide certification that all glass shall be capable of resisting the following wind loads unless higher loads are required by New York City Building Code.
- F. Positive pressure 30 lbs. per square foot.
- G. Negative pressure 30 lbs. per square foot.

1.08 PRODUCT HANDLING

- A. Deliver all glass to the site with the Manufacturer's label affixed and intact, stating the type of glass and its thickness. Ship glass in a manner that will protect it from damage.
- B. Deliver materials to the site ready for use in the manufacturer's original and unopened containers and packaging, bearing labels as to type, manufacturer, and brand. Delivered materials shall be identical to approved samples.
- C. Store materials under cover in a dry and clean location, off the ground. Remove materials which are damaged or otherwise not suitable for installation and replace with acceptable materials. Receive, store, and install glazing materials against staining or damage.
- D. Factory label each glass lite with removable type labels. Labels shall not be removed until after the installation has been approved.
- E. Remove glass that is delivered cracked, broken, chipped, or otherwise damaged from the job site and replace with new material. Glass surfaces which display streak lines or other imperfections will be considered unacceptable and shall be replaced.
- F. Shipping and Marking: Each package and shipping container shall be marked with the name of the material, the manufacturer, brand or trade name, purchase order and the size and thickness of the material. Packaging shall be done to protect materials from shipping and handling damage. Mixed lots of different origin, or of non-approved materials and brands, will not be accepted.

PART 2 PRODUCTS

2.01 GLASS – GENERAL

- A. Manufacturers: Entrance/Vestibule glass shall be Secur-Tem & Poly Laminated Glass-clad polycarbonate, as manufactured by Globe Amerada Glass Co.; Noviflex Security Glass, by Advanced Glass System Corp.; Guard Vue 100, by Viracon Inc.; or approved equal.
- B. Each assembly unit shall contain two (2) plies of clear 1/8" Chem-Tem tempered glass, one (1) ply of clear 3/8" polycarbonate, and two (2) plies of clear .050 inch urethane. All entrance door and window glazing units shall conform to the following:
- C. Nominal thickness: 11/16 inch.
- D. Weight: 5.2 lbs/SF.
- E. Minimum light transmission: 87%.
- F. Solid Panels Core: One (1) ply 3/8" polycarbonate, similar to glazed polycarbonate core.
- G. Exit Doors Vision Panel glazing shall consist of 1/4" laminated fire-resistant glazing, 10" x 10" clear exposed dimensions, included as part of painted HM door assemblies.

2.02 FABRICATION

- A. Verify sizes with field measurement before ordering any pre-cut glass. Any glass ordered based on incorrect measurements shall be replaced by the Contractor at no expense to the Authority.
- B. Glass lights shall have "clean cut" and/or custom factory edges conforming to manufacturer's recommendations.
- C. Fabricate glass lites to proper sizes and thicknesses, from measurements taken at the project. Discard, remove and replace any oversize and/or undersize units with proper fitting glass units of the same type.

2.03 GASKETS/WEATHERSTRIPPING

- A. Glazing Channels: Neoprene glazing channels (gasket) for laminated glass shall be 1/8" thick, height, width and profile as shown on contract drawings, in conformance with ASTM C509; fabricated by TREMCO or approved equal.
- B. All gaskets/weatherstripping shall be neoprene, except where used in contact with a silicone sealant. In contact with silicone sealants, gaskets and spacers shall be preformed heat cured silicone rubber, chemically compatible with the silicone sealant and suitable for the specific purpose intended, as recommended by the sealant manufacturer, and approved by NYCHA. All gaskets, weatherstripping or spacers shall have continuous mechanical engagement to framing members. Adhesive attachment is not acceptable. All weatherstrips and gaskets shall be continuous with vulcanized/molded corners where possible.
- C. Sponge gaskets, weatherstripping or spacers shall be extruded black neoprene or silicone rubber (or equal as provided for in 2.04 A) with a hardness of 40 + 5 durometer Shore A and conform to ASTM C509-79 (for neoprene). Sponge gaskets shall be compressed 20% to 35% in the final installed position.
- D. Dense gaskets/weatherstripping shall be extruded black neoprene conforming to NAAMM SG-1-70 or silicone rubber (or equal as provided for in 2.04 A) with a hardness of 75 + 5 durometer Shore A for hollow profiles and 60 + 5 for solid profiles.

2.04 SEALANTS

- A. All joints sealed with sealant as part of the fabrication or erection procedure, shall be sealed with an approved butyl (concealed) or low modulus silicone (exposed) sealant in color to match the adjoining surfaces. All perimeter sealant (metal to adjacent construction) shall be low or medium modulus silicone sealant. Silicone sealant shall be as manufactured by General Electric, Dow Corning, Pecora, or equal. Butyl sealant shall be PTI 707.
- B. In using specified sealants, strictly observe the printed instructions of sealant manufacturer regarding joint size, limitations, backer rod, mixing, cleaning, surface preparation, priming and application. A primer shall be used, unless printed instructions advise to the contrary, and sealant manufacturer certifies that the use thereof will reduce its performance. Sealant shall not be applied when substrates are wet or when the temperature is below 40 deg. F.
- C. Care shall be exercised to insure against "Three Surface Adhesion". Bond breakers shall be provided where necessary.
- D. Contractor shall provide certification that the sealant manufacturer has reviewed all sealant details and finds same suitable for the purpose intended, compatible with and will not stain the surfaces with which they are in contact. Statement as to compatibility, adhesion sufficiency and non-staining shall be accompanied by actual test results on production substrates performed in accordance with applicable ASTM procedures.

2.05 GLAZING BLOCKS

- A. Setting blocks shall be black dense neoprene or heat cured silicone rubber with a hardness of 80 to 90 durometer, Shore A, a minimum length of 4", and a minimum width, which will permit full support of both panes of glass in an insulating glass unit or a monolithic unit no matter how positioned within the glazing rabbet.

- B. Shims used in conjunction with setting blocks must be of the same materials, hardness, length and width as the setting blocks.
- C. Provide side blocks within the upper half of both jambs of all glass lites. Side blocks shall be black dense neoprene or heat cured silicone rubber with a 60 to 70 durometer, Shore A, or as recommended by the selected glass manufacturer. Provide 1/8" clearance between block and bearing surface.

PART 3 – EXECUTION

3.01 PRE-INSTALLATION INSPECTION

- A. Examine the areas and conditions where glass and glazing are to be installed and notify NYCHA of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions are corrected to permit proper installation of the work.
- B. Verify by measurements taken at the job site those dimensions affecting the work. Bring field dimensions which are at variance to the attention of NYCHA. Obtain decision regarding corrective measures before the start of installation.

3.02 PREPARATION FOR GLAZING

- A. All surfaces receiving glazing materials shall be thoroughly wiped with a clean cloth dampened with high performance cleaners as approved by the sealant manufacturer, such as Xylol, MEK, or manufacturer's proprietary cleaners. Wipe dry using a clean cloth, changing frequently. Special precautions must be taken in cold weather to ensure the surfaces are free from frost. Apply primer to joint surfaces to receive sealant.

3.03 ALL FRAMING SHALL BE CHECKED PRIOR TO GLAZING TO MAKE CERTAIN THE OPENING IS SQUARE, PLUMB, AND SECURE SO UNIFORM FACE AND EDGE CLEARANCES ARE MAINTAINED. INSPECT BUTT AND MITER JOINTS. IF JOINTS ARE OPEN, SEAL WITH SILICONE SEALANT PRIOR TO GLAZING. MAINTAIN MINIMUM FACE CLEARANCE BETWEEN GLASS ON BOTH SIDES, AS OUTLINED BY THE GLASS MANUFACTURER.

3.04 GLASS AND GLASS SETTING MATERIALS SHALL BE COMPATIBLE WITH EACH OTHER AND ADEQUATE FOR THEIR INTENDED PURPOSE.

- A. Protect adjoining surfaces not to receive glazing materials against staining or damage.

3.05 INSTALLATION

- A. Pre-Installation Meeting: Meet with Glazier and other trades affected by glass installation, prior to beginning of installation.
- B. Install laminated safety glass with metal glazing stops and neoprene glazing channels. Set the laminated safety glass sheet in the frame so that it is centered in both directions. Provide adequate glazing clearance, as recommended by the manufacturer.
- C. Protect glass from edge damage during handling and installation, and subsequent operation of glazed components of the work. Any glass chipped, cracked, spalled, de-laminated, or damaged in any way during construction shall be replaced by the Contractor at no expense to the Authority.
- D. Do not perform work under adverse weather or job conditions. Install liquid sealants when temperatures are within lower or middle third of temperature range recommended by manufacturer.
- E. Watertight and airtight installation of each glass product is required. Each installation must withstand normal temperature changes, wind loading, and impact loading, without failure 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.
- F. Glazing channel dimensions as shown are intended to provide for necessary bite on glass, minimum edge clearance, and adequate sealant thicknesses, with reasonable tolerances.

Adjust as required by job conditions at time of installation without visibly altering the size of any glazed opening.

- G. Remove stops carefully so as not to damage finish, and after setting glass, replace in their original positions with the same fastening devices, and/or snap in place.
- H. Setting Blocks: Not less than four (4) inches long, by full width of glass and of a height to permit a proper glass bite as recommended by the approved glass manufacturer and/or as noted herein. Place two (2) setting blocks at the glass quarter points for each lite of glass.
- I. Provide spacers inside and out, of proper size and spacing, for glass sizes larger than fifty (50) united inches, except where gaskets or pre-shimmed tapes are used for glazing. Provide 1/8" minimum bite of spacers on glass and use thickness equal to sealant width, except with sealant tape use thickness slightly less than final compressed thickness of tape.
- J. Set units of glass in each series with uniformity of pattern, draw, bow and similar characteristics.
- K. Voids and Filler Rods: Prevent exudation of sealant or compound by forming voids or installing filler rods in channel at heel of jambs and head (do not leave voids in sill channels), except as otherwise indicated and depending on lite size, thickness, and type of glass, and complying with manufacturer's recommendations.
- L. Force sealants into channel to eliminate voids and to ensure complete "wetting" or bond of sealant to glass and channel surfaces.
- M. Tool exposed surfaces of glazing liquids and compounds to provide a substantial "wash" away from glass. Install pressurized tapes and gaskets to protrude slightly out of channel, to eliminate dirt and moisture pockets.
- N. Clean and trim excess materials from stops or frames promptly after installation and eliminate stains and discolorations.
- O. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage to ensure that gasket will not "walk" out when installation is subjected to movement. Anchor gasket to stop with matching ribs, or by proven adhesives, including embedment of gasket tail in cured heel bead.
- P. Gasket Glazing: Miter cut and bond ends together at corners where gaskets are used for channel glazing, so that gaskets will not pull away from corners and result in voids or leaks in glazing system.

3.06 CURE, PROTECTION AND CLEANING

- A. Do not remove labels until after inspection of Authority Inspector. Thoroughly clean all glass after installation.
- B. Protect exterior glass from breakage immediately upon installation, by use of crossed streamers attached to framing and held away from glass. Do not apply markers to surfaces of glass. Remove non-permanent labels and clean surfaces. Cure sealants for high early strength and durability.
- C. Remove and replace glass which is broken, chipped, cracked, abraded, or damaged in other ways during construction period prior to final acceptance, including natural causes, accidents, and vandalism.
- D. Wash and polish glass on both faces not more than four (4) days prior to date scheduled for inspections intended to establish date of substantial completion in each area of project. Comply with glass product manufacturer's recommendations for final cleaning.

END OF SECTION 08 8 1 00