

SINGLE-PLY ROOFING AND PARAPET MEMBRANE

PART ONE - GENERAL
1.1 RELATED DOCUMENTS SECTION 07460
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
1.2 SUMMARY
A. This Section includes the following:
1. Cementitious Siding

B. Related Sections include the following:
1. Division 6 Section "Rough Carpentry" for sheathing and air-insulation barrier.
2. Division 7 Section "Joint Sealants" for field-applied sealants.
1.3 SUBMITTALS
A. Product Data: For each type of product specified, include identification of materials; dimensions of individual components; installation instructions; and available profiles, textures, and colors.

B. Samples for Initial Selection: Manufacturer's sample finishes showing the full range of colors, profiles, and textures available.
C. Research/Evaluation Reports: Evidence of siding's compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.

1.4 QUALITY ASSURANCE
A. Installer Qualifications: Engage an experienced installer who has completed siding installations similar in material, design, and extent to that indicated for Project that has resulted in construction with a record of successful in-service performance.
B. Source Limitations for Siding and Accessories: Obtain each color, texture, pattern, and type of siding and related accessories from one source with resources to provide products of consistent quality in appearance and physical properties without delaying the Work.

1.5 DELIVERY, STORAGE, AND HANDLING
A. Deliver materials to Project site in manufacturer's unopened packages or bundles with labels intact.
B. Store materials in a dry, well-ventilated, weatherlight place. Comply with manufacturer's written instructions for storage, handling, and protection.

1.6 PROJECT CONDITIONS
A. Weather Limitations: Processed with siding installation only if existing and forecasted weather conditions permit siding to be installed according to manufacturer's written instructions and if substrate is completely dry.
1.7 WARRANTY
A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Document.
B. Special Project Warranty: Submit a written warranty executed by siding manufacturer, agreeing to repair or replace siding that fails in materials or workmanship within specified Warranty Period. Failures include, but are not limited to, cracking, delimiting, or otherwise deteriorating beyond normal weathering. Below is an example only. Revise warranty to period required and verify availability with warrantior.

1.8 WARRANTY PERIOD: 30 years from date of Substantial Completion.
1.9 EXTRA MATERIALS
A. Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with labels describing contents.
1. Furnish full lengths of siding in a quantity equal to 2% of amount installed.

PART TWO - PRODUCTS
2.1 MANUFACTURERS
A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Cementitious Siding
a. Jamesthards Technology LTD
2. SIDING
A. Cementitious Siding (VERIFY ZONE)
1. HARDIEPANEL VERTICAL SIDING 4'-0" X 8'-0", 4'-0" X 9'-0", 4'-0" X 10'-0" Smooth Panels
2. HARDIEPLANK LAPPED SIDING (6" EXPOSURE)
3. HARDIE TRIM - SIZE AS SHOWN ON ARCHITECTURE DRAWINGS
2.3 ACCESSORIES
A. Siding Accessories: Provide the following types of siding accessories as indicated and manufactured by FRY REGLET ARCHITECTURAL METALS 800-227-9773
1. SEE EXTERIOR ELEVATIONS FOR TRIM LOCATIONS
B. Fasteners: Hot Dipped Galvanized or Stainless steel in sufficient length to penetrate a minimum of 1 inch into substrate. Provide prefinished fasteners in color to match siding where face nailing is unavoidable.

2.4 COLORS AND TEXTURES
A. Where Manufacturer's standard products are indicated, provide siding and accessories complying with the following requirements:
1. Provide smooth texture HardiePanel siding compatible with Hardi Zone 10 (H210) installation requirements.
2. All aluminum trim accessories to be primed and ready for finish paint.
PART THREE - EXECUTION
3.1 EXAMINATION
A. Examine substrate for compliance with requirements for substrates, installation, tolerances, and other conditions affecting performance of siding. Do not proceed with installation until unsatisfactory conditions have been corrected.
3.2 PREPARATION
A. Clean substrates of projections and substances detrimental to application.
B. Coordinate installations with flashings and other adjacent construction.
3.3 INSTALLATION
A. General: Comply with siding manufacturer's written installation instructions applicable to products and applications indicated, unless more stringent requirements apply.
1. Position fasteners 3/8" from panel ends and no closer than 2" apart from corners and from each other.
2. Fastening must be provided horizontally and vertically.
3. HardiePanel vertical siding must be on stud.
4. The stud may be required to maintain minimum edge nailing distances.
5. Seal joints: Provide caulking at all horizontal joints.
6. Sealant finish grade must be 5/8" away from building in accordance with building code requirements.
7. HardiePanel must be installed over a mawler-resistive barrier which must be applied prior to installation and junction flashing in accordance with building code requirements.

3.4 ADJUSTING AND CLEANING
A. Remove and replacedamaged improperly installed or otherwise defective siding materials with new materials complying with specified requirements.
B. Clean finished surfaced according to siding manufacturer's written instructions and maintain in a clean condition during construction.
END OF SECTION 07460

SINGLE-PLY ROOFING AND PARAPET MEMBRANE
PART ONE - GENERAL
1.01 SCOPE SECTION 07500

A. The work of this section includes furnishing and installing single-ply membrane over roof insulation over wood roof deck of Restaurant building and single-ply membrane over plywood sheathing back surface of parapets (no insulation)
B. Wood nailers, plywood, and parapet sheathing shall be furnished and installed as part of Section 06100.
C. Wood equipment supports are furnished under Section 06100 and installed under this Section 07500.
1.02 SYSTEM:
DURO-LAST 40ML6, 60" TAB Mechanically attached Single Ply Membrane Roofing System as manufactured by DURO-LAST INC. 800 434 3876, in accordance with the Drawings, manufacturers detail drawings, instructions, materials descriptions, and other information stated herein.
A. ALTERNATE MANUFACTURERS:
FIBERTITE Jim Stone 864-421-5793. 36 MIL WHITE THERMOPLASTIC
B. Roofing System consists of membrane, fasteners, mastic, adhesives, pre-fabricated corner, parapet, stack, and vent sections, and other related, approved products necessary for the proper and warrantable installation of the System.
C. All components of the installed System shall be products of the membrane manufacturer or shall be approved in writing as acceptable by the membrane manufacturer prior to their use with the System.
D. Furnish and install roof insulation.

1.03 INSTALLER: The DURO-LAST Roofing System, insulation and parapet membrane shall be furnished and installed by an authorized DURO-LAST Dealer/Contractor.
1.04 SUBMITTALS: The authorized Dealer/Contractor shall submit shop drawings for ordering, manufacturing and final inspection of the Systems as required to obtain the specified warranty. Drawings shall include all information which may affect the suitability and installation of the System.
1.05 WARRANTY: Provide manufacturers 15 year Labor and Material Warranty (exclusive of insulation). Installation shall be in compliance with requirements for warranty compliance by an authorized manufacturer's representative per current inspection policies.
1.06 TEMPORARY POWER: Consistent sequencing is required. Provide portable generator or any other items required to achieve a constant supply of adequate power to be heat welding devices.
PART TWO - MATERIALS
2.01 MEMBRANE: 0.40in PVC polymer blend polyester roofing membrane, white in color. ASTM D-4434.
2.02 RIGID INSULATION: 2 layers 1 1/2" Rigid polycyanourate foam core with organic/inorganic facer sheets nominal thickness (including facer) as indicated on the Drawings AC Foam II as manufactured by ATLAS ENERGY PRODUCTS.
2.03 SEAMING: Heat-welded.
2.04 FASTENERS: DURO-LAST DURO-COATED FASTENERS #14 for Roofing and membrane fasteners.
DURO-LAST INSULATION PLATES: 3" round plastic stress plates
DURO-LAST POLYPLATES: 2" round plastic stress plates for membrane installation
DURO-LAST STAINLESS STEEL SCREWS: #12 x 1 1/4" for termination and trim fasteners

2.05 MASTIC ADHESIVES SEALANT/CAULK: Shall be furnished by the membrane manufacturer.
2.06 PENETRATION POCKET: Pre-molded unit filler and pourable sealer shall be furnished by membrane manufacturer.
2.07 OTHER SPECIALTIES: Factory pre-molded units as required to accomplish the Work shown.
2.08 PROTECTION PADS: 1/4 x 30 x 60 by DURO-LAST. Provide adhesive approved by DURO-LAST for PROTECTION Pads.
PART THREE - EXECUTION
3.01 EXECUTION: Delivery storage handling surface preparation and installation all materials shall be performed in accordance with manufacturer's written instructions.
3.02 DELIVERY: The complete Roofing System and related materials shall be delivered to the job site in manufacturer's original shipping units in containers. Containers shall be labeled with manufacturer's name, product name and identification. Materials managed in shipping handling and storage will not be used.
3.03 PREPARATION OF SURFACE: Examine all surfaces on which or against which this work is to be applied. Immediately correct any defects discovered which could be detrimental to the proper completion of this work. Have all surfaces clean and dry before starting installation.
3.04 WOOD NAILERS: Shall be fastened in such a manner that they resist 180 lbs/ft² of force per foot of nailer in any direction. Fasteners used to attach wood nailers shall be spaced no greater than 18 inches apart.
INSULATION INSTALLATION: Insulation products shall be neatly filled to the roof deck and its penetrations. No gap exceed 1/4 in width. Cover roof deck with insulation board secured to roof deck with DURO-LAST-approved roof insulation fasteners approved length spaced as shown on diagrams at right with nailer that is 5 in a 4x8' sheet keep insulation dry before drying and after installation. Lay only as much insulation as can be covered by finished roofing before stopping work for the day or before rain can occur.
3.06 MEMBRANE INSTALLATION: Complete installation of membrane including mechanical attachment and heat-welded seaming over roof and fully-adhered adhesive attachment to parapet surfaces shall be in accordance with DURO-LAST requirements and recommendations.

The pre-fabricated roof section is positioned on the deck to expose the first securing tab. The securing tab is mechanically-fastened to the deck with approved fasteners and stress distribution plates (See above). The roof section is then unrolled and playfied flat to remove any wrinkles exposing the second securing tab. This process is repeated until the entire roof section has been mechanically attached to the deck, including all securnent tabs and all edges. The next section of roofing membrane is then positioned to provide a minimum 6inch overlap the above above processes are repeated until the substrate is completely covered.
The edge of the 2" Poly-Plast must be installed even with the outside edge of the fastening tab.
Securement tabs must be spaced a maximum of 60inches with DURO-LAST Fasteners and Poly-Plates (see above) spaced 18" o.c. max.

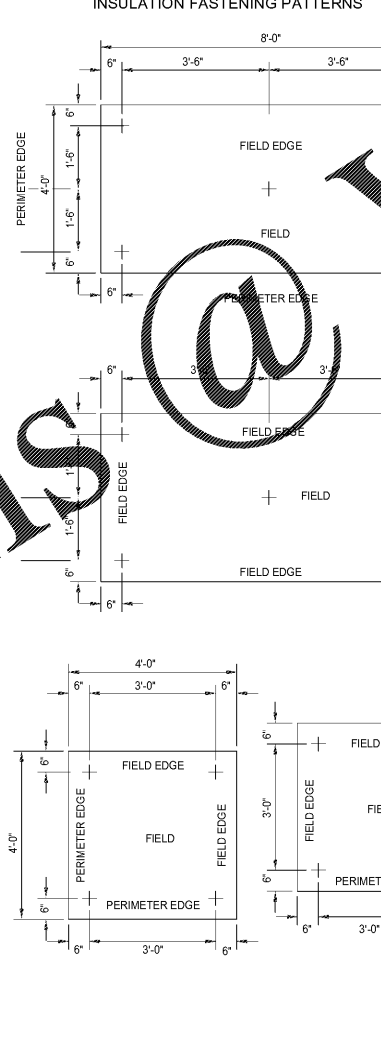
PERIMETER MEMBRANE INSTALLATION
The first tab on all perimeter roof sections parallel with the roof edge or parapet wall must be between 24-36 inches from the edge of the wall.
POSITION the membrane so as to allow an overlap of the top membrane onto the bottom membrane a minimum of 6inches. Ensure the welding area is clean and free of foreign material.
Weld the top membrane to the bottom membrane using a hand held welder or a automatic welding machine and silicone roller. A minimum 1 1/2" wide continuous weld is required.
All field welded seams should be inspected with a tack claw ans all deficiencies repaired.
3.09 PROTECTION PADS: Install protection pads in accordance with DURO-LAST requirements using DURO-LAST adhesives. Each pad shall be installed with beads of adhesive running same direction as roof slope. Space 2" from each pad edge and 8" on center between or as suggested by DURO-LAST.
3.10 WALKPADS: Install walk pads in accordance with DURO-LAST requirements using DURO-LAST adhesives. Each pad shall be installed with beads of adhesive running same direction as roof slope. Space 2" from each pad edge and 8" on center between or as suggested by DURO-LAST.
3.11 CLEAN-UP: After the Roofing System has been installed remove all foreign matter, rubbish and scrap material from the roof in accordance with manufacturers recommendations.
3.12 INSPECTION: The installation shall be inspected for compliance with warranty requirements by a representative of the DURO-LAST. The authorized DURO-LAST Dealer/Contractor shall accompany the inspection representative during the installation inspection.
3.13 REPAIR: Shall be performed in accordance with manufacturers recommendations and as required by manufacturer.

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3.13 REPAIR: Shall be performed in accordance with manufacturers recommendations and as required by manufacturer.

CAULKING AND SEALANTS SECTION 07900
PART ONE - GENERAL
1.01 SCOPE: The work of the Section includes all sealant and caulking, both interior and exterior, including sealing of joints between exterior wall panels, and between them and adjoining work, which is covered in Section 07410.
1.02 SUBMITTALS: Submit samples and color charts for color selection, in compliance with Section 01300.
PART TWO - MATERIALS
2.01 CAULKING: Interior - One-part acrylic Latex; Exterior - One-part silicone sealant; Dow Corning 790. Colors shall be selected to match that of adjacent work.
3.01 JOBS CONDITIONS: Apply materials only when the temperature of specified materials and the ambient air is at least 40°F. Use materials within the manufacturer's recommended shelf-life period; remove from the job any materials whose shelf-life has expired after being brought to the job, and replace with fresh material.
3.02 APPLICATION
A. Apply caulking in accordance with manufacturer's written instructions, using pure type caulking. Prime sides of joints before applying caulking if recommended by manufacturer. Width and depth of sealant in joints shall be minimum 3/8" in large joints, the depth of sealant shall be one half the width of the joint. If required, within the proper distance of the finished face, then fill joint with caulking material. Clean adjacent areas not to receive sealant and caulking, remove dirt, oil, grease and debris. Caulk joints in order from top to bottom, and in factually or replace surfaces with new materials. Use gun nozzles to fill joints. Finish joints neatly. Remove excess material. Leave joints clean.
B. Caulk joints between door and window- frames and adjoining work, of all joint between different materials, and elsewhere as shown or required to seal joints wind and watertight. Exercise care to seal all openings in exterior walls, windows, and insect light. C. Using specified sealant, seal between food service equipment and adjoining wall, bases, etc., as required to seal cracks or other openings, and around pipes, so to prevent access of vermin and accumulation of crumbs, grease or other foreign substances.

FINISH HARDWARE SECTION 08700
PART ONE GENERAL
1.01 WORK INCLUDED: Furnish all finish hardware and related items necessary to complete the work. Installation of finish hardware is covered under Section 06200.
1.02 SUBMITTALS
A. Comply with the provision of Section 01300.
B. Furnish hardware schedule for approval showing the number and location for each item, finish, keying, size, design, ect. Approval of the schedule shall not relieve General Contractor of the responsibility of furnishing all required finish hardware. Finish final draft or schedule after hardware submittals and coordination with other work has been completed.
C. Upon request, furnish samples of materials proposed for use in the work of this Section.
D. Furnish templates or physical samples for use by other trades, such as steel door and frame manufacturers.
1.03 PRODUCT HANDLING: Individually package each unit of finished hardware complete with proper fastenings and appearances, clearly identified with Architects mark.
1.04 GUARANTEE: Any hardware which proves to be defective or faulty within a period of one year shall be replaced at no cost to the Owner.
PART TWO - PRODUCTS
2.01 GENERAL
A. Furnish hardware in accordance with hardware schedule. Furnish each item of hardware from only one manufacturer.
B. Finishes of all hardware shall match the finish of the locksets, unless otherwise scheduled.
C. Furnish non-removable pins at outswinging exterior doors.
D. Closures: Size the closers in accordance with the manufacturer's written recommendations. Furnish sex bolts for closers to be mounted in particleboard or mineral core doors.
E. Door Silencers: furnish three silencers for each steel door frame.
F. Hand of Door: The drawings show the swing of each door leaf. Furnish each item of hardware for proper installation and operation of the Door swing as shown.
G. Fasteners: Furnish all necessary screws, bolts, and other fasteners of suitable size and type according to the material to which the hardware is to be applied and the recommendations of the hardware manufacturer. All fastenings shall harmonize with the hardware as to material and finish.
2.02 KEYING:
A. Key locks in doors individually. Furnish 2 keys per lock.
2.03 Hardware Schedule: see door schedule drawings
GLASS AND GLAZING SECTION 08800
1.3 PERFORMANCE REQUIREMENTS
A. General: Provide glazing systems capable of withstanding normal thermal movement and wind and impact loads (where applicable) without failure. Cover losses or glass breakage attributable to the following: defective manufacture, fabrication, and installation; failure of sealants or gaskets to remain watertight & airtight; deterioration of glazing materials; or other defects in construction.
B. Glass Design: Glass thickness designations indicated are minimums and are for detailing only. Confirm glass thicknesses by analyzing Project loads and in-service conditions. Provide glass lites in the thickness designations indicated for various size openings, but not less than thicknesses and in strengths (annealed or heat treated) required to meet or exceed the following criteria:
1. Glass Thicknesses: Select minimum glass thicknesses to comply with ASTM E 1300, according to the following requirements:
a. Specified Design Wind Loads: As indicated.
b. Probability of Breakage for Vertical Glazing: 8 lites per 1000 for lites set vertically or not more than 15 degrees off vertical and under wind action.
c. Maximum Lateral Deflection: For the following types of glass supported on all 4 edges, provide thickness required that limits center deflection at design wind pressure to 1/50 times the short side length or 1 inch, whichever is less.
1) For monolithic-glass lites heat treated to resist wind loads.
2) For insulating glass.
C. Thermal Movements: Provide glazing that allows for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures acting on glass framing members and glazing components. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.
D. Thermal and Optical Performance Properties: Provide glass with performance properties specified. Based on manufacturer's published test data, as determined by recording procedures indicated below.
1. For monolithic-glass lites, properties are based on units with lites 3/16" min thick.
2. For insulating-glass units, properties are based on units of thickness indicated for overall unit and for each lite.
3. Center-of-Glass Values: Based on using UFI 44789 WINDOW 5.0 software program for the following methodologies:
a. U-Factors: NFRC 100 expressed as Btu ft² h x deg F.
b. Solar Heat Gain Coefficient: NFRC 100.
c. Solar Optical Properties: NFRC 100.
4. Insulating Glass Coefficient of Thermal Expansion: NFRC 100.
PART 2 - PRODUCTS
2.1 GLASS PRODUCTS
A. Annealed Float Glass: ASTM C 106, Type 1 (trans. flat glass), Quality-Q3, of class indicated.
B. Heat-Treated Float Glass: ASTM C 106, Type 1 (transparent flat glass), Quality-Q3, of class indicated and condition indicated.
1. Fabricate glass using a tempering (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as required, unless otherwise indicated.
2. Provide Kind HS (heat-strengthened) float glass in place of annealed float glass where needed to resist thermal stresses induced by differential shading of individual glass lites and to comply with glass design requirements specified in Part 1 "Performance Requirements" Article.
3. Fabricated vision glass, comply with requirements for Condition A.
4. Fabricated vision glass, comply with requirements for Condition C (other uncoated glass).
5. Provide Kind FT (fully tempered) float glass in place of annealed or Kind HS (heat-strengthened) float glass where safety glass is indicated.
C. Sputter-Coated Float Glass: ASTM C 1376, float glass with metallic-oxide or -nitride coating deposited by vacuum deposition process after manufacture and heat-treatment (if any), and complying with other requirements specified for Condition A.
D. Insulating-Glass Units, 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 and with requirements specified in this Article and in Part 2 "Insulating-Glass Units" Article.
1. Provide Kind HS (heat-strengthened) float glass in place of annealed glass where needed to resist thermal stresses induced by differential shading of individual glass lites and to comply with glass design requirements specified in Part 1 "Performance Requirements" Article.
2. Provide Kind FT (fully tempered) glass lites where safety glass is indicated.
3. Overall Unit Thickness and Thickness of Each Lite: Dimensions indicated for insulating-glass units are nominal and the overall thickness of units are measured perpendicularly from outer surfaces of glass lites at units edge.
4. Sealing System: Dual seal, with primary and secondary sealants as follows:
a. Manufacturer's standard sealants.
5. Spacer Specifications: Manufacturer's standard spacer material and construction.
2.2 SOLAR CONTROL INSULATING COATED GLASS
A. Glass Types G1 and G2: Low-e-coated, clear insulating glass.
1. Description: SunGuard SX 6227 (#2) on 1/4" (6mm) Clear [1/2" (12mm) Air] 1/4" (6mm) Clear
2. Overall Unit Thickness: 1 inch(25 mm)
3. Outdoor Lite: Clear annealed float glass; heat-strengthened (HS) float glass; fully tempered (FT) float glass; Type G1 or G2 as indicated on Drawings for safety. ASTM C 1036, Type 1, Class 1, Quality Q3.
a. Thickness of Glass Lite: 6.0 mm.
b. Low-E Coating: Vacuum Deposition Sputtered Coating on second surface. ASTM C 1376.
c. Basis of Design: Guardian SunGuard SuperNeutral 6227.
4. Interspace Content: [Air] 1/2" (12mm) wide, hermetically sealed, dehydrated space.
5. Indoor Lite: Clear annealed float glass; heat-strengthened (HS) float glass where required by performance requirements; fully tempered (FT) float glass at Glass Type G2 for safety where indicated on Drawings. ASTM C 1036, Type 1, Class 1, Quality Q3.
a. Thickness of Glass Lite: 6.0 mm.
6. Glass Unit Performance Characteristics:
a. Visible Light Transmittance (%): 62
b. Visible Light Reflection Coefficient (%): 11
c. U-Value Nighttime: 0.29
d. Solar Heat Gain Coefficient (SHGC): 0.27
e. Light to Solar Gain (LSG): 2.31
7. Edge Seals: ASTM E 773, w/ alum. spacers & silicone sealant for glass-to-spacer seals.
8. Sealant: Approved by glass manufacturer.
9. Provide labeling where safety glazing labeling is required.
PART 3 - EXECUTION
3.1 EXAMINATION
A. Examine framing glazing, with installer present, for compliance with the following:
1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at corners.
2. Presence and functioning of weep system.
3. Minimum required face or edge clearances.
4. Effective sealing between joints of glass-framing members.
B. Proceed with installation only after unsatisfactory conditions have been corrected.
3.2 PREPARATION
A. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings not firmly bonded to substrates.
3.3 GLAZING, GENERAL
A. 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.
B. 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.
C. 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.
D. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction sealant-substrate testing.
E. 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 level bed.
F. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.
G. Provide spacers for glass lites where length plus width is larger than 50 inches as follows:
1. Locate spacers directly opposite each other on both inside and outside faces of lites. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.
2. Provide 1/8-inch minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.
H. 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.
I. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.
3.4 TAPE GLAZING
A. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above sightline of stops.
B. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.
C. Cover vertical framing joints by applying tapes to heads and sills first and then to jambs. Cover horizontal framing joints by applying tapes to jambs and then to heads and sills.
D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.
E. Do not remove release paper from tape until just before each glazing unit is installed.
F. Center glass lites in openings on setting blocks and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket application at corners and work toward centers of openings.
G. Apply cap bead of elastomeric sealant over exposed edge of tape.
END OF SECTION 08 80 00

INSULATION FASTENING PATTERNS



FLASHING AND SHEET METAL SECTION 07600

3.14 WARRANTY: Provide manufacturers 10 year Labor and material warranty.
PART ONE - GENERAL
1.01 SCOPE: The work of this Section includes all sheet metal and flashing work. Ductwork and sheet metal work in connection with air-conditioning and ventilation are covered in Division 15.
1.02 SMACNA Manual: Architectural Sheet Metal Manual issued by Sheet Metal and Air Conditioning Contractors National Association.
PART TWO - MATERIALS
2.01 FLASHING AND SHEET METAL FOR RESTAURANT BUILDING:
A. PREFINISHED ALUMINUM: .04" aluminum with Kynar finish white to match E.I.F.S. 22 ga Galv. metal to be Painted MC-1 at Radiused Coping and .04 clear anodized aluminum where detailed, at windows and doors. Color to match storefront.
B. FABRICATION: Fabricate flashing as anodized .04 alum. Conductor heads and downspouts as detailed or .04 kynar finish aluminum. Fabricate downspout hangers of .04 kynar finish aluminum. Install near top and near bottom as indicated on drawings using appropriate the anchors. Carefully coordinate locations of hanger so that hangers are in alignment horizontally. Scuppers to be a coated metal by the roofing manufacturer.
C. MISCELLANEOUS HARDWARE AND FASTENERS: Suitable type and size as recommended by SW/NC MANUF. For exposed fastenings use stainless steel or hot-dip galvanized steel self-tapping screws with neoprene washers.
PART THREE - EXECUTION
3.01 GENERAL: Examine all surfaces to be covered by sheet metal; do not commence work until defective surfaces are corrected. All workmanship shall conform to best standards of practice. Accurately form metal to sizes, slopes and dimensions indicated and detailed with all angles and lines in alignment. Erect all work straight, sharp, plumb and level and in proper plane without bulges or waves. Fabricate all items in maximum lengths and hold joints to a minimum. Exercise extreme care when making laps in continuous members to tightly and permanently seal or solder so that water cannot leak through the joints. Provide adequately overlapped and sealed, or mechanically forced expansion joints where required to prevent undue stress on sheet metal members due to expansion and contraction.
3.02 APPLICATION:
A. Wall Coping and at side windows, .040" clear anodized aluminum finish to match storefront.
B. Drip Strip at window heads: Anodized aluminum finish to match framing.
3.03 CAULKING: As specified in Section 07900, and as recommended by manufacturer's specifications and written instructions.
3.04 FASTENERS: Use only hard aluminum or non-magnetic stainless steel screws and bolts.
PART THREE - EXECUTION
3.01 GENERAL: Erect all work plumb, true, square in openings, and securely attach in place. Protect aluminum surfaces from contact with steel or masonry with two coats of zinc chromate paint.
3.02 FRAMING INSTALLATION: Install window framing as indicated on the Drawings. Bed on polysulfide caulking bead, and securely attach to wood sub-frames.
3.03 DRIVE-UP WINDOW INSTALLATION: Install in accordance with manufacturer's specifications and written instructions. Bed sealant in sealant here required to provide a weatherproof installation.
FINISH HARDWARE SECTION 08700
PART ONE GENERAL
1.01 WORK INCLUDED: Furnish all finish hardware and related items necessary to complete the work. Installation of finish hardware is covered under Section 06200.
1.02 SUBMITTALS
A. Comply with the provision of Section 01300.
B. Furnish hardware schedule for approval showing the number and location for each item, finish, keying, size, design, ect. Approval of the schedule shall not relieve General Contractor of the responsibility of furnishing all required finish hardware. Finish final draft or schedule after hardware submittals and coordination with other work has been completed.
C. Upon request, furnish samples of materials proposed for use in the work of this Section.
D. Furnish templates or physical samples for use by other trades, such as steel door and frame manufacturers.
1.03 PRODUCT HANDLING: Individually package each unit of finished hardware complete with proper fastenings and appearances, clearly identified with Architects mark.
1.04 GUARANTEE: Any hardware which proves to be defective or faulty within a period of one year shall be replaced at no cost to the Owner.
PART TWO - PRODUCTS
2.01 GENERAL
A. Furnish hardware in accordance with hardware schedule. Furnish each item of hardware from only one manufacturer.
B. Finishes of all hardware shall match the finish of the locksets, unless otherwise scheduled.
C. Furnish non-removable pins at outswinging exterior doors.
D. Closures: Size the closers in accordance with the manufacturer's written recommendations. Furnish sex bolts for closers to be mounted in particleboard or mineral core doors.
E. Door Silencers: furnish three silencers for each steel door frame.
F. Hand of Door: The drawings show the swing of each door leaf. Furnish each item of hardware for proper installation and operation of the Door swing as shown.
G. Fasteners: Furnish all necessary screws, bolts, and other fasteners of suitable size and type according to the material to which the hardware is to be applied and the recommendations of the hardware manufacturer. All fastenings shall harmonize with the hardware as to material and finish.
2.02 KEYING:
A. Key locks in doors individually. Furnish 2 keys per lock.
2.03 Hardware Schedule: see door schedule drawings
GLASS AND GLAZING SECTION 08800
1.3 PERFORMANCE REQUIREMENTS
A. General: Provide glazing systems capable of withstanding normal thermal movement and wind and impact loads (where applicable) without failure. Cover losses or glass breakage attributable to the following: defective manufacture, fabrication, and installation; failure of sealants or gaskets to remain watertight & airtight; deterioration of glazing materials; or other defects in construction.
B. Glass Design: Glass thickness designations indicated are minimums and are for detailing only. Confirm glass thicknesses by analyzing Project loads and in-service conditions. Provide glass lites in the thickness designations indicated for various size openings, but not less than thicknesses and in strengths (annealed or heat treated) required to meet or exceed the following criteria:
1. Glass Thicknesses: Select minimum glass thicknesses to comply with ASTM E 1300, according to the following requirements:
a. Specified Design Wind Loads: As indicated.
b. Probability of Breakage for Vertical Glazing: 8 lites per 1000 for lites set vertically or not more than 15 degrees off vertical and under wind action.
c. Maximum Lateral Deflection: For the following types of glass supported on all 4 edges, provide thickness required that limits center deflection at design wind pressure to 1/50 times the short side length or 1 inch, whichever is less.
1) For monolithic-glass lites heat treated to resist wind loads.
2) For insulating glass.
C. Thermal Movements: Provide glazing that allows for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures acting on glass framing members and glazing components. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.
D. Thermal and Optical Performance Properties: Provide glass with performance properties specified. Based on manufacturer's published test data, as determined by recording procedures indicated below.
1. For monolithic-glass lites, properties are based on units with lites 3/16" min thick.
2. For insulating-glass units, properties are based on units of thickness indicated for overall unit and for each lite.
3. Center-of-Glass Values: Based on using UFI 44789 WINDOW 5.0 software program for the following methodologies:
a. U-Factors: NFRC 100 expressed as Btu ft² h x deg F.
b. Solar Heat Gain Coefficient: NFRC 100.
c. Solar Optical Properties: NFRC 100.
4. Insulating Glass Coefficient of Thermal Expansion: NFRC 100.
PART 2 - PRODUCTS
2.1 GLASS PRODUCTS
A. Annealed Float Glass: ASTM C 106, Type 1 (trans. flat glass), Quality-Q3, of class indicated.
B. Heat-Treated Float Glass: ASTM C 106, Type 1 (transparent flat glass), Quality-Q3, of class indicated and condition indicated.
1. Fabricate glass using a tempering (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as required, unless otherwise indicated.
2. Provide Kind HS (heat-strengthened) float glass in place of annealed float glass where needed to resist thermal stresses induced by differential shading of individual glass lites and to comply with glass design requirements specified in Part 1 "Performance Requirements" Article.
3. Fabricated vision glass, comply with requirements for Condition A.
4. Fabricated vision glass, comply with requirements for Condition C (other uncoated glass).
5. Provide Kind FT (fully tempered) float glass in place of annealed or Kind HS (heat-strengthened) float glass where safety glass is indicated.
C. Sputter-Coated Float Glass: ASTM C 1376, float glass with metallic-oxide or -nitride coating deposited by vacuum deposition process after manufacture and heat-treatment (if any), and complying with other requirements specified for Condition A.
D. Insulating-Glass Units, 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 and with requirements specified in this Article and in Part 2 "Insulating-Glass Units" Article.
1. Provide Kind HS (heat-strengthened) float glass in place of annealed glass where needed to resist thermal stresses induced by differential shading of individual glass lites and to comply with glass design requirements specified in Part 1 "Performance Requirements" Article.
2. Provide Kind FT (fully tempered) glass lites where safety glass is indicated.
3. Overall Unit Thickness and Thickness of Each Lite: Dimensions indicated for insulating-glass units are nominal and the overall thickness of units are measured perpendicularly from outer surfaces of glass lites at units edge.
4. Sealing System: Dual seal, with primary and secondary sealants as follows:
a. Manufacturer's standard sealants.
5. Spacer Specifications: Manufacturer's standard spacer material and construction.
2.2 SOLAR CONTROL INSULATING COATED GLASS
A. Glass Types G1 and G2: Low-e-coated, clear insulating glass.
1. Description: SunGuard SX 6227 (#2) on 1/4" (6mm) Clear [1/2" (12mm) Air] 1/4" (6mm) Clear
2. Overall Unit Thickness: 1 inch(25 mm)
3. Outdoor Lite: Clear annealed float glass; heat-strengthened (HS) float glass; fully tempered (FT) float glass; Type G1 or G2 as indicated on Drawings for safety. ASTM C 1036, Type 1, Class 1, Quality Q3.
a. Thickness of Glass Lite: 6.0 mm.
b. Low-E Coating: Vacuum Deposition Sputtered Coating on second surface. ASTM C 1376.
c. Basis of Design: Guardian SunGuard SuperNeutral 6227.
4. Interspace Content: [Air] 1/2" (12mm) wide, hermetically sealed, dehydrated space.
5. Indoor Lite: Clear annealed float glass; heat-strengthened (HS) float glass where required by performance requirements; fully tempered (FT) float glass at Glass Type G2 for safety where indicated on Drawings. ASTM C 1036, Type 1, Class 1, Quality Q3.
a. Thickness of Glass Lite: 6.0 mm.
6. Glass Unit Performance Characteristics:
a. Visible Light Transmittance (%): 62
b. Visible Light Reflection Coefficient (%): 11
c. U-Value Nighttime: 0.29
d. Solar Heat Gain Coefficient (SHGC): 0.27
e. Light to Solar Gain (LSG): 2.31
7. Edge Seals: ASTM E 773, w/ alum. spacers & silicone sealant for glass-to-spacer seals.
8. Sealant: Approved by glass manufacturer.
9. Provide labeling where safety glazing labeling is required.
PART 3 - EXECUTION
3.1 EXAMINATION
A. Examine framing glazing, with installer present, for compliance with the following:
1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at corners.
2. Presence and functioning of weep system.
3. Minimum required face or edge clearances.
4. Effective sealing between joints of glass-framing members.
B. Proceed with installation only after unsatisfactory conditions have been corrected.
3.2 PREPARATION
A. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings not firmly bonded to substrates.
3.3 GLAZING, GENERAL
A. 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.
B. 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.
C. 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.
D. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction sealant-substrate testing.
E. 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 level bed.
F. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.
G. Provide spacers for glass lites where length plus width is larger than 50 inches as follows:
1. Locate spacers directly opposite each other on both inside and outside faces of lites. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.
2. Provide 1/8-inch minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.
H. 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.
I. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.
3.4 TAPE GLAZING
A. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above sightline of stops.
B. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.
C. Cover vertical framing joints by applying tapes to heads and sills first and then to jambs. Cover horizontal framing joints by applying tapes to jambs and then to heads and sills.
D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.
E. Do not remove release paper from tape until just before each glazing unit is installed.
F. Center glass lites in openings on setting blocks and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket application at corners and work toward centers of openings.
G. Apply cap bead of elastomeric sealant over exposed edge of tape.
END OF SECTION 08 80 00

FLASHING AND SHEET METAL SECTION 07600
3.14 WARRANTY: Provide manufacturers 10 year Labor and material warranty.
PART ONE - GENERAL
1.01 SCOPE: The work of this Section includes all sheet metal and flashing work. Ductwork and sheet metal work in connection with air-conditioning and ventilation are covered in Division 15.
1.02 SMACNA Manual: Architectural Sheet Metal Manual issued by Sheet Metal and Air Conditioning Contractors National Association.
PART TWO - MATERIALS
2.01 FLASHING AND SHEET METAL FOR RESTAURANT BUILDING:
A. PREFINISHED ALUMINUM: .04" aluminum with Kynar finish white to match E.I.F.S. 22 ga Galv. metal to be Painted MC-1 at Radiused Coping and .04 clear anodized aluminum where detailed, at windows and doors. Color to match storefront.
B. FABRICATION: Fabricate flashing as anodized .04 alum. Conductor heads and downspouts as detailed or .04 kynar finish aluminum. Fabricate downspout hangers of .04 kynar finish aluminum. Install near top and near bottom as indicated on drawings using appropriate the anchors. Carefully coordinate locations of hanger so that hangers are in alignment horizontally. Scuppers to be a coated metal by the roofing manufacturer.
C. MISCELLANEOUS HARDWARE AND FASTENERS: Suitable type and size as recommended by SW/NC MANUF. For exposed fastenings use stainless steel or hot-dip galvanized steel self-tapping screws with neoprene washers.
PART THREE - EXECUTION
3.01 GENERAL: Examine all surfaces to be covered by sheet metal; do not commence work until defective surfaces are corrected. All workmanship shall conform to best standards of practice. Accurately form metal to sizes, slopes and dimensions indicated and detailed with all angles and lines in alignment. Erect all work straight, sharp, plumb and level and in proper plane without bulges or waves. Fabricate all items in maximum lengths and hold joints to a minimum. Exercise extreme care when making laps in continuous members to tightly and permanently seal or solder so that water cannot leak through the joints. Provide adequately overlapped and sealed, or mechanically forced expansion joints where required to prevent undue stress on sheet metal members due to expansion and contraction.
3.02 APPLICATION:
A. Wall Coping and at side windows, .040" clear anodized aluminum