

RELATED DOCUMENTS:

The general provisions of the Contract, including General and Supplementary Conditions, and General Requirements, apply to the work specified in this Section.

PART 1: GENERAL

SUMMARY:

Provide glass, glazing, metal panels, and special fire glass as indicated below, complete.

Work Included This Section:

Glass and Glazing For:

- Aluminum Entrances
- Steel and Wood Doors
- View Windows and Panels
- Exterior Windows
- Metal Window Insulated Panels
- Special fire glass

INDUSTRY STANDARDS:

For listing of names of industry standard agencies mentioned by abbreviation in this Section refer to Section 01068.

QUALITY ASSURANCE:

Provide safety glass (tempered, laminated) complying with requirements of ANSI Z97.1 - American National Standard for Glazing Materials Used in Buildings -- Safety Performance Specifications and Method of Test.

Label each piece of glass designating type and thickness of glass. Do not remove label prior to installation.

Permanently identify each unit of tempered glass. Etch or ceramic fire identification on glass; identification shall be visible when unit is glazed.

Warranty: Provide manufacturer's standard 10 year warranty, including include replacement of sealed glass units exhibiting seal failure or leakage, interpane dusting or misting.

Manufacturers:

Standard: For purposes of designating type and quality for work under this Section, Drawings and Specifications are based on products manufactured or furnished by following manufacturers:

- American St. Gobain Corporation

- Libby-Owens-Ford Glass Company
- Mississippi Glass Company
- Pittsburg Plate Glass Company
- Technical Glass Products
- Nippon Electric Glass Co., Ltd.
- Pilkington

SUBMITTALS:

Glass and Glazing: Submit samples of each type of glass, metal insulated panel, glazing compound, sealant and tapes for Architect's approval.

Product Data: Submit copy of manufacturer's specifications and installation instructions for each type of glass and glazing material. Include test data or certification substantiating that glass complies with specified requirements and manufacturer's warranties.

Submit manufacturer's standard 10 year warranty for insulated glass units.

MANUFACTURER'S LABELS:

Labels showing Glass Manufacturer's identity, type of glass, thickness and quality will be required on each piece of glass. Labels must remain on glass until it has been set and inspected.

Containers: All glazing compounds shall arrive at project site in unopened, labeled containers.

PRODUCT HANDLING:

Sizes of glass indicated on Drawings are approximately only. Determine actual size required by measuring frames to receive glass at project site, or from guaranteed dimensions provided by Frame Supplier.

Cutting: All glass shall be cleancut. Nipping to remove flares or to reduce oversized dimensions of any type of glass will not be permitted.

Deliver glass to site in suitable containers that will protect glass from weather and from breakage. Store material in safe place to minimize breakage, but deliver sufficient glass to allow for normal breakage.

DESIGN AND PERFORMANCE REQUIREMENTS:

Watertight and airtight installation of each piece of glass is required. Each installation must withstand normal temperature changes, wind loading, impact loading (for operating doors) 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 work.

PART 2: PRODUCTS

GLASS:

SuperGrey Tinted Solar Control Low-E Insulating Glass: 1" thick panels; 1/4" thick "deep cool-grey" low-reflective body-tinted float glass to exterior, 1/4" clear Low-E solar control glass to interior; Low-E shall be on the 3rd surface, with 1/2" space between glass panes by dessicant filled spacer and sealant device.

Pilkington SuperGrey / Energy Advantage:

Properties: Pilkington SuperGrey / Energy Advantage Low-E Glass

| | |
|--|---|
| Glazing: | Exterior |
| Type: | Insulated |
| Total Thickness: | 1" (24 mm) |
| Space Filler: | Dehydrated Air Space |
| Outboard Lite: | 1/4" SuperGrey Tinted Float Glass |
| Inboard Lite: | 1/4" Energy Advantage Low-E Glass, #3 Surface |
| Low-E Surface: | 3 rd Surface |
| Heat Strengthened: | Safety as required – see elevations |
| Tempered: | Safety as required – see elevations |
| Visible Light Transmittance (%): | LT 7% |
| Visible Lite Exterior Reflectance (%): | LRO 4% |
| Visible Lite Interior Reflectance (%): | LRi 13% |
| Total Solar Energy Direct Transmittance (%): | ET 5% |
| Total Solar Energy Reflectance (%): | ER 4% |
| U-V Transmittance (%): | UV 1% |
| Solar Heat Gain: | SHGC 0.15 |
| Shading Coefficient: | TSC 0.18 |

Acid-Etched Obscure Glass: For all window glass at toilet rooms, shower rooms, and locker rooms, provide 1" Solargray with Solarban Low-E on 2nd surface, with acid-etched obscure glass clear (no color) lite on 3rd surface.

Provide impact resistant glass throughout where required under Chapter 24, Section 2406, North Carolina State Building Code, 2006 Edition, Category I and II, CPSC 16CFR1201.

Interior Impact Resistant Glass: 1/4" laminated impact resistant, 2 layers clear tempered glass with sandwiched interlayer of .30 Cat II polyvinyl butyral (PVB).

Fire Rated Glass: Provide fire-rated impact resistant glass for protected openings as indicated, manufactured by Technical Glass Products. Conform to UL 10 C, UBC 7-2, and UBC 7-4, UL File No. R-19207, design U533. Frame tests to pass ASTM E-119, NFPA 251, UL 263, UL 9, UL 10C, UBC 7-2 and UBC 7-4.

Exterior Aluminum Entrance Doors: 1/4" "neutral tint" Low-E tempered plate glass, impact resistant as required.

Interior Doors: 1/4" clear tempered safety glass, provide impact resistant where indicated, and as required per applicable code standards.

Interior Windows: 1/4" clear tempered safety glass, provide impact resistant where indicated, and as required per applicable code standards.

SETTING BLOCKS AND SPACER SHIMS:

Fabricate blocks and shims from neoprene. Shape to required size and thickness. Material used for blocks and spacers must be compatible with type of compounds and sealants used and shall not cause staining or discoloration of sealant or frame.

Shore A durometer hardness of setting block and shim material shall be 70 to 90 points for setting blocks and 50 points for spacer shims, or as recommended by compound or sealant manufacturer.

METAL WINDOW PANELS

Metal window panels consist of metal skins laminated to stabilizer substrates with an insulating core material. Panels are designed to be glazed into a window system or curtain wall system.

Laminated metal faced insulated panels equivalent to "MapeShape" panel as manufactured by Mapes Industries, Inc., 1" total thickness, with formed edges for glazing into a 1" glazing pocket.

Exterior & Interior Finish:: Kynar factory paint finish on 0.032" smooth finished aluminum skin, color as selected by Architect from factory colors, minimum selection of 20.
Provide 25-year finish warranty. MATCH EXISTING

Insulation Core: 2.0 lb. density polystyrene
R-Value: R-6.0 per inch

GLAZING MATERIALS:

Sealant and Compound shall be Vulkem 116 by Master Mechanics Company, Maccolastic Acrylic Compound by Macco Division, Glidden Company, Betaseal 850 by Essex Chemical Company or approved equal.

Glazing Tape shall be butyl rubber sealant type partly vulcanized, self-adhesive, non-staining, elastomeric butyl rubber tape, complying with AAMA 800.

Bestaseal 650 Tape by Essex Chemical Company
Duraribbon 1070 by PPG Industries
176 Strucsureglaze by Protective Treatments Company

Compatibility: Where combination of sealing materials is required for glazing in same frame, manufacturer shall certify that all glazing materials furnished are compatible with each other and compatible with material used for setting blocks and spacer shims.

PART 3: EXECUTION

CONDITION OF SURFACES:

Preparation: Check all frames prior to glazing. Openings shall be square, plumb, and with uniform face and edge clearances. Maintain 1/8" minimum bed clearance between glass and frame on both sides.

Clean all surfaces to be glazed with xylol, a 50-50 mixture of acetone and xylol, or other solvents recommended by compound or sealant Manufacturer. Any defects affecting satisfactory installation of glass shall be corrected before starting of glazing.

Temperature: Do not apply any compound or sealant at temperatures lower than 40 degrees F.

INSTALLATION:

Workmanship: Apply glazing compound uniformly with accurately formed corners and bevels. Remove excess compound from glass and frame. Use only recommended thinners, cleaners and solvents. Do not cut or dilute glazing compound without approval from Architect. Make good contact with glass and frame when glazing and facing off.

Cleaning: Compound shall be removed from glass before it hardens. Remove any excess sealants from glass and adjoining surfaces during working time of material, within two to three hours.

Blocks and Spacers: Where setting blocks and spacer shims are required to be set into glazing compound or sealant, they may be butted with compound or sealant, placed in position, and allowed to set firmly prior to installation of glass.

Miscellaneous Interior Glazing: Unless otherwise indicated, all interior glass shall be channel glazed with glazing compound. Apply as follows:

Apply ample back compound to rabbet so that it will ooze out when glass is pressed into position and completely cover glass in rabbet. Press glass into position.

Secure glass in place by application of stop beads. Bed stop beads against glass and bottom of rabbet with compound, leaving proper thickness between glass and stop beads. Secure stop beads in place with suitable fastenings. Strip surplus compound from both sides of glass and tool at slight angle to provide clean sight lines.

Glazing Aluminum Entrances and Window Wall System:

Glass shall be set in accordance with aluminum entrances and window walls Manufacturer's shop drawings and instructions.

Install moldings level, plumb and square. Moldings at corners shall be accurately cut, neatly fitted, and joined as recommended by Storefront manufacturer.

REPLACEMENTS AND CLEANING:

Condition: At completion of work, all glass shall be free from cracks, sealant smears and other defects.

Protection/Replacement: Protect glass surfaces and edges during the construction period. Keep glass free from contamination by materials capable of staining glass. Any glass that is defective before acceptance, or within one year warranty period, as result of manufacturing, transporting, or performance of Contractor, shall be removed and replaced with new glass without cost to Owner.

END OF SECTION