

- 2.3 MISCELLANEOUS MATERIALS
- A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation.
- B. Felt Underlayment: ASTM D 226, Type II (No. 30), asphalt-saturated organic felt, nonperforated.
- C. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads.
- Nails for Copper Sheet: Copper or hardware bronze, 0.109 inch (2.8 mm) minimum and not less than 7/8 inch (22 mm) long, barbed with large head.
 - Exposed Fasteners: Heads matching color of sheet metal by means of plastic caps or factory-applied coating.
 - Fasteners for Flashing and Trim: Blind fasteners or self-drilling screws, gasketed, with hex washer head.
 - Blind Fasteners: High-strength aluminum or stainless-steel rivets.
- D. Sealing Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealing tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape.
- E. Elastomeric Sealant: ASTM C 920, elastomeric polyurethane polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- F. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant, polyisobutylene plasticized, heavy bodied for hooked-type expansion joints with limited movement.
- G. Epoxy Seam Sealer: Two-part, noncorrosive, aluminum seam-cementing compound.
- H. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil dry film thickness per coat.

- 2.4 REGLETS
- A. Reglets: Units of type, material, and profile indicated, formed to provide secure interlocking of separate reglet and counterflashing pieces, and compatible with flashing indicated with factory-mitered and welded corners and junctions.
- Manufacturers:
 - Cheney Flashing Company, Inc.
 - Fry Reglet Corporation.
 - Heckmann Building Products Inc.
 - Material: Aluminum, 0.024-inch thick.

- 2.5 FABRICATION, GENERAL
- A. General: Custom fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated. Shop fabricate items where practicable. Obtain field measurements for accurate fit before shop fabrication.
- B. Fabricate sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.
- Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
 - Seams for Other Than Aluminum: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.
- C. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA recommendations.
- D. Expansion Provisions: Where lapped or bayonet-type expansion provisions in the Work cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with elastomeric sealant concealed within joints.
- E. Conceal fasteners and expansion provisions where possible on exposed-to-view sheet metal flashing and trim, unless otherwise indicated.
- F. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal, and in thickness not less than that of metal being secured.

- 2.6 ROOF DRAINAGE SHEET METAL FABRICATIONS
- A. Hanging Gutters: Fabricate to cross section indicated, complete with end pieces, outlet tubes, and other accessories as required. Fabricate in minimum 96-inch-long sections. Furnish flat-stock gutter spacers and gutter brackets fabricated from same metal as gutters, of size recommended by SMACNA but not less than twice the gutter thickness. Fabricate expansion joints, expansion-joint covers, gutter bead reinforcing bars, and gutter accessories from same metal as gutters.
- Fabricate from the following material:
 - Aluminum: 0.040 inch thick.
- B. Downspouts: Fabricate rectangular downspouts complete with mitered elbows. Furnish with metal hangers, from same material as downspouts, and anchors.
- Fabricate downspouts from the following material:
 - Aluminum: 0.024 thick.
- C. Parapet Scuppers: Fabricate scuppers of dimensions required with closure flange trim to exterior, 4-inch-wide wall flanges to interior, and base extending 4 inches beyond cant or tapered strip into field of roof. Fasten guard and angles to base of scupper.
- Fabricate parapet scuppers from the following material:
 - Aluminum: 0.0320 inch thick.
- D. Conductor Heads: Fabricate conductor heads with flanged back and stiffened top edge and of dimensions and shape indicated complete with outlet tubes and built-in overflows.
- Fabricate conductor heads from the following material:
 - Aluminum: 0.0320 inch thick.

- 2.7 LOW-SLOPE ROOF SHEET METAL FABRICATIONS
- A. Roof Edge Flashing (Gravel Stop) and Fascia Caps: Fabricate in minimum 96-inch long, but not exceeding 10-foot-long, sections. Furnish with 6-inch-wide joint cover plates.
- Fabricate from the following material:
 - Aluminum: 0.050 inch thick.
- B. Copings: Fabricate in minimum 96-inch- (2400-mm-) long, but not exceeding 10-foot- (3-m-) long, sections. Fabricate joint plates of same thickness as copings. Furnish with continuous cleats to support edge of external leg and drill elongated holes for fasteners on interior leg. Miter corners, seal, and solder or weld watertight.
- Fabricate copings from the following material:
 - Aluminum: 0.050 inch thick.
- C. Base Flashing: Fabricate from the following material:
- Aluminum: 0.040 inch thick.
- D. Counterflashing: Fabricate from the following material:
- Aluminum: 0.0320 inch > thick.
- E. Roof-Penetration Flashing: Fabricate from the following material as indicated on drawings:
- Lead: 4.0 lbs/sq. ft., hard tempered.
- F. Roof-Drain Flashing: Fabricate from the following material:
- Lead: 4.0 lbs/sq. ft., hard tempered.

- PART 3 - EXECUTION
- 3.1 INSTALLATION, GENERAL
- A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
- Torch cutting of sheet metal flashing and trim is not permitted.
- B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by fabricator or manufacturers of dissimilar metals.
- C. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.
- D. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and elastomeric sealant.
- E. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
- Space cleats not more than 12 inches apart. Anchor each cleat with two fasteners. Bend tabs over fasteners.
- F. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used or would not be sufficiently watertight, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with elastomeric sealant

- concealed within joints.
- G. Fasteners: Use fasteners of sizes that will penetrate substrate not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws.
- Galvanized or Prepainted, Metallic-Coated Steel: Use stainless-steel fasteners.
 - Aluminum: Use aluminum or stainless-steel fasteners.
 - Copper: Use copper or stainless-steel fasteners.
 - Stainless Steel: Use stainless-steel fasteners.
- H. Seal joints with elastomeric sealant as required for watertight construction.
- I. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Prein edges of sheets to be soldered to a width of 1-1/2 inches except where pretinned surface would show in finished Work.
- Do not solder aluminum sheet.

- 3.2 ROOF DRAINAGE SYSTEM INSTALLATION
- A. General: Install sheet metal roof drainage items to produce complete roof drainage system according to SMACNA recommendations and as indicated. Coordinate installation of roof perimeter flashing with installation of roof drainage system.
- B. Hanging Gutters: Join sections with riveted and soldered joints or with lapped joints sealed with elastomeric sealant. Provide for thermal expansion. Attach gutters at eave or fascia to firmly anchored gutter brackets spaced not more than 36 inches apart. Location end closures and seal watertight with sealant. Slope to downspouts.
- Install gutter with expansion joints at locations indicated but not exceeding 50 feet apart. Install expansion joint caps.
 - Install continuous gutter screens on gutters with noncorrosive fasteners, removable for cleaning gutters.
- C. Downspouts: Join sections with 1-1/2-inch telescoping joints. Provide fasteners designed to hold downspouts securely 1 inch away from walls; locate fasteners at top and bottom and at approximately 60 inches o.c. in between.
- D. Parapet Scuppers: Install scuppers where indicated through parapet. Continuously support scupper, set to correct elevation, and seal flanges to interior wall face, over cans or tapered edge strips, and under roofing membrane.
- E. Conductor Heads: Anchor securely to wall with elevation of conductor head rim 1 inch (25 mm) below scupper discharge.

- 3.3 ROOF FLASHING INSTALLATION
- A. General: Install sheet metal roof flashing and trim to comply with performance requirements and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, set units true to line, and level as indicated. Install work with laps, joints, and seams that will be permanently watertight.
- B. Roof Edge Flashing and Copings: Anchor to resist uplift and outward forces according to recommendations in FMG Loss Prevention Data Sheet 1-49 and the authority having jurisdiction.
- C. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Secure in a waterproof manner. Extend counterflashing 4 inches over base flashing. Lap counterflashing joints a minimum of 4 inches (100 mm) and seal with elastomeric sealant.
- D. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Install flashing as follows:
- Turn lead flashing down inside vent piping, being careful not to block vent piping with flashing.
 - Seal with elastomeric sealant and clamp flashing to pipes penetrating roof except for lead flashing on vent piping.

END OF SECTION 0760

SECTION 0770 - ROOF ACCESSORIES

- PART 1 - GENERAL
- 1.1 SUMMARY
- A. This Section includes the following:
- Roof curbs.
 - Roof hatches.
- 1.2 SUBMITTALS
- A. Product Data: For each product indicated.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other Work.
- C. Samples: For each exposed finish upon request of architect.
- 1.3 QUALITY ASSURANCE
- A. Standards: Comply with the following:
- SMACNA's "Architectural Sheet Metal Manual" details for fabrication of units, including flanges and cap flashing to coordinate with type of roofing indicated.
 - NRCA's "Roofing and Waterproofing Manual" details for installing units.

- PART 2 - PRODUCTS
- 2.1 MATERIALS
- A. Aluminum-Zinc Alloy-Coated Steel Sheet: ASTM A 792/A 792M with Class AZ-50 coating, structural quality, Grade 40 (Grade 275), or as required for strength.
- B. Insulation: Manufacturer's standard rigid or semirigid glass-fiber board of thickness indicated.
- C. Wood Nailers: Softwood lumber, pressure treated with waterborne preservatives for aboveground use, complying with AWPA C2; not less than 1-1/2 inches thick.
- D. Fasteners: Same metal as metals being fastened, or nonmagnetic stainless steel or other noncorrosive metal as recommended by manufacturer. Match finish of exposed fasteners with finish of material being fastened.
- Provide nonremovable fastener heads.
- E. Gaskets: Manufacturer's standard tubular or fingered design of neoprene, EPDM, or PVC; or flat design of foam rubber, sponge neoprene, or cork.
- F. Bituminous Coating: SSPC-Paint 12, solvent-type bituminous mastic, nominally free of sulfur and containing no asbestos fibers, compounded for 15-mil dry film thickness per coating.
- G. Mastic Sealant: Polyisobutylene; nonhardening, nonskinning, nondrying, nonmigrating sealant.
- H. Elastomeric Sealant: Recommended by unit manufacturer that is compatible with joint surfaces; ASTM C 920, Type S, Grade NS, Class 25.
- I. Roofing Cement: ASTM D 4586, nonasbestos, fibrated asphalt cement designed for trowel application or other adhesive compatible with roofing system.

- 2.2 ROOF CURBS AND EQUIPMENT SUPPORTS
- 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:
- Custom Curb, Inc.
 - Metallic Products Corporation.
 - Vent Products Co., Inc.
- C. General: Units capable of supporting superimposed live and dead loads, including equipment loads and other construction to be supported. Coordinate dimensions with equipment to be supported.
- Provide preservative-treated wood nailers at tops of units and formed flange at perimeter bottom for mounting to roof.
 - On ribbed or fluted metal roofs, form flange at perimeter bottom to conform to roof profile.
 - Fabricate units to minimum height of 8 inches, unless otherwise indicated.
 - Where slope of roof deck exceeds 1/4 inch per foot, fabricate support units with height tapered to match slope to level tops of units.
- D. Roof Curbs:
- Fabrication: Unless otherwise indicated or required for strength, fabricate units from minimum 0.0747-inch-thick, structural-quality, hot-dip galvanized or aluminum-zinc alloy-coated steel sheet; factory primed and prepared for painting with welded or sealed mechanical corner joints.
 - Fabrication: Unless otherwise indicated or required for strength, fabricate units from minimum 0.063-inch-thick, sheet aluminum with welded corner joints.
 - Insulation: Manufacturer's standard rigid or semirigid insulation where indicated.

4. Cants: Formed cants and base profile coordinated with roof insulation thickness.
- PART 3 - EXECUTION
- 3.1 INSTALLATION
- A. General: Coordinate installation of roof accessories with installation of roof deck, roof insulation, flashing, roofing membranes, penetrations, equipment, and other construction to ensure that combined elements are waterproof and weathering. Anchor roof accessories securely to supporting structural substrates so they are capable of withstanding lateral and thermal stresses, and inward and outward loading pressures.
- B. Install roof accessory items according to construction details in NRCA's "Roofing and Waterproofing Manual," unless otherwise indicated.
- C. Separation: Separate metal from incompatible metal or corrosive substrates, including wood, by coating concealed surfaces, at locations of contact, with bituminous coating or providing other permanent separation.
- D. Flange Seal: Unless otherwise indicated, set flanges of accessory units in a thick bed of roofing cement to form seal.
- E. Cap Flashing: Where required as component of accessory, install cap flashing to provide waterproof overlap with roofing or roof flashing (as counterflashing). Seal overlap with thick bead of mastic sealant.
- F. Clean exposed surfaces according to manufacturer's written instructions. Touch up damaged metal coatings.

END OF SECTION 0770

SECTION 0790 - JOINT SEALANTS

- PART 1 - GENERAL
- 1.1 RELATED DOCUMENTS
- 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 sealants for the following:
- Exterior joints in vertical surfaces and nontraffic horizontal surfaces.
 - Exterior joints in horizontal traffic surfaces.
 - Interior joints in vertical surfaces and horizontal nontraffic surfaces.
 - Interior joints in horizontal traffic surfaces.
 - Firestop system through fire resistance - rated walls.
 - Exterior joints in sheet metal flashing and trim.
- 1.3 SUBMITTALS
- A. Firestop System Submittals: For each through-penetration firestop system, show each kind of construction condition penetrated, relationships to adjoining construction and kind of penetrating item. Include firestop design designation of testing and inspecting agency acceptable to authorities having jurisdiction that evidence compliance with requirements for each condition.
- 1.4 QUALITY ASSURANCE
- A. Sealant Compatibility and Adhesion Testing: Use sealant manufacturer's standard test methods to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
- B. Preconstruction Field-Adhesion Testing: Before installing elastomeric sealants, field test their adhesion to joint substrates using test method indicated in Part 3 "Field Quality Control" article.
- C. Fire-resistant joint sealant systems are identical to those tested per ASTM E 119 under conditions where positive furnace pressures of at least 0.01 inch of water is maintained at a distance of 0.78 inch below the fill materials surrounding the penetrating items in the test assembly. Provide rated systems complying with the following requirements:
- Fire-Resistive Rating of Joint Sealants: As indicated by reference to design designations listed by UL in their "Fire Resistance Directory" or by another testing inspecting agency.
- D. Mockups: Before installing joint sealants, apply elastomeric sealants to demonstrate aesthetic effects and qualities of materials and execution.
- Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
- 1.5 WARRANTY
- A. Special Installer's Warranty: Written warranty in which Installer agrees to repair or replace elastomeric joint sealants that do not meet requirements specified in this Section or fail in adhesion within specified warranty period two years from date of Final Acceptance.

- PART 2 - PRODUCTS
- 2.1 MANUFACTURERS
- A. In other Part 2 articles where subparagraph titles below introduce lists, the following requirements apply for product selection:
- Products: Subject to compliance with requirements, provide one of the products specified.
- 2.2 MATERIALS, GENERAL
- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
- B. Colors of Exposed Joint Sealants: As selected from manufacturer's full range.

- 2.03 ELASTOMERIC JOINT SEALANTS
- A. Silicone Sealant: (Gutters & Coping Sealant)
- Products:
 - Dow Corning; 795.
 - GE Silicone, SilPruf.
 - Tremco Spectrem 2.
- B. Single-Component Nonsag Urethane Sealant:
- For vertical masonry control joints, provide the following:
 - Products:
 - Somborn Building Products Div., ChemRex Inc.; NP 1.
 - Tremco; Vulkem 116.
 - Sika Corporation; Sikaflex - 1a.
 - Type and Grade: S (single component) and NS (nonsag).
 - Class: 25.
 - Exposure: Use T (traffic) and NT (nontraffic).
 - Substrates: Uses M, G, A, and, as applicable to joint substrates indicated, O.
- C. Urethane Sealant:
- Concrete paving joints, horizontal traffic surfaces.
 - Products:
 - Bostik, "Chem-Calk 950".
 - Somborn, "SL-1".
 - Tremco, Vulkem 45.
 - Type and Grade S (single component) and NS (nonsag).
 - Class 25.
 - Exposure: T (traffic).
 - Substrate: O.

- 2.3 FIRESTOPPING, GENERAL
- A. Compatibility: Provide through-penetration firestop systems that are compatible with one another with the substrates forming openings, and with the items, if any, penetrating through-penetration firestop system under conditions of service and application, as demonstrated by through-penetration firestop system manufacturers based on testing and field experience.
- B. Accessories: Provide components for each through-penetration firestop system that are needed to install fill materials and comply with "Performance Requirements" article. Use only components specified through penetration firestop system manufacturer and approved by the qualified testing and inspecting agency for firestop systems indicated. Accessories include, but are not limited to, the following items:
- Permanent forming/damming/backing materials, including the following:
 - Slat-rock-wood-fiber insulation.
 - Sealants in combination with other forming/damming/backing materials to prevent leakage of full materials in liquid state.
 - Fire-rated form board.
 - Filters for sealants.
 - Temporary forming materials.
 - Substrate primers.
 - Collars.
 - Steel sleeves.
 - Products:
 - 3M Fire Prevention Products.
 - Hilti Firestop Systems.
 - International Protective Coatings Corporation (IPC, a Division of W.R. Grace).
 - Tremco Inc.

- 2.4 JOINT-SEALANT BACKING
- A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C 1330, of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance:
- Type: C (closed-cell material with a surface skin).
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

- 2.5 MISCELLANEOUS MATERIALS
- A. Primer: Material recommended by joint sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants with joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

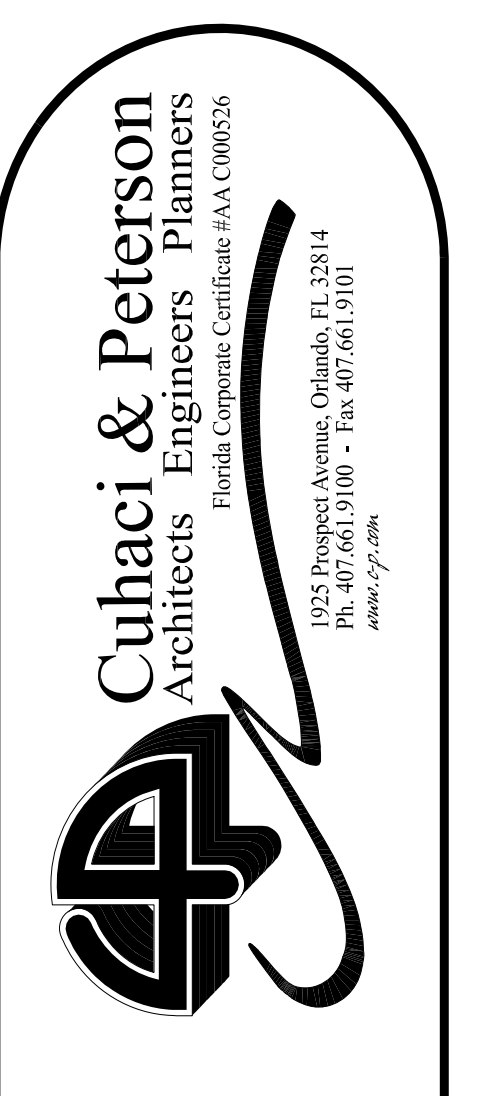
- PART 3 - EXECUTION
- 3.1 INSTALLATION
- A. Contractor performing work must be one the Sealant Manufacturer's Approved Applicators.
- B. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants.
- Remove foreign material from joint substrates that could interfere with adhesion of joint sealant.
 - Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air.
 - Remove laitance and form-release agents from concrete.
 - Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues could interfere with adhesion of joint sealants.
 - All surfaces to be caulked shall be clean and dry.
- C. Joint Priming: Prime joint substrates where recommended in writing by joint sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- D. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal. Sealant Installation: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- E. Install sealant backings to support sealants during application and at position required to produce optimum sealant movement capability.
- Do not leave gaps between ends of sealant backings.
 - Do not stretch, twist, puncture, or tear sealant backings.
 - Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- G. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and back of joints.
- H. Place sealants so they directly contact and fully wet joint substrates.
- Completely fill recesses provided for each joint configuration.
 - Produce uniform, cross-sectional shapes and depths that allow optimum sealant movement capability.
 - All deep cracks shall be filled to within 1/2 inch of the surface with an appropriate back-up material and caulked with a caulking gun. Caulking beads shall be smooth and straight.
 - Caulk around all door and storefront openings and where noted on the drawings.
- I. Masonry control joints shall be caulked with a high-quality paintable urethane caulk. Control depth of caulk at 3/8 inch to 1/2 inch with a continuous closed-cell rod.
- J. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants to form smooth, uniform beads, to eliminate air pockets, and to ensure contact and adhesion of sealant with sides of joint.
- Remove excess sealants from surfaces adjacent to joint.
 - Use tooling agents that are approved by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 - Joint Configuration: Concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.
- K. Clean excess sealants or sealant smears adjacent to joints as installation progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.
- L. Through-Penetration Firestop Installation:
- General: Installation through-penetration systems to comply with "Performance Requirements" of the firestop system manufacturer's written installation instructions and published drawings for the applications indicated.

END OF SECTION 0790

SECTION 0810 - STEEL DOORS AND FRAMES

- PART 1 - GENERAL
- 1.1 SUMMARY
- A. This Section includes steel doors and frames.
- 1.2 SUBMITTALS
- A. Product Data: For each product indicated. Include door designation, type, level and model, material description, label compliance, fire-resistance ratings, and finishes.
- B. Door Schedule: Use same reference designations indicated on Drawings.
- 1.3 QUALITY ASSURANCE
- A. Steel Door and Frame Standard: Comply with ANSI A 250.8, unless more stringent requirements are indicated.
- B. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated, based on testing according to NFPA 252.

- PART 2 - 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:
- Amweld Building Products, Inc.
 - Ceco Door Products; a United Dominion Company.
 - Steelcraft; a division of Ingersoll-Rand.
- 2.2 MATERIALS
- A. Hot-Rolled Steel Sheets: ASTM A 569/A 569M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
- B. Cold-Rolled Steel Sheets: ASTM A 366/A 366M, Commercial Steel (CS), or ASTM A 620/A 620M, Drawing Steel (DS), Type B; stretcher-leveled standard of flatness.
- C. Metallic-Coated Steel Sheets: ASTM A 653/A 653M, Commercial Steel (CS), Type B, with an A40 zinc-alloy (galvannealed) coating; stretcher-leveled standard of flatness.
- D. Electrolytic Zinc-Coated Steel Sheet: ASTM A 591/A 591M, Commercial Steel (CS), Class B coating; mill phosphatized; suitable for unexposed applications; stretcher-leveled standard of flatness where used for face sheets.
- 2.3 DOORS
- A. Interior Doors: Complying with ANSI 250.8 for level and model and ANSI A250.4 for physical-endurance level indicated.
- Level 1 and Physical Performance Level C, Model 1 (Full Flush).
- B. Exterior Doors: Complying with ANSI A250.8 for level and model and ANSI A250.4 for physical-endurance level indicated.
- Level 1 and Physical Performance Level C, Model 1 (Full Flush).
- 2.4 FRAMES
- A. General: ANSI A250.8; conceal fastenings, unless otherwise indicated.



CLIENT NAME
Good Capital Group
174 W. CONSTITUTION AVENUE, SUITE 1114
WINTER PARK, FLORIDA 32789

PROJECT NAME
Orlando Gateway Center
SF 528 & SR 438
ORLANDO, FL

SHEET TITLE
Specifications

STEPHEN BELVINS
P.E. AIA/LEED

PROJECT NO.	2009H
DATE	06-26-09
DRAWN	
CHECKED	
RELEASE	