

SECTION 06620 - SOLID NON-POROUS SHEET AND SHAPE PRODUCTS

- 1. Section Includes: Washroom vanity countertops.
2. Reference Publications and Standards:
a. American Society of Testing Materials (ASTM): ASTM E84
b. Underwriter's Laboratories (UL)
3. Engineering Design: Design items with sufficient strength to handle stresses.
4. Warranty: Provide manufacturer's standard ten-year warranty against manufacturing defects.
5. Coordination: Contractor is responsible for dimensions, detailing, fabrication, fitting, and alignment of work of this section.
6. Manufacturer: The Drawings were prepared and this Specification written on the basis of using the products of various manufacturers. It is not the intent to limit competitive bidding. Products with equal characteristics by other manufacturers are acceptable under the conditions of these Specifications.
7. Materials:
a. Sheet Products (vanity countertops): Manufacturer noted on finish schedule in drawings; 3/8 inch thick sheets, continuous length with bull-nose edge with integral back and side splash, and 3/4 inch exterior grade APA Fir plywood backing.
b. Patterns and Colors: As noted on finish schedule in drawings.
8. Inspections and Conditions: Verify that substrate is ready to receive work and dimensions are as indicated on the Drawings prior to fabrication. Beginning of fabrication means dimensions have been verified and acceptance of substrates.
9. Installation: Install fabrications in accord with accepted shop drawings and manufacturer's instructions.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

SECTION 07210 - BUILDING INSULATION

- 1. Batt Insulation: Pre-formed glass fiber batt blankets with foil face membrane covering; per ASTM C665, Type III; densities of not less than 0.5 lb. per cu. ft. for glass fiber units, K-value of 0.27; flame spread of 50 or less, ASTM E84 (Class A), 6" (R-19) at walls and 10" (R-30) at roof, unless otherwise noted.
a. Certainted Corp.
b. Schuller International
c. Owens-Corning Fiberglass Corp.
d. United States Gypsum Co.
e. Knaf Fiberglass
2. Perimeter Insulation: Rigid, cellular thermal insulation with closed-cells and integral high density skin, formed by the expansion of polyethylene base resin in an extrusion process to comply with ASTM C578 for type indicated; with 5-year aged R-values of 5.4 and 5 at 40 and 75 deg. F (4.4 and 23.9 deg. C.) respectively, 1" thickness unless otherwise noted.

- a. Dow Chemical Co. - Styrofoam SM
b. Owens-Corning - Foamular 250
c. Diversiferm Products - Certifoam SE
d. Amoco Foam Products - Amofoam CM

- 3. Sound attenuation insulation: USG 'SAFB', 2.5 pound/cu. ft. density, 3-1/2 inches thick, no substitution.
4. Installation accessories and adhesives shall be as recommended by insulation manufacturer for type of application and condition of substrate.
5. Install batt insulation in accordance with manufacturer's instructions.
6. Place batt insulation in partitions tight within spaces, around cut openings, behind and around electrical and mechanical items within or behind partitions and tight to items passing through partitions.
b. Trim insulation neatly to fit spaces. Fill gaps or voids with insulation.
c. Install insulation with factory applied membrane facing warm side of building spaces.
7. Secure rigid insulation to substrate surfaces. Stagger joints 6" where multi-layered. Cut and shape to sub state conditions.

SECTION 07240 - EXTERIOR INSULATION AND FINISH SYSTEMS

- 1. Section includes Exterior Insulation and Finish System applied over exterior sheathing.
2. References
a. ASTM C578: Rigid Cellular Polystyrene Thermal Insulation.
b. UL723: Test for Surface Burning Characteristics of Building Materials.
3. System Description: EIMA Class PB System
4. Conform to applicable code of system fire resistance and flame/smoke ratings for finish system.
5. Finish Materials
a. Insulation: Extruded polystyrene insulation board shall meet ASTM C578, Type VI, and Federal Specifications #HH-1-524-B, Type I, Class A, with a flame spread of less than 25 according to Underwriters Laboratory Test Method UL-723. Polystyrene board shall have a density of 1.0 lbs. Per cu. Ft. and a K value equal to 0.23 per inch. Thickness shall be as shown on drawings, but not less than 1 1/2 inch at main field. In addition, all insulation board shall be aged (air dried) for a period of six weeks before use. Insulation board shall be square to within 1/32" per ft., with a thickness tolerance of +1/16".
b. Primer / Adhesive / Joint Tape: As recommended by manufacturer to completely bond EPS foam board to substrate system and provide moisture resistant membrane.
c. Portland Cement: ASTM C-150, Type I
d. Reinforcing Fabric: Manufacturer's standard, balanced open weave glass fiber fabric made from twisted multi-end strands, specifically treated for compatibility with finish materials.
e. High Impact Reinforcing: Manufacturer's standard, heavy duty glass fiber reinforcing mesh.
f. Finish: EIMA Class PB, 100 percent, acrylic based coating, integral color as selected by Owner.

- 6. Substrate Protection:
a. Protect exterior gypsum board, plywood, and other "moisture-sensitive" substrate materials from exposure to adverse weather; replace all substrate materials evidencing adverse effects of weathering.
b. Protect unfinished areas of installed EPS from exposure to adverse weather; ensure that no water is allowed ingress or trapped behind or within the EPS.

- 7. Finish Application:
a. Install all materials in complete accord with system manufacturer's printed specifications and/or recommendations.
b. Trowel apply joint taping and moisture resistant membrane to exterior sheathing surface.
c. Insulation: Apply insulating board to backing surface by full 1/8 inch beads of adhesive run vertically to achieve full bond. Insulation shall be applied in large pieces possible, run horizontally per manufacturer's design standards.
d. High Impact Reinforcing Fabric: Embed high impact reinforcing fabric in 1/8 inch bed coat of adhesive fully, so mesh pattern is concealed. Apply high impact fabric throughout work to all areas below 6'-0".
e. Reinforcing Fabric: Wait a minimum of 24 hours after completing high impact fabric, then embed reinforcing fabric in a bedding coat of adhesive applied to all insulation board and over previously installed high impact reinforcing fabric. Apply adhesive thick enough to ensure no fabric is exposed.
f. Finish Coating: Apply the finish coating over reinforcing fabric. Finish shall be troweled light and floated to approved finish.

SECTION 07533 - THERMOPLASTIC SHEET ROOFING MEMBRANE

- 1. Section Includes:
a. Thermoplastic sheet roofing and formed flashings
b. Walkway pad
c. Roof Insulation
d. Inspection
e. Warranty
2. Related Work:
a. Wood and plywood noilers
b. Metal flashings

- 3. Quality Assurance
a. Qualifications:
1. Manufacturer: Duro-Last Roofing Company.
2. Applicator: Company specializing in installation of sheet roof membranes with three years documented experience.
b. Approval of Application: Approved, in writing, by roofing system manufacturer.
4. Shop Drawings: Submit per SUBMITTALS Section; show special joint or termination conditions and conditions of interface with other materials. Include outline of roof and roof size with location and type(s) of penetrations. Architect's/Owner's acceptance is required prior to start of fabrication and/or shipment.
5. Pre-Installation Conference: Convene a pre-installation conference one week prior to commencing work of this Section. Require attendance of parties directly affecting work of this Section. Review conditions of installation, installation procedures, and coordination required with related work.
6. Coordination:
a. Roof Insulation: Roofing subcontractor is responsible for coordination of proper installation, compatibility, and timing of installation of roof insulation.
b. Flashing and Roof Sheet Metal: Flashing and sheet metal work in conjunction with roofing, specified in FLASHING AND SHEET METAL, shall be installed by roofing subcontractor or by a subcontractor approved in writing or employed by him. In the latter case, roofing subcontractor is responsible for adequate and expeditious performance of sheet metal work and for coordinating its installation with roofing work and other subcontractors.

- 7. Warranty: Manufacturer's standard written 15 year limited warranty.
8. Guarantee: Contractor and roofing subcontractor jointly and unconditionally guarantee thermoplastic sheet roofing for a period of two years from date of substantial completion, against defective materials and workmanship, and against leaks (except leaks caused by abuse, lightning, hurricane, tornado, hail storm, and other unusual climatic phenomena of the elements). During the guarantee period, Contractor and roofing subcontractor jointly agree that within 24 hours of receipt of notice from Owner, defects in roofing, within the meaning of the guarantee, will be immediately repaired and within 10 working days after receipt of notice from Owner, defective roofing will be restored to standard of original specifications without cost to Owner, including labor, materials and other costs incidental to the work.
9. The Drawings were prepared and this Specification written on the basis of using the products of DURO\_LAST Roofing, Inc., Saginaw, Michigan. It is not the intent to limit competitive bidding. Products with equal characteristics by other manufacturers are acceptable under the conditions of these Specifications.
10. Materials
a. Membrane: High tenacity, low shrink white polyester fabric, coated with "Thermoplastic Alloy"; 4.2 oz/sf, resistant to ultra-violet rays and micro-organisms and non\_wicking.
b. Accessories: Manufacturer's standard stock covers, inside and outside corners, parapet wall covers, air vents, clamps, etc.
c. Walkway Pads: Manufacturer's standard "Roof Trak II" pads, 30 inches by 5 feet, color: Tan.
d. Fasteners and Stress Distribution Plates: As specified by manufacturer for substrate shown and/or specified.
e. Caulk: W626
f. Roofing Insulation
1. Two layers of 1 1/2 inch thick "USlo Energaryguard" roof insulation, glass fiber reinforced polyisocyanurate foam roof insulation (R-20), by U. S. Intec, Inc., Port Arthur, Texas. Run second layer perpendicular to first. Provide tapered insulation to form crickets and counter slopes to drains as noted on drawings.
2. Fabricate tapered insulation with slope of 1/4 inch per 12 inches (1:48), unless otherwise indicated.

- 11. Performance: Finally installed roofing system shall be U.L. Class A and meets local codes per Duro-Last specifications manual.
12. Delivery and Storage: Deliver materials in original, unopened containers, labeled with manufacturer's name, brand name, and such identifying numbers as are appropriate. Store in weather protected environment clear of ground and moisture.
13. Inspection: Verify substrate is clean and smooth, free of depressions, open joints, waves or projections, properly sloped to drains, valleys, or eaves. Verify roof openings and penetrating elements through roof are solidly set, cant strips are in place and deck is supported and secured. Verify deck surfaces are dry and free of snow or ice. Confirm form deck by moisture meter with 12 percent moisture maximum. Do not apply roofing materials to damp, frozen, dirty, dusty, or deck surfaces unacceptable to manufacturer. Beginning installation means acceptance of substrate.

- 14. Preparation: Clean substrate and repair defects in surface to receive roofing in accord with manufacturer's instructions.
15. Installation: Install complete roofing system membrane, insulation, accessories, and fastening devices, including related sealing, bonding and sealing in accord with manufacturer's instructions.
16. Quality Control: Upon completion of installation, roofing manufacturer inspect work of this Section to ascertain roofing system has been installed according to instructions and to certify in writing that roofing, as installed, is acceptable for warranty.
17. Protection: Protect completed work in accord with manufacturer's instructions and recommendations.

SECTION 07550 - METAL ROOFING

- 1. Peterson Aluminum Corporation, Snap-Clad Panels: (OR APPROVED EQUAL)
a. 1) Profile: Standing seam pan with seam legs at longitudinal panel edges.
2) Size: 18" (330 mm) cover width, lengths indicated on drawings.
3) Material: Galvalume steel sheet conforming to ASTM A792, AZ55 coating, 24 gauge sheet thickness.
4) Finish: Polyvinylidene fluoride color coat, minimum 70% polyvinylidene fluoride resin content, applied to sight-exposed face of sheet after pretreatment and priming in accordance with coating manufacturer's recommendations.
5) Color: As noted on Drawings
6) Battens: Manufacturer's standard steel metal battens to match panel material and gauge, break-formed to 1/2" (38 mm) webs by 1" (25 mm) deep channel profile for snap-on fastening at panel intersections. Color: As noted on Drawings.
7) Trim: Trim shall be fabricated of the same material and finish to match the profile, and will be press braked by means of a roll forming machine. Trim shall be formed only by the manufacturer of approved dealer firm to be erected in overlapped condition. Use top strips only as indicated on drawings. Miter conditions shall be factory welded materials to match the sheathing.
8) Closures: Use composition metal profiled closures at the top of each elevation to enclose the panels. Metal closures to be made in the same material and finish as the sheet.
9) Fasteners: Fasteners shall be of type, material, size, corrosion resistance, holding power and other properties required to fasten miscellaneous framing members to substrate.
10) Deployment: W.R. Grace Company, Ice and Water Shield.

- 2. Fluoropolymer 500 Fluorocarbon coating with a top side film thickness of 0.70 to 0.90 mil over a 0.25 to 0.3 mil prime coat to provide a total dry film thickness of 0.95 to 1.25 mil, to meet AIAA 521. Bottom side shall be coated with a primer with a dry film thickness of 0.25 mil. Finish shall conform to all tests for adhesions, flexibility and longevity as specified by Kynar 500 finish supplier.
3. Installation:
a. General: The manufacturer's recommended methods of installation shall be the basis for inspection and accepting or rejecting actual installation procedures used on the work.
b. Anchor all panels according to manufacturer's details. Use full length panels with no horizontal lap joints. Apply butyl caulk for vapor seal on top and bottom panel support.
c. Damaged, dented or scratched panels will not be accepted.
d. All panels shall be formed in continuous lengths without seams.

SECTION 07620 - FLASHING AND SHEET METAL

- 1. Zinc-Coated Steel: Commercial quality with 0.20 percent copper, ASTM A526, except ASTM A527 for lock-forming, G90 hot-dip galvanized, mill phosphatized for painting.
2. Gauges: Gauges are based on galvanized sheet metal. Where other material is used, use equivalent weights in tables in Sheet Metal Manual. Based upon galvanized sheet metal, the following are minimum weights for work specified herein:
Item Quantity
Hook Strips 22
Joint Covers 22
Cap Flashing 22
Special Flashing 24
Flitch Pins 24
Window Sill Flashing 22
Scuppers 24

- 3. Solder: For use with steel, provide 50-50 tin/lead solder, ASTM B52 with rosin flux.
4. Fasteners: Some metal as flashing/sheet metal with other noncorrosive metal as recommended by sheet manufacturer. Match finish of exposed heads with material being fastened.
5. Bituminous Coating: SSPC-Paint 12, solvent type bituminous mastic, nominally free of sulfur, compounded for 15-mil. dry film thickness per coat.
6. Roofing Cement: ASTM D4586, asphaltic.
7. General Metal Fabrication: Shop-fabricate work to greatest extent possible. Comply with details shown, and with applicable requirements of SMACNA 'Architectural Sheet Metal Manual' and other recognized industry practices. Fabricate for waterproof and weather resistant performance, with expansion provisions for running work, sufficient to permanently prevent leakage, damage, or deterioration of the work. Form work to fit substrates. Comply with material manufacturer instructions and recommendations for forming material. Form exposed sheet metal work without excessive oil-canning, buckling, and tool marks, true to line and levels indicated, with exposed edges folded back to form hems.
a. Fabricate non-moving seams in sheet metal with flat-lock seams. For metal other than aluminum, trim sides to be seamed, form seams and solder. Form aluminum seams with epoxy seam sealer; rivet joints for additional strength where required.
b. Where lapped or bayonet-type expansion provisions in inter-meshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).
c. Where movable, non-expansion type joints are indicated or required for proper performance of work, form metal to provide for proper installation of elastomeric sealant, in compliance with SMACNA standards.

- 8. Comply with installation instructions and recommendations of SMACNA 'Architectural Sheet Metal Manual'. Anchor units of work securely in place, providing for thermal expansion of metal units; concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams which will be permanently watertight and weathertight.
9. Clean exposed metal surface, removing substances which might cause corrosion of metal or deterioration of finishes.
10. Elastomeric Flashing: Non-reinforced, homogenous, extruded elastomeric sheet flashing .02 inch thick; one of the following:
a. Nevrstall Seal-Pruf HD with cold application mastic by Rubber & Plastic Compound Co., Inc.
b. Wascoseal with Wascoplex mastic by Wascos Products, Inc.
c. Nu-Flex with Nu-Flex mastic by Sandell Manufacturing Co., Inc.
SECTION 07631 - GUTTERS AND DOWNSPOUTS
1. References
a. SMACNA - Architectural Sheet Metal Manual
2. Conform to SMACNA Manual for sizing components for rainfall intensity determined by a storm occurrence of 1 in 5 years.
3. Conform to applicable code for size and method of rain water discharge.
4. Deliver, store, and protect products on site.
5. Stack preformed material to prevent twisting, bending, or abrasion, and to provide ventilation. Slope to drain.
6. Prevent contact with materials during storage which may cause discoloration, staining, or damage.
7. Galvanized Steel: ASTM A361, G90 zinc coating; 24 gauge core steel.
8. Components
a. Gutters: SMACNA rectangular profile
b. Downspouts: SMACNA rectangular profile
c. Accessories: Profiled to suit gutters and downspouts.

- 9. Accessories
a. Anchorage devices: SMACNA requirements or type recommended by fabricator.
b. Gutter and Downspout Supports: Brackets
c. Fasteners: Galvanized steel with soft neoprene washers. Finish these fasteners same as flashing metal.
d. Protective Back Coating: FS TFC-494, bituminous.
e. Solder: ASTM B32, 50/50 type
f. Flux: FS O-F-506.
10. Form gutters and downspouts to profiles and sizes indicated, to SMACNA requirements.
11. Form sections square, true, and accurate in size, in maximum possible lengths, free of distortion or defects detrimental to appearance or performance. Allow for expansion at joints.
12. Hem crossed edges of metal.
13. Solder: Solder formed metal joints. After soldering, remove flux. Wipe and wash solder joints clean. Weather seal joints.

- 14. Fabricate gutters and downspout accessories; seal watertight.
15. Apply bituminous protective backing on surfaces in contact with dissimilar materials.
16. Installation
a. Install gutters, downspouts, and accessories in accordance with manufacturer's instructions.
b. Joint lengths with formed seams sealed or soldered watertight. Flush and seal gutters to downspouts and accessories.
c. Connect downspouts to downspout boots. Grout connection watertight.
17. Finish: Polyvinylidene fluoride color coat, minimum 70% polyvinylidene fluoride resin content, applied to sight-exposed face of sheet after pretreatment and priming in accordance with coating manufacturer's recommendations. Color as noted on drawings.

SECTION 07722 - ROOF HATCH

- 1. Furnish labor, materials, services, equipment and appliances required for roof hatch work indicated on the Drawings and specified herein.
2. Submit Shop Drawings per Submittals Section 01300; Base on details shown on the Drawings. Show details, hardware, locking devices, flashing, insulation and anchors. Include manufacturer's installation instructions. Detail to serve as installation drawings. Owner's acceptance is required prior to start of fabrication and/or shipment.
3. The Drawings were prepared and this Specification written on the basis of using the products of the Bilco Company, New Haven, Connecticut.
4. Roof Hatches: Type "S.20"; completely assembled:
a. Curbs: 14 gauge prime painted steel with 22 gauge steel liner; 12 inches high; extended flanges for mounting with screws; integral cap flashing of same gauge of material as curb.
b. Covers: Same materials and gauges as curbs; continuous Neoprene gasket weathertight
c. Curb and Cover Insulation: One inch thick rigid.
d. Hardware: Heavy duty pintle hinges, manually operated compression spring operators enclosed in telescopic tubes, positive snap latches with plated turn handles inside and out, automatic hold-open arm with vinyl grip handle; cadmium plated finish.

- 5. Fabricate free of visual distortions and defects. Weld corners and joints. Provide for removal of condensation. Provide weather-tight assembly.
6. Cover and protect hatches from damage before and after installation. Replace damaged covers at no additional cost to Owner.
7. Install in accord with manufacturer's instructions. Coordinate with installation of roofing system and related flashings. Provide weather-tight installation. Apply bituminous paint on metal surfaces of units in contact with cementitious materials and dissimilar metals.

SECTION 07920 - SEALANTS AND CAULKING

- 1. Sealant Type 1: One component, acrylic latex, for interior non-moving joints.
a. Sonneborn "Sonolac" or equal.
2. Sealant Type 2: Two component urethane, gun-grade, non-sag, for interior or exterior concealed moving joints, thresholds and architectural sheet metal.
a. Sonneborn "NP1" or equal.

- 3. Sealant Type 3: Multi-component urethane, gun-grade non-sag, for interior or exterior exposed moving joints (other than pavements), door and window frames, and other weather tight locations.
a. Sonneborn "NP2" or equal.
4. Sealant Type 4: One component, urethane, gun-grades or pourable, self-leveling for interior or exterior horizontal joints.
a. Sonneborn "Sonolastic SL1" or equal.
5. Primer: Non-staining type, recommended by sealant manufacturer to suit application. Unpainted, porous surfaces shall be primed.
6. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint filling materials.
7. Joint Filler: ASTM D1056, round, closed cell polyethylene foam rod, oversized 30 to 50 percent. Polystyrene is unacceptable.
8. Bond Breaker Tape: Pressure sensitive polyethylene tape recommended by sealant manufacturer to suit application.
9. Clean, prepare and size joints in accordance with manufacturer's instructions. Remove any loose materials and other foreign matter which might impair adhesion of sealant. Metal surfaces shall be free of corrosion.
10. Install joint filler rod to proper depth by rolling material into joint without lengthwise stretching or twisting. Do not puncture or prime filler rod.
11. Sealant applications shall be performed in strict accordance with manufacturer's written specifications by tradesmen skilled in the work. Use masking tape to protect adjacent surfaces as necessary.
12. All sealing shall be done with neat, smooth tooled beads, free of air pockets, foreign embedded matter, ridges and sags, in firm full contact with interfaces.
13. Work adjacent to joints shall be cleaned free of smears of sealant compound as work progresses.

DIVISION 8 - DOORS AND WINDOWS

SECTION 08110 - STEEL DOORS AND FRAMES

- 1. All hollow metal doors and frames shall be furnished by the Contractor. Refer to Schedule on drawings.
2. Install doors and frames in accordance with SDI-100 and SDI-105 except as amended in this section. Comply with NFPA-80 for fire rated assemblies.
3. Install steel doors and frames plumb and square in correct locations indicated on drawings and with a maximum diagonal distortion of 1/16" in 10'. Ensure that frames are securely and rigidly anchored to adjacent construction.
4. Hang door to fit frames loosely without binding. Door to come in full contact with stops when closed. Doors shall swing freely and easily and not strike floors at any point of swing. Doors not equipped with closers shall remain stationary in any intermediate position in which they are left.
5. Immediately after installation with up surface coating damage with primer paint identical to that used for shop coat. Leave clean condition, ready for finish paint specified in Section 09900. If rubber door seals or gaskets are given finish coats of paint.
6. Types
a. Interior: Heavy duty door, SDI Grade II, Model 4, seamless-composite construction, 18 gauge face sheets.
b. Exterior: Extra heavy duty door, SDI Grade III, Model 4, seamless-composite construction 16 gauge face sheets.
c. Door Louvers: Provide eight girt, stationary louvers for Steel Doors where indicated, constructed of inverted V-shaped or U shaped blades, formed of 24 ga. Cold-rolled steel, set into min. 20 ga. Steel frame. Exterior door louvers to include wire mesh insect screen.

SECTION 08210 - FLUSH WOOD DOORS

- 1. Furnish written warranties for all doors specified as part of the work of this section for life of original installation.
2. Door Materials:
a. General: Furnish doors, which meet or exceed NWMA Industry Standard I.S. 1.78 Series and AWI Section 1300-C-3 for Type PC or SL-5.
b. Core: 1-3/4 inch thick, staved, low-density, bonded wood.
c. Fire Ratings: Doors noted to have specific hourly label shall be of Underwriter's Laboratories, Inc., labeled construction and shall bear the U.L. label.
d. Face Veneer: Refer to Door Schedule on drawings for specific door's face veneer.
e. Crossband: Hardwood veneer.
f. Side Edges: Hardwood.
g. Top and Bottom Edges: Hardwood or softwood.
h. Assembly:
1) Core Assembly: Type II (water-resistant).
2) Face Assembly: Type I (waterproof).

- 3. Fabricate to size and design indicated on the drawings, prefit for the openings and properly bevel. Prefit clearances shall be 1/8" at the top and both hinge and lock edge of door, with 1/4" clearance at the bottom. Provide flush edgings for wood doors receiving panic devices.
4. Hardware Preparation: Make all cutouts required for hardware at the factory from hardware manufacturer's templates and physical samples furnished by the contractor. Comply with the tolerance requirements of NWMA for prefitting.
5. Installation is specified in FINISH CARPENTRY. Hardware is specified in FINISH HARDWARE.

- a. Clearances:
1) Allow maximum of 3/16" at jamb and head.
2) Allow maximum of 3/16" over threshold or saddle.
3) Allow maximum of 1/8" over decorative floor coverings.
b. Fire-Rated Doors: Install in accordance with NFPA recommendations. Maximum clearances:
1) 1/8" between door and frame.
2) 3/8" between door bottoms and decorative floor finish.
3) 1/8" between doors for pairs of doors.

SECTION 08216 - STILE AND RAIL GLAZED WOOD DOORS

- 1. Guarantee: Contractor shall guarantee doors for period of two years (from date of acceptance of project by Owner) against defects in materials and workmanship. Replace defective doors without additional cost to Owner, including charges for removal, installation, glazing and finishing.
2. Interior Doors: Products of "Lone Star Plywood and Doors", Whitney, Texas, Douglas Fir, style 1510, size shown on drawings, factory glazed with clear tempered safety glass.
3. Install all doors in accordance to manufacturer's instructions. Conform to AWI, ANSI/NWMA requirements for fit tolerances.
a. Maximum Diagonal Distortion: 1/16 inch measured with straight edge, corner to corner. Hang doors in frames not more than 3/32 inch at each side and head; clearance at bottom shall be 3/4 inch or as required for thresholds. Adjust for smooth and balanced door movement. Door to come into full contact with stops when closed. Door shall swing quietly and easily and not strike floor at any point of swing.

SECTION 08306 - ACCESS PANELS

- 1. Manufacturer
a. The Drawings were prepared and this Specification written on the basis of using the products of J. L. Industries, Bloomington, Minnesota. It is not the intent to limit competitive bidding. Products with equal characteristics by other manufacturers are acceptable under the conditions of these Specifications.
2. Access Panels
a. Model 'FD', flush mounted access panel, 24 x 24, UL 1-1/2 hour 'B' label, completely assembled as follows:
1) Material:
a. Door: 20 gauge steel
b. Frame: 16 gauge steel

- 2) Hardware:
a. Hinges: Continuous hinges open to 175 with spring closure.
b. Locks: Recessed turn ring with interior latch release device.
3) Anchors: Manufacturer's standard for use intended.
4) Finish: Phosphate dipped steel with factory prime coat.
3. Installation
a. Protect access panels from damage. Protect work of other trades during installation. Install access panels in locations indicated, complete in all details, securely anchored in place, plumb, level and parallel with building lines. Finally installed access panels shall open and close freely.
SECTION 08410 - ALUMINUM ENTRANCES AND STOREFRONTS
1. Engineering Design:
a. Structural Properties: Fabricate and install work of this Section to withstand wind loads Required by governing laws, ordinances, regulations and codes and with a maximum deflection of L/175.
b. Thermal Movement: Fabricate and install systems to provide for expansion and/or contraction of component materials as will be caused by temperature range of 150 degrees F without causing harmful buckling, opening of joints, undue stresses on fasteners, or other detrimental effects.
c. Water Leakage: Fabricate and install systems to deny water leakage; defined as appearance of water, other than condensation on room side face of any part of systems.
2. Submit shop drawings of system proposed on details shown on Drawings, and develop to serve as installation Drawings. All critical acceptances required prior to start of fabrication.
3. The Drawings were prepared and this Specification written on the basis of using the products of Kowneer Company, Inc., Norcross, Georgia. It is not the intent to limit competitive bidding. Products of equal characteristics by other manufacturers are acceptable under the conditions of these Specifications.
4. Storefront Framing:
a. System: 1000 Series (4-1/2 inch) for single glazing, interior application, and Tribaf 451 for insulating glass, exterior insulation, flush glazed, extruded aluminum having properties of 6063-T5 alloy.
b. Finishes: Reinforcing: If required by Engineering design; rolled steel, 16 gauge or heavier if required.
c. Fasteners: Manufacturer's standard; either stainless steel or carbon steel plated against electrolytic action.
d. Finish: Baked Enamel Finish; Color 'redwood'.

- 5. Doors and Hardware:
a. Doors: Kowneer 'Series 190 - Panic Guard', extruded aluminum having properties of 6063-T5 alloy.
b. Fasteners: Manufacturer's standard; either stainless steel or carbon steel plated against electrolytic action.
c. Hardware: Refer to hardware schedule.
d. Weatherstripping and Sill Sweeps: Manufacturer's standard type to suit application.
e. Finish: Baked Enamel Finish; Color 'redwood'.
6. Fabrication:
a. Storefront Framing: Fabricate and assemble in shop to greatest extent possible. Cut carefully and accurately. Use compression joints between vertical and horizontal mullions, with gasket of non-hardening butyl compound. Place standard water dam, in accord with manufacturer's recommendation, between vertical and horizontal members and seal with liquid butyl compound. Provide vision and spandrel areas with drainage to outdoors in horizontal member. Sizes of components and necessary field connections and fastenings required for installation; permit easy assembly by means of standard construction equipment and tools without use of special apparatus or appliances.
b. Doors: Fabricate doors with tight, haring joints where rails are fitted against stiles, and fasten by means of tensioned steel tie-rods in top and bottom rails. Provide adjusting mechanism in top rail to provide for minor clearance adjustments. Glass stops; snap-in type with bulb type glazing strips. Weather-stripping; pile. Provide adjustable pile weatherstrip on one stile at meeting stiles of pairs of doors.

- 7. Preparation:
a. Where aluminum surfaces contact steel, other incompatible metals or concrete, protect aluminum by one of the following:
i. Paint incompatible metal or concrete with coating of heavy-bodied bituminous paint.
ii. Point incompatible metal with prime coat of zinc chromate primer followed by two coats of aluminum metal paint or other suitable protective coating; exclude those containing lead pigmentation.
iii. Non-absorptive gaskets.
iv. Caulking between aluminum and incompatible metals.
v. If drainage from incompatible metal passes over aluminum, paint incompatible metal by method No. 2 above.
B. Installation:
a. General: Install true to line, plumb, level, square, and in proper planes with other work. Install free from sags, waves, buckles, or other objectionable defects. Anchor to resist stresses to which the work shall normally be subjected.
b. Hardware: Fit in accord with manufacturer's instructions. Install doors to operate smoothly and quietly after adjustment. Adjust door-closing devices immediately prior to final inspection. Install thresholds in two full beads of sealant compound (one along each edge) and fasten with color matching machine screws and expansion shields. One anchor will be required for each 24 inches of threshold length.
c. Glass and Glazing: Specified in other Sections.

- 8. Installation:
a. Submit for acceptance, six copies of full and complete FINAL HARDWARE SCHEDULE, indicating locations, quantities, types, numbers and/or sizes, functions and finishes for each item, only if substitutions are proposed.
b. After acceptance of FINAL HARDWARE SCHEDULE, hardware supplier to furnish Contractor with copies of schedule and templates for preparation of doors and frames to receive hardware.

- 2. Acceptable Manufacturers:
a. Hinges:
1) Hager Hinge Company
2) McKinney Products Company
3) Stanley Hardware Division
b. Locks, Latches and Bolts:
1) Schlage Lock Company
c. Closers:
1) Dorco Door Control, Inc.
2) LCN Closers Division / Schlage Lock Company
d. Seals, Thresholds and Door Bottoms:
1) Pemko
e. Door Stops, Kick Plates, Holders and Viewers:
1) Hager
2) Ives
3) Panic Hardware:
1) Adams Rite
g. Push and Pulls:
1) Haworth
2) Hager

- 3. Butt Hinges:
a. Comply with applicable requirements of ANSI A156.1
b. Use standard weight five knuckle, flush barrel hinges.
c. Use heavy weight hinges for doors over 40 inches wide.
d. Use full mortise hinges unless otherwise specified.
e. Hinge Pins: Unless otherwise indicated, use the following:
1) Steel Hinges: Steel Pins
2) Nonferrous Hinges: Stainless steel pins
3) Doors with keyed locks and exterior doors: Non-removable pins
4) Other interior doors: Non-rising pins
f. Tip: Flat button with matching pull, finish to match leaves.
g. Quantity: Provide a minimum of 3 hinges on each door.

- 4. Piano Hinges:
a. Continuous Hinge #780-210, Universal Manufacturing Co. (800) 821-1414.

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STATE OF GEORGIA
RUSTY A. RIDGE
REGISTERED ARCHITECT
03/07/19

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