

SECTION 07 6200 – SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

*Contractor shall provide single source responsibility for all building waterproofing components. One contract shall be responsible for coordination/installation of all components affecting building water / air barrier.

PART 2 PRODUCTS

1. SHEET MATERIALS

1.1. Provide materials as appropriate for system and location related to adjacent materials and finishes:

- 1.1.1. Galvanized steel: ASTM A 653/A 653M, with G90/Z275 zinc coating; minimum 0.02 inch (0.6 MM) thick base metal.
- 1.1.2. Pre-finished galvanized steel: ASTM A 653/A 653M, with F90/Z275 zinc coating; minimum 0.02 inch (0.6 MM) thick base metal, shop pre-coated with PVDF coating.
- 1.1.3. Aluminum: ASTM B 209 (ASTM B 209M); 0.032 INCH (0.8 MM) thick; anodized finish of color as selected.
- 1.1.4. Pre-finished aluminum: ASTM B 209 (ASTM B 209M); 0.032 inch (0.8 MM) thick; plain finish shop pre-coated with modified silicone coating.
- 1.1.5. Lead: ASTM B 749, 2.5lb/sq ft (0.99NM) thick.
- 1.1.6. Stainless steel: ASTM A 666 type 304, soft temper, 0.015 inch (0.4MM) thick; smooth NO.4 finish.
- 1.1.7. Terne coated steel: 0.015 inch (0.4MM) thick copper bearing carbon steel core material with 0.092lb/sq ft (0.45 kg/sq m) terne alloy coating on both sides of core metal.
- 1.1.8. Cooper: ASTM B370, cold rolled 16oz/sq ft (0.5 MM) thick; natural finish.
- 1.1.9. Lead coated copper: ASTM B 101, 24 (7320) ounce-weight of bare copper, hoo (cold-rolled) temper.
- 1.1.10. Terne coated stainless steel: 0.015 inch (0.4 MM) ASTM A 666 type 304 core material with 0.092lb/sq ft (0.45kg/sq m) terne alloy coating on both sides of core metal.

2. ACCESSORIES

- 2.1. Fasteners: Galvanized steel, with soft neoprene washers.
- 2.2. Underlayment: ASTM D 226, organic roofing felt, type I (NO. 15).
- 2.3. Slip sheet: Rosin sized building paper.
3. FABRICATION
- 3.1. Form sections true to shape, accurate in size, square, and free from distortion or defects.
- 3.2. Form pieces in longest possible lengths.
- 3.3. Form material with flat lock seams, except where otherwise indicated. At moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.
4. GUTTER AND DOWNSPOUT FABRICATION
- 4.1. Gutters: SMACNA architectural sheet metal manual, rectangular profile.
- 4.2. Downspouts: Rectangular profile.
- 4.3. Gutters and downspouts: Size for rainfall intensity determined by a storm occurrence of 1 in 5 years in accordance with SMACNA architectural sheet metal manual. Size as indicated on contract drawings.

SECTION 07 9005 – JOINT SEALERS

PART 1 GENERAL

PART 2 PRODUCTS

1. SEALANTS
- 1.1. Sealants and primers – General: Provide only products having lower volatile organic compound (VOC) content than required by south coast air quality management district rule NO.1168.
- 1.2. General purpose exterior sealant: Polyurethane; ASTM C 920, grade NS, class 25, uses M, G, and A; single component.
- 1.3. Exterior expansion joint sealer: ASTM D 2628, hollow neoprene (polychloroprene) compression gasket.
- 1.4. Exterior metal lap joint sealant: Butyl or polyisobutylene, nondryring, nonskinning, noncuring.
- 1.5. General purpose interior sealant: Acrylic emulsion latex; ASTM C 834, type OP, grade NF single component, paintable.
- 1.6. Buthtub/Tile sealant: White silicone; ASTM C 920, uses I, M, and A; single component, mildew resistant.
- 1.7. Acoustical sealant for concealed locations; Permanently tacky non-hardening butyl sealant.
- 1.8. Interior floor joint sealant: Polyurethane, self-leveling; ASTM C 920, grade P, class 25, uses T, M, and A; single component.
- 1.9. Concrete paving joint sealant: Polyurethane, self-leveling; ASTM C 920, class 25, uses T, I, M, and A; single component.
- 1.10. Silicone sealant: ASTM C 920, grade NS, class 25, uses NT, A, G, M, O; single component, solvent curing, non-sagging, non-staining, fungus resistant, non-bleeding.

2. ACCESSORIES

- 2.1. Joint backing: Round foam rod compatible with sealant; ASTM D 1667, closed cell PVC; oversized 30 to 50 percent longer than joint width.
- 2.2. Bond breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 EXECUTION

1. INSTALLATION

- 1.1. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- 1.2. Perform installation in accordance with ASTM C 1193.
- 1.3. Perform acoustical sealant application work in accordance with ASTM C 919.
- 1.4. Tool joints concave.
- 1.5. Precompressed foam sealant: Do not stretch; avoid joints except at corners, ends, and intersections; install with face 1/8 to ¼ inch (3 to 6 MM) below adjoining surface.
- 1.6. Compression gaskets: Avoid joints except at ends, corners, and intersections; seal all joints with adhesive; install with face 1/8 to ¼ inch (3 to 6 MM) below adjoining surface.

SECTION 08 1113 – HOLLOW METAL DOORS AND FRAMES

PART 1 GENERAL

PART 2 PRODUCTS

1. DOORS AND FRAMES

- 1.1. Requirements for all doors and frames:
- 1.2. Accessibility: Comply with ANSI/ICC A117.1.
- 1.3. Door texture: Smooth faces.
- 1.4. Hardware preparation: In accordance with BHMA A156.115, with reinforcement welded in place, in addition to other requirements specified in door grade standard.
- 1.5. Galvanizing for units in wet areas: All components hot-dipped zinc-iron alloy-coated (Galvannealed), manufacturer's standard coating thickness.
- 1.6. Finish: Factory primed, for field finishing.

2. STEEL DOORS

- 2.1. Exterior doors type:
 - 2.1.1. Grade: ANSI A250.8 level 3, physical performance level A, model 2, seamless.
 - 2.1.2. Core: Polystyrene foam.
 - 2.1.3. Galvanizing: All components hot-dipped zinc-iron alloy-coated (Galvannealed) in accordance with ASTM A 653/A 653M, with manufacturer's standard coating thickness.
 - 2.1.4. Texture: Smooth faces.
 - 2.1.5. Insulating value: U-value of 0.50, when tested in accordance with ASTM C 1363.
 - 2.1.6. Weatherstripping: Separate, see section 08 7100.
- 2.2. Interior doors, non-fire-rated:
 - 2.2.1. Grade: ANSI A250.8 level 1, physical performance level C, model 1, full flush.
 - 2.2.2. Core: Cardboard honeycomb typical; provide polystyrene insulated core at locations indicated.
 - 2.2.3. Thickness: 1–3/4 inches (44 MM).
 - 2.2.4. Texture: Smooth faces.
 - 2.2.5. Finish: Factory primed, for field finishing.
- 2.3. Panels: Same construction, performance, and finish as doors.

3. STEEL FRAMES

- 3.1. General:
 - 3.1.1. Comply with the requirements of grade specified for corresponding door.
 - 3.1.2. Frames for wood doors: Comply with frame requirements specified in ANSI A250.8 for level 1, 18 gage.
 - 3.1.3. Frames for sound-rated wood doors: Comply with frame requirements specified in ANSI A250.8 for level 1, 16 gage.
- 3.2. Exterior door frames: Face welded, seamless with joints filled.
 - 3.2.1. Galvanizing: All components hot-dipped zinc-iron alloy-coated (Galvannealed) in accordance with ASTM A 653/A 653M, with manufacturer's standard coating thickness.
 - 3.2.2. Finish: Factory primed, for field finishing.
- 3.3. Interior door frames, non-fire-rated: Face welded, seamless with joints filled.
 - 3.3.1. Terminated stops: Provide at all interior doors; closed end stop terminated 6 inches (150 MM) above floor at 45 degree angle.
 - 3.3.2. Finish: Factory primed, for field finishing.

4. ACCESSORY MATERIALS

- 4.1. Silencers: Resilient rubber, fitted into drilled hole; 3 on strike edge of single door, 3 on center mullion of pairs, and 2 on head of pairs without center mullions.

5. FINISH MATERIALS

- 5.1. Primer: Rust-inhibiting, complying with ANSI A250.10, door manufacturer's standard.

PART 3 EXECUTION

1. INSTALLATION

- 1.1.1. Install in accordance with the requirements of the specified door grade standard and NAAMM BHMA 840.
- 1.2. Coordinate frame anchor placement with wall construction.

SECTION 08 3600 – SECTIONAL DOORS

PART 1 GENERAL

1. WARRANTY

- 1.1. Correct defective work within a five-year period after date of substantial completion.

PART 2 PRODUCTS

- Basic of design product: Model 903 sectional aluminum extrusion full view door by clopay commercial doors or equal.
1. DOOR CONSTRUCTION:
 - 1.1. Panel sections: 2–1/8 inches (54 MM) thick extruded 6053–T5 aluminum, with integral reinforcing fin. Enclosed top and bottom rails 3–1/2 inches (89 MM) wide, meeting rails 2–13/16 inch (71.4 MM) wide, and end stiles 3–1/2 inches (89 MM) wide, with meeting rails meeting to form a tongue-and-groove joint and bottom rail configured to retain u-shaped flexible PVC astragal. Glazing and solid panels installed and sealed with BUTYL tape and locking retainer.
 - 1.1.1. Door size: As indicated on contract drawings
 - 1.1.2. Windows: Full-view aluminum sections, pre-painted to match door finish.
 - 1.1.3. Glazing: 1/8" (3 MM) tempered sheet glass glazing; tint to match building glazing.
 2. ALUMINUM FINISH: Clear Anodized.
 3. LOOKING: Inside spring-loaded slide bolt lock on end stile that engages slot in track.
 - 3.1. Provide two inside slide locks.
 4. WEATHERSTRIPPING: Provide complete perimeter seals. Provide flexible top seal, flexible jamb seal and u-shaped bottom seal.
 5. TRACKS: Vertical tracks minimum 0.061 inch (1.55 MM) galvanized steel tapered and mounted for wedge type closing. Horizontal tracks minimum 0.075 inch (1.91 MM) galvanized steel, reinforced with minimum 0.0897 inch (2.28 MM) galvanized steel angles as required/occupied, and make final check and adjustment and finish of hardware and doors.
 - 5.1. Track width: As recommended by manufacturer for door specified.
 - 5.2. Provide standard lift tracks with 15 inch (381 MM) radius track as indicated.
 6. Spring counterbalance: Torsion spring counterbalance mechanism sized to weight of the door, with a helically wound, oil tempered torsion spring mounted on a steel shaft; cable drum of die cast aluminum with high strength
 - 6.1. High cycle spring: 100,000 cycles.
 7. Operation: Manual
 8. Door panels: Flush steel construction; 24 gauge minimum; insulated.
 9. Window frame: Manufacturers standard, finish to match.
 10. Glazing: Annealed float glass; insulated; tinted; 1 inch (25.4 MM) thick.

PART 3 EXECUTION

1. EXAMINATION

- 1.1. Examine wall and overhead areas, including opening framing and blocking, with installer present, for compliance with requirements for installation tolerances, clearances, and other conditions affecting performance of work in this section.
- 1.1.1. Proceed with installation only after unsatisfactory conditions have been corrected.
- 1.1.2. If substrate preparation is the responsibility of another installer, notify architect of unsatisfactory preparation before proceeding.

1.2. Preparation

- 1.2.1. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

1.3. Installation

- 1.3.1. Install overhead doors and track in accordance with approved shop drawings and the manufacturer's printed instructions.

1.4. Protection

- 1.4.1. Protect installed products until completion of project.
- 1.4.2. Touch-up, repair or replace damaged products before substantial completion.

SECTION 08 4313 – ALUMINUM FRAMED STOREFRONTS

PART 1 GENERAL

PART 2 PRODUCTS

1. STOREFRONT

- 1.1. Aluminum-framed storefront: Factory fabricated, factory finished aluminum framing members with infill, and related flashing, anchorage and attachment devices.
 - 1.1.1. Unitized, shop assembly.
 - 1.1.2. Glazing rabbet: For 1 inch (25 MM) insulating glazing at exterior applications, ¼" glazing at interior locations.
 - 1.1.3. Glazing position: Centered (interior storefront), offset front (exterior locations).
 - 1.1.4. Vertical mullion dimensions: As indicated on drawings.
 - 1.1.5. Overall u-value including glazing: 0.40 maximum.
 - 1.1.6. Finish: Clear anodized
 - 1.1.7. Basis of design: Exterior storefront: YKK AP America Inc; yes 45TU center set thermally broken system.

2. COMPONENTS

- 2.1. Doors: Glazed aluminum, medium stile entrance doors.
 - 2.1.1. Thickness: 1–3/4 inches (43 MM).
 - 2.1.2. Top rail: 4 ½ inches (115 MM) wide.
 - 2.1.3. Vertical stiles: 4 inches (100 MM) wide.
 - 2.1.4. Bottom rail: 10 inches (200 MM) wide.
 - 2.1.5. Finish: Same as storefront.
 - 2.1.6. Basis of design: YKK AP America Inc; megatherm 35XT medium stile.

3. FABRICATION

- 3.1. Fabricate components with minimum clearances and shim spacing around perimeter of assembly yet enabling installation and dynamic movement of door.
- 3.2. Accurately fit and secure joints and corners. Make joints flush, hairline, and weatherproof.
- 3.3. Reinforce framing members for imposed loads.
- 3.4. Finishing: Apply factory finish to all surfaces that will be exposed in completed assemblies.

PART 3 EXECUTION

1. INSTALLATION

- 1.1. Install wall system in accordance with manufacturer's instructions.
- 1.2. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.
- 1.3. Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances, aligning with adjacent work.
- 1.4. Structural adhesive glazing: Install glazing adhesive and weathersel sealant in accordance with adhesive manufacturer's instructions.

SECTION 08 7100 – DOOR HARDWARE

PART 1 GENERAL

1. SECTION INCLUDES

- 1.1. Work under this section includes furnishing and the installation of finish and security hardware specified herein and noted on drawings for a complete and operational system, items include, but are not limited to:

- 1.1.1. Hinges/continuous hinges
 - 1.1.2. Locksets and cylinders
 - 1.1.3. Closers/ADA operators
 - 1.1.4. Kick, mop and protection plates
 - 1.1.5. Stops, wall bumpers, overhead controls
 - 1.1.6. Thresholds, gasketing and door bottoms
 - 1.1.7. Miscellaneous trim and accessories
2. REFERENCES
 - 2.1. The following references are used in this section.
 - 2.1.1. NFPA 80—standard for fire doors, 2007.
 - 2.1.2. Installation guide for doors and hardware, DHI, 1984.
 - 2.1.3. ANSI / BHMA A156.18, materials and finishes, 2006.

3. GENERAL REQUIREMENTS

- 3.1. Provide items, articles, materials, operations and methods listed, mentioned or scheduled herein or on drawings, in quantities as required to complete project. Provide hardware that functions properly. Prior to furnishing hardware, advise architect of items that will not operate properly, are improper for conditions, or will not remain permanently anchored.

4. SUBMITTALS

- 4.1. Hardware schedule: Submit as illustrated by the sequence of format for the hardware schedule as published by the door and hardware institute. Schedule which do not comply will be returned for correction before checking.
- 4.2. Installation instructions: Provide manufacturer's written installation and adjustment instructions for finish hardware. Send installation instructions to site with hardware.
- 4.3. Templates: Submit templates and "Reviewed hardware schedule" to door and frame supplier and others as applicable to enable proper and accurate sizing and locations of cutouts and reinforcing.

5. QUALITY ASSURANCE

- 5.1. Manufacturer: Obtain each type of hardware (E. Latch and locksets, hinges, closers) from single manufacturer, although several may be indicated as offering products complying with requirements.

6. DELIVERY, STORAGE AND HANDLING

- 6.1. Packaging of door hardware is the responsibility of the supplier. As material is received by the hardware supplier from various manufacturers, sort and repackage in containers clearly marked with appropriate hardware set numbers to match the set numbers of the approved hardware schedule. Two or more identical sets may be packed in the same container.
- 6.2. The general contractor shall provide a secure lock-up for the door hardware and security equipment delivered to the project, but not yet installed. Continue installing and installation of the hardware items that are not immediately replaceable, so that completion of the work will not be delayed by hardware losses, both before and after installation.

7. WARRANTY

- 7.1. All materials must be warranted against defects in workmanship and materials for a period of one (1) year from date of acceptance of this project, unless otherwise noted. Any evidence of misuse or abuse voids all warranties. These warranties shall be each manufacturers' standard written warranty.

7.2. Special warranties:

- 7.2.1. Door closers: Thirty (30) year period.
- 7.2.2. Saddle thresholds, bumper thresholds, door sweeps, self-adhesive gasketing, perimeter seals, self-adhesive astragal gasketing, mullion seals, interlocking seals, and drip strips: Five (5) year period.

- 7.3. Any manufacturer whose standard written warranty does not equal or exceed the requirements listed above should provide a letter stating that they will extend their warranty to comply with the requirements of this specification.

8. MAINTENANCE

- 8.1. Maintenance tools and instructions: General contractor shall furnish a complete set of specialized tools and maintenance instructions as needed for the owner's continued adjustment, maintenance, and removal and replacement of door hardware.

PART 2 PRODUCTS

1. DOOR HARDWARE – GENERAL

- 1.1. Reference door schedule for locking and additional specific hardware requirements
- 1.2. Provide all hardware specified or required to make doors fully functional, compliant with applicable codes, and secure to the extent indicated.
- 1.3. Provide products that comply with the following:

- 1.3.1. Applicable provisions of federal, state, and local codes.
- 1.4. Finishes: All door hardware the same finish unless otherwise indicated.

- 1.4.1. Primary finish: Satin chrome plated over nickel on brass or bronze, 626 (APPROX US260).

- 1.4.2. Secondary finish: Satin chrome plated over nickel on brass or bronze, 626 (APPROX US260).

2. BUTTS AND HINGES

2.1. Application:

- 2.1.1. Provide NRP (Non-removable pins) at out-swinging lockable doors.

2.2. Quantity:

- 2.2.1. Two hinges per leaf for openings through 60 inches high.
- 2.2.2. One additional hinge per leaf for each additional 30 inches in height or fraction thereof.

3. LOCKSETS – CYLINDRICAL – GRADE 2

- 3.1. Provide lock functions specified in hardware groups, with following provisions:

- 3.1.1. Cylinders: Refer to "Keying" article, herein.
- 3.1.2. Locks shall meet UL a label; to have a minimum listing for single doors 4'x8'.
- 3.1.3. Levers shall be Bi-Directional.
- 3.1.4. Levers shall be solid. Manufacturers utilizing lever fillers are not acceptable.
- 3.1.5. Furnish "Knurled" or "Tactile" outside levers as indicated in the door hardware sets. "Abrasive" outside levers shall not be acceptable.
- 3.1.6. Lockset adjustment plate shall be threaded for door thickness adjustment for doors 1 5/8" to 2 1/8" thickness. The adjustment plate shall have visual chassis marking for doors 1 ½" thick.
- 3.1.7. Locks shall have field reversible handing.
- 3.1.8. Latchbolt to be steel with minimum ½" throw latch.
- 3.1.9. Strikes shall have curved lip of sufficient length to clear trim.

4. KEYING

- 4.1. Master key or grand master key cylinders and key in groups, unless otherwise specified.
- 4.2. Provide 6 master keys for each master key set.
- 4.3. Submit proposed keying schedule to architect. If requested, meet with owner and architect to review schedule.

5. DOOR TRIM

- 5.1. Kick plates and armor plates: minimum of 0.050 inch thick, beveled 4 edges.

- 5.1.1. At single doors provide width two inches less than door width on stop side and one inch less than door width on pull side.

- 5.1.2. Height of 10 inches, unless otherwise indicated.

- 5.1.3. Provide plates with countersunk screw holes.

6. DOOR CLOSERS – ALUMINUM

- 6.1. Medium bore exposed closers:

- 6.1.1. Provide door closers conforming to ANSI/BHMA A156.4 grade 1 requirements by BHMA certified independent testing laboratory.

- 6.1.2. Provide door closers with fully hydraulic, full rack and pinion action with cast aluminum cylinder.

- 6.1.3. Closer body: 1–1/4 inch (32 MM) diameter, with 5/8 inch (16 MM) diameter heat-treated pinion journal and full complement bearings.

- 6.1.4. Hydraulic fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to –30 degrees F.

- 6.1.5. Spring power: Continuously adjustable over full range of closer sizes and providing reduced opening for as required by accessibility codes and standards.

- 6.1.6. Hydraulic regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed general speed, and back check.

- 6.1.7. Pressure relief valve (PRV) technology: Not permitted.

- 6.1.8. Provide stick on and special templates, drop plates, mounting brackets, or adapters for ARMS as required for details, overhead stops, and other door hardware items interfering with closer mounting.

7. OVERHEAD STOPS

- 7.1. Provide overhead stops for interior doors equipped with regular ARM surface type closer for doors that open against equipment, casework, sidelights, other objects that would make wall stops inappropriate.

- 7.2. Provide sex bolt attachments for mineral core door application.

8. WALL STOPS AND HOLDERS

- 8.1. Provide wall stop for each door leaf unless otherwise specified, or where conditions require the use of an overhead.

- 8.2. Floor or base stops shall be used only where definitely specified or absolutely unavoidable.

9. THRESHOLDS

- 9.1. Where thresholds are specified in hardware groups, provide 8655A thresholds on out swinging doors unless detailed otherwise.

- 9.2. Refer to drawings for special details. Provide accessories, shims and fasteners.

- 9.3. Where thresholds occur at openings with one or more mullions, they shall be cut for the mullions and extended continuously for the entire opening.

10. WEATHERSTRIPPING

- 10.1. Provide gaskets for 20-minute doors and doors designated for smoke and draft control.
- 10.2. Where sweeps are specified in hardware groups, provide 39A unless detailed otherwise.
- 10.3. Where rain drips are specified in hardware groups, provide 142A x full frame width, unless detailed otherwise.

11. GASKETING

- 11.1. Provide gaskets for 20-minute doors and doors designated for smoke and draft control.
- 11.2. Where frame applied intumescent seals are required by the manufacturer, provide gaskets that comply with UBC 7-2-1897 and UL 10C positive pressure tests.

12. SILENCERS

- 12.1. Provide grey rubber silencers featuring pneumatic design that, once installed, forms an air pocket to absorb shock and reduce noise of door closing.

- 12.2. Provide three (3) silencers per hollow metal strike jamb; two (2) per hollow metal double door head. Omit at doors scheduled to receive perimeter weatherstripping or smoke gasket.

- 12.3. Silencers shall meet ANSI/BHMA A156.16, L03011

13. KEY CABINET

- 13.1. Provide cabinet with one hook for each lock or cylinder plus at least 50 percent extra hooks.

- 13.2. Provide each hook with one non-removable security key tag and one snap-on link duplicate key tag.

- 13.3. Provide tools, instruction sheets and accessories required to complete installation.

- 13.4. Owner will place keys in key cabinet and complete index cards furnished with key system.

14. FASTENERS

- 14.1. Including, but not limited to, wood or machine screws, bolts, nuts, anchors, etc. of proper type, material, and finish required for installation of hardware.
- 14.2. Use Phillips head for exposed screws. Do not use aluminum screws to attach hardware.
- 14.3. Provide self-tapping (TEC) screws for attachment of sweeps and stop-applied weatherstripping only.

15. TYPICAL FINISHES AND MATERIALS

- 15.1. Finishes as indicated on contract drawings.

PART 3 EXECUTION