

SECTION 092216 - NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes non-load-bearing steel framing members for the following applications:
 - 1. Interior framing systems (e.g., supports for partition walls, framed soffits, furring, etc.).

1.2 QUALITY ASSURANCE

- A. Sound Transmission Characteristics: For STC-rated assemblies that incorporate non-load-bearing steel framing, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

PART 2 - PRODUCTS

2.1 NON-LOAD-BEARING STEEL FRAMING, GENERAL

- A. Framing Members, General: Comply with ASTM C 754 for conditions indicated.
 - 1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal, unless otherwise indicated.
 - 2. Protective Coating: manufacturer's standard corrosion-resistant zinc coating, unless otherwise indicated.

2.2 SUSPENSION SYSTEM COMPONENTS

- A. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.0625-inch- diameter wire, or double strand of 0.0475-inch- diameter wire.
- B. Wire Hangers: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.162-inch diameter.
- C. Flat Hangers: Steel sheet, in size indicated on Drawings.
- D. Carrying Channels: Cold-rolled, commercial-steel sheet with a base-metal thickness of 0.0538 inch and minimum 1/2-inch- wide flanges.
 - 1. Depth: As indicated on Drawings.
- E. Furring Channels (Furring Members):
 - 1. Cold-Rolled Channels: 0.0538-inch bare-steel thickness, with minimum 1/2-inch- wide flanges, 3/4 inch deep.
 - 2. Steel Studs: ASTM C 645.
 - a. Minimum Base-Metal Thickness: As indicated on Drawings.
 - b. Depth: As indicated on Drawings.
 - 3. Hat-Shaped, Rigid Furring Channels: ASTM C 645, 7/8 inch deep.
 - a. Minimum Base Metal Thickness: As indicated on Drawings.
 - 4. Resilient Furring Channels: 1/2-inch- deep members designed to reduce sound transmission.
 - a. Configuration: Asymmetrical or hat shaped.

2.3 STEEL FRAMING FOR FRAMED ASSEMBLIES

- A. Steel Studs and Runners: ASTM C 645.
 - 1. Minimum Base-Metal Thickness: **0.0312 inch**.

- B. Slip-Type Head Joints: Where indicated, provide the following:
 - 1. Deflection Track: Steel sheet top runner manufactured to prevent cracking of finishes applied to interior partition framing resulting from deflection of structure above; in thickness not less than indicated for studs and in width to accommodate depth of studs. Verify deflection track has the capacity to accommodate the maximum deflection anticipated in the roof structure.
 - a. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) Steel Network Inc. (The); VertiTrack VTD Series.
 - 2) Superior Metal Trim; Superior Flex Track System (SFT).

- C. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.
 - 1. Minimum Base-Metal Thickness: **0.0312 inch**.

- D. Cold-Rolled Channel Bridging: **0.0538-inch** bare-steel thickness, with minimum **1/2-inch**- wide flanges.
 - 1. Depth: As indicated on Drawings.
 - 2. Clip Angle: Not less than **1-1/2 by 1-1/2 inches**, **0.068-inch**- thick, galvanized steel.

- E. Hat-Shaped, Rigid Furring Channels: ASTM C 645.
 - 1. Minimum Base Metal Thickness: **0.024 inch**.
 - 2. Depth: As indicated on Drawings.

- F. Resilient Furring Channels: **1/2-inch**- deep, steel sheet members designed to reduce sound transmission.
 - 1. Configuration: Asymmetrical or hat shaped.

- G. Cold-Rolled Furring Channels: **0.0538-inch** bare-steel thickness, with minimum **1/2-inch**- wide flanges.
 - 1. Depth: As indicated on Drawings.
 - 2. Furring Brackets: Adjustable, corrugated-edge type of steel sheet with minimum bare-steel thickness of **0.0312 inch**.
 - 3. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, **0.0625-inch**- diameter wire, or double strand of **0.0475-inch**- diameter wire.

- H. Z-Shaped Furring: With slotted or nonslotted web, face flange of **1-1/4 inches**, wall attachment flange of **7/8 inch**, minimum bare-metal thickness of **0.0179 inch**, and depth required to fit insulation thickness indicated.

2.4 AUXILIARY MATERIALS

- A. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

- B. Isolation Strip at Exterior Walls: Provide one of the following:
 - 1. Asphalt-Saturated Organic Felt: ASTM D 226, Type I (No. 15 asphalt felt), nonperforated.
 - 2. Foam Gasket: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, **1/8 inch** thick, in width to suit steel stud size.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Installation Standard: ASTM C 754.

1. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.

3.2 INSTALLING FRAMED ASSEMBLIES

A. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.

B. Install tracks (runners) at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts penetrating partitions above ceiling.

1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.
 - a. Install two studs at each jamb, unless otherwise indicated.
 - b. Install cripple studs at head adjacent to each jamb stud, with a minimum **1/2-inch** clearance from jamb stud to allow for installation of control joint in finished assembly.
 - c. Extend jamb studs through suspended ceilings and attach to underside of overhead structure.
3. Other Framed Openings: Frame openings other than door openings the same as required for door openings, unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
4. Sound-Rated Partitions: Install framing to comply with sound-rated assembly indicated.

C. Direct Furring:

1. Attach to masonry with stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced **24 inches** o.c.

D. Z-Furring Members:

1. Erect insulation (specified in Division 07 Section "Thermal Insulation") vertically and hold in place with Z-furring members spaced **24 inches** o.c.
2. Except at exterior corners, securely attach narrow flanges of furring members to wall with concrete stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced **24 inches** o.c.
3. At exterior corners, attach wide flange of furring members to wall with short flange extending beyond corner; on adjacent wall surface, screw-attach short flange of furring channel to web of attached channel. At interior corners, space second member no more than **12 inches** from corner and cut insulation to fit.

END OF SECTION 092216

SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Interior gypsum board.
2. Tile backing panels.

1.2 QUALITY ASSURANCE

A. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

B. Mockups: Before beginning gypsum board installation, install mockups of at least 100 sq. ft. in surface area to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Apply or install final decoration indicated, including painting, wall graphics and wallcoverings, on exposed surfaces for review of mockups.
2. Simulate finished lighting conditions for review of mockups.
3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

PART 2 - PRODUCTS

2.1 INTERIOR GYPSUM BOARD

A. General: Complying with ASTM C 36/C 36M or ASTM C 1396/C 1396M, as applicable to type of gypsum board indicated and whichever is more stringent.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- a. American Gypsum Co.
- b. BPB America Inc.
- c. G-P Gypsum.
- d. Lafarge North America Inc.
- e. National Gypsum Company.
- f. PABCO Gypsum.
- g. Temple.
- h. USG Corporation.
- i. Approved Equal.

B. Regular Type:

1. Thickness: 1/2 Inch at all areas.
2. Long Edges: Tapered and featured (rounded or beveled) for prefilling.

C. Ceiling Type: Manufactured to have more sag resistance than regular-type gypsum board.

1. Thickness: 1/2 inch.
2. Long Edges: Tapered.

2.2 MOLD RESISTANT PANELS (FOR TILE BACKING, LAMINATING TO COOLER/FREEZER BOXES, ADJACENT TO COOLERS AND BEHIND MDU'S)

A. Mold-Resistant Gypsum Backing Board: ASTM D3273.

1. Basis-of-Design Product: NGC Gold Bond XP Gypsum Board
2. 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:
 - a. USG.
 - b. American Gypsum Co.
 - c. BPB America Inc.
 - d. G-P Gypsum.
 - e. Lafarge North America Inc.
 - f. National Gypsum Company.
 - g. PABCO Gypsum.
 - h. Temple.
3. Core: **1/2 inch**, regular type.

2.3 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.

1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized steel sheet.
2. Shapes:
 - a. Cornerbead.
 - b. LC-Bead: J-shaped; exposed long flange receives joint compound.
 - c. L-Bead: L-shaped; exposed long flange receives joint compound.
 - d. L-Bead: 'Tear Away L Bead' by Trim-Tex Drywall Products; provide at bottom of gypsum board sales-floor side of Cooler and Freezer.
 - e. L-Bead: 'Tear Away L Bead' by Trim-Tex Drywall Products; provide at top of gypsum board at all sales floor walls.
 - f. U-Bead: J-shaped; exposed short flange does not receive joint compound.
 - g. Expansion (control) joint.

2.4 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475/C 475M.

B. Joint Tape:

1. Interior Gypsum Wallboard: Paper.
2. Tile Backing Panels: As recommended by panel manufacturer.

C. Joint Compound for Interior Gypsum Wallboard: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.

1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.
2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.
 - a. Use setting-type compound for installing paper-faced metal trim accessories.
3. Fill Coat: For second coat, use setting-type, sandable topping compound.
4. Finish Coat: For third coat, use drying-type, all-purpose compound.
5. Skim Coat: For final coat of Level 5 finish, use drying-type, all-purpose compound.

D. Joint Compound for Tile Backing Panels:

1. Water-Resistant Gypsum Backing Board: Use setting-type taping compound and setting-type, sandable topping compound.

2.5 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.
- B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.
- C. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.
 1. Use screws complying with ASTM C 954 for fastening panels to steel members from **0.033 to 0.112 inch** thick.
- D. Sound Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.
- E. Thermal Insulation: As specified in Division 07 Section "Thermal Insulation."
- F. Vapor Retarder: As specified in Division 07 Section "Thermal Insulation."

PART 3 - EXECUTION

3.1 APPLYING AND FINISHING PANELS, GENERAL

- A. Comply with ASTM C 840.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. Provide **1/4- to 1/2-inch-** wide spaces at these locations, and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

3.2 APPLYING INTERIOR GYPSUM BOARD

- A. Install interior gypsum board in the following locations:
 1. Regular Type: Vertical surfaces, unless otherwise indicated.
 2. Type X: Where required for fire-resistance-rated assembly.
 3. Ceiling Type: Ceiling surfaces.
 4. Foil-Backed Type: As indicated on Drawings.
 5. Moisture- and Mold-Resistant Type: As indicated on Drawings.

3.3 APPLYING TILE BACKING PANELS

- A. Water-Resistant Gypsum Backing Board: Install where indicated. Install with **1/4-inch** gap where panels abut other construction or penetrations.
- B. Areas Not Subject to Wetting: Install regular-type gypsum wallboard panels to produce a flat surface except at locations indicated to receive water-resistant panels.

3.4 INSTALLING TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- B. Control Joints: Install control joints according to ASTM C 840, GA-216, and in specific locations approved by Architect for visual effect.

C. Interior Trim: Install in the following locations:

1. Cornerbead: Use at outside corners, unless otherwise indicated.
2. LC-Bead: Use at exposed panel edges.
3. L-Bead: Use where indicated.
4. L-Bead: 'Tear Away L Bead' by Trim-Tex Drywall Products; provide at bottom of gypsum board sale-floor side of Cooler and Freezer.
5. U-Bead: Use at exposed panel edges.

3.5 FINISHING GYPSUM BOARD

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints, rounded or beveled edges, and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below:
 1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
 2. Level 2: Panels that are substrate for tile.
 3. Level 4: At panel surfaces that will be exposed to view, unless otherwise indicated.
 - a. Primer and its application to surfaces are specified in other Division 09 Sections.

3.6 PROTECTION

- A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- B. Remove and replace panels that are wet, moisture damaged, and mold damaged.
 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 092900

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SECTION 093000 - TILING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Ceramic tile.
2. Cleaning existing tiled floors.

1.2 SUBMITTALS

A. Samples:

1. Each type and composition of tile and grout for each color and finish required.

1.3 EXTRA MATERIALS

A. Furnish extra materials that match and are from same production runs as products installed and that are packaged with protective covering and identified with labels describing contents.

1. Tile and Trim Units: Furnish quantity of full-size units equal to 3 percent of amount installed for each type, composition, color, pattern, and size indicated.

PART 2 - PRODUCTS

2.1 TILE PRODUCTS

- A. ANSI Ceramic Tile Standard: Provide Standard grade tile that complies with ANSI A137.1 for types, compositions, and other characteristics indicated.
- B. Tile Types: See drawing A-603 and interior elevations.
- C. Thin set tile for floor and walls, furnished and installed by the General Contractor, see the drawings. Note: Aldi has a national account rate with Daltile (and American Olean); contact national account representative at:

Daltile National Account Hotline: (877)-556-5728

Or email at: National Order Desk: NATIONAL.ACCOUNTS@DALTILE.COM

2.2 SETTING MATERIALS

A. Latex-Portland Cement Mortar (Thin Set): ANSI A118.4. Basis of Design: Laticrete #254 Platinum.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Boiardi Products; a QEP company.
 - b. Bonsal American; an Oldcastle company.
 - c. Bostik, Inc.
 - d. C-Cure.
 - e. Custom Building Products.
 - f. Jamo Inc.
 - g. Laticrete International, Inc.
 - h. MAPEI Corporation.

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- i. Merkrete Products, Inc.
 - j. Southern Grouts & Mortars, Inc.
 - k. Summitville Tiles, Inc.
 - l. TEC; a subsidiary of H. B. Fuller Company.
2. Prepackaged, dry-mortar mix to which only water must be added.
 3. For wall applications, provide nonsagging mortar. Basis of Design: Laticrete Tri-Lite.

2.3 GROUT MATERIALS

- A. Grout Types: See drawing A-603.

2.4 MISCELLANEOUS MATERIALS

- A. Trowelable Underlayments and Patching Compounds: Latex-modified, portland cement-based formulation provided or approved by manufacturer of tile-setting materials for installations indicated.
- B. Grout Sealer: Manufacturer's standard silicone product for sealing grout joints and that does not change color or appearance of grout.

1. Products: Subject to compliance with requirements, provide one of the following:

- a. Bonsal American, an Oldcastle company; Grout Sealer.
- b. Bostik, Inc.; CeramaSeal Magic Seal.
- c. C-Cure; Penetrating Sealer 978.
- d. Custom Building Products; Grout Sealer.
- e. Jamo Inc.; Penetrating Sealer.
- f. MAPEI Corporation; KER **004**, **Keraseal** Penetrating Sealer for Unglazed Grout and Tile.
- g. Southern Grouts & Mortars, Inc.; Silicone Grout Sealer.
- h. Summitville Tiles, Inc.; SL-15, Invisible Seal Penetrating Grout and Tile Sealer.
- i. TEC, a subsidiary of H. B. Fuller Company; TA-256 Penetrating Silicone Grout Sealer.

- C. Metal Edge Strips:

- 1) See Drawing A-603.

- D. Cleaners:

- 1) Fila Deterdek or Owner-approved high spec grout haze remover.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of installed tile.
 1. Verify that substrates for setting tile are firm, dry, clean, and free of coatings that are incompatible with tile-setting materials including curing compounds and other substances that contain soap, wax, oil, or silicone; and comply with flatness tolerances required by ANSI A108.01 for installations indicated.

3.2 PREPARATION

- A. Fill cracks, holes, and depressions in concrete substrates for tile floors installed with thin-set mortar with trowelable leveling and patching compound specifically recommended by tile-setting material manufacturer.
- B. Blending: For tile exhibiting color variations, use factory blended tile or blend tiles at Project site before installing.
- C. Field-Applied Temporary Protective Coating: If indicated under tile type or needed to prevent grout from staining or adhering to exposed tile surfaces, precoat them with continuous film of temporary protective coating, taking care not to coat unexposed tile surfaces.

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3.3 INSTALLATION

- A. Comply with TCA's "Handbook for Ceramic Tile Installation" for TCA installation methods specified in tile installation schedules. Comply with parts of the ANSI A108 Series "Specifications for Installation of Ceramic Tile" that are referenced in TCA installation methods, specified in tile installation schedules, and apply to types of setting and grouting materials used.
 - 1. For the following installations, follow procedures in the ANSI A108 Series of tile installation standards for providing 95 percent mortar coverage:
 - a. Tile floors composed of tiles **8 by 8 inches** or larger.
- B. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.
- C. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.
- D. Jointing Pattern: Lay tile in grid pattern unless otherwise indicated. Lay out tile work and center tile fields in both directions in each space or on each wall area. Lay out tile work to minimize the use of pieces that are less than half of a tile. Provide uniform joint widths unless otherwise indicated.
- E. Joint Widths: Unless otherwise indicated, install tile with the following joint widths:
 - 1. Ceramic Tile: **1/8 inch**.
 - 2. Porcelain Tile: **per Owner**

3.4 TILE INSTALLATION SCHEDULE

- A. Interior Wall Installations, Metal Studs or Furring:
 - 1. Tile Installation W243: Thin-set mortar on gypsum board; TCA W243.
 - a. Tile Type: **T-1, T-2, T-3, T-4, and T-5 (furnished by GC, installed by GC)**
 - b. Thin-Set Mortar: Dry-set Latex-portland cement mortar.
 - c. Grout: Polymer-modified sanded grout.
 - d. The Contractor shall thoroughly clean tile installed by the Contractor immediately prior to occupancy by Owner.

END OF SECTION 093000

SECTION 095113 - ACOUSTICAL PANEL CEILINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes acoustical panels and exposed suspension systems for ceilings.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.

1.3 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Acoustical Ceiling Panels: Full-size panels equal to 3 full boxes.
 2. Suspension System Components: Quantity of each exposed component equal to 2.0 percent of quantity installed.

PART 2 - PRODUCTS

2.1 ACOUSTICAL PANEL CEILINGS, GENERAL

- A. Acoustical Panel Standard: Comply with ASTM E 1264.
- B. Metal Suspension System Standard: Comply with ASTM C 635.
- C. Attachment Devices: Size for five times the design load indicated in ASTM C 635, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.
- D. Wire Hangers, Braces, and Ties: Zinc-coated carbon-steel wire; ASTM A 641/A 641M, Class 1 zinc coating, soft temper.
1. Size: Select wire diameter so its stress at 3 times hanger design load (ASTM C 635, Table 1, "Direct Hung") will be less than yield stress of wire, but provide not less than 0.106-inch diameter wire.
- E. Metal Edge Moldings and Trim: Type and profile indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations that comply with seismic design requirements; formed from sheet metal of same material, finish, and color as that used for exposed flanges of suspension system runners.
- F. Hold-down Clips: Provide at Entry and Exit Vestibules.

2.2 ACOUSTICAL PANELS FOR ACOUSTICAL PANEL CEILING

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
- B. Products: Subject to compliance with requirements, provide one of the following:
1. **SAPC-1:** Armstrong World Industries, Inc.; Georgian, Tegular product No.1752, Class A, color: white, 2' x 2' x 5/8", Edge/Joint Detail: Beveled, kerfed and rabbeted for 15/16" Grid (White).
 2. **SAPC-2:** Armstrong World Industries, Inc.; Clean Room VL, unperforated, product No. 868 Fire Guard (washable), color: White, 2' x 2' x 5/8", Square edge for 15/16" Grid (White).
 3. **SAPC-3:** Armstrong World Industries, Inc.; Cortega, Product No. PN91311, Class A, Color: Sepia, 2'x2'x5/8", Square Lay In for 15/16" Grid (Sepia).

To obtain preferred national account pricing, call Armstrong National Rep. Lisa Cavataio at 800-442-4212 option #1. (See also <https://www.armstrongceilings.com/commercial/en-us/find-a-ceiling-distributor.html>) Substitution only as approved by Owner.

- C. Classification: Provide panels complying with ASTM E 1264 for type and form as follows:
 - 1. Type and Form: (SAPC-1 & 3: Type III, mineral base with painted finish; Form 2, water felted); (SAPC-2: vinyl faced membrane with washable finish).
- D. LR: Not less than 0.80 at SAPC-1 & 2, .50 at SAPC-3.
- E. NRC: Not less than 0.55, Type E-400 mounting per ASTM E 795. (N/A at SAPC-2).
- F. CAC: Not less than 40.

2.3 METAL SUSPENSION SYSTEM FOR ACOUSTICAL PANEL CEILING

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
- B. Products: Subject to compliance with requirements, provide one of the following:
 - 1. Armstrong World Industries, Inc.; 15/16" Prelude XL.
To obtain preferred national account pricing, call Armstrong National Rep. Lisa Cavataio at 800-442-4212 option #1.
- C. Double-Web, Steel Suspension System: Main and cross runners roll formed from cold-rolled steel sheet, prepainted, electrolytically zinc coated, or hot-dip galvanized according to ASTM A 653/A 653M, not less than **G30** coating designation, with prefinished **15/16-inch-** wide metal caps on flanges.
 - 1. Structural Classification: Intermediate-duty system.
 - 2. End Condition of Cross Runners: Override (stepped) type.
 - 3. Cap Material: Steel cold-rolled sheet.
 - 4. Cap Finish: (SAPC-1 & SAPC-2: Painted white; SAPC-3: Painted Sepia).
- D. SAPC-1 & SAPC-2 grid pieces to be:

#7300	12' Main Runners ID
#7301	12' Main Runner HD
#XL7348	4' Cross Tee
#XL7328	2' Cross Tee
#XL7342	4' Cross Tee
#7800	12' Wall Molding
- E. SAPC-3 grid pieces to be:

57164	Prelude 15/16" grid 4' Cross tee -Sepia
57165	Prelude 15/16" grid 2' Cross tee -Sepia
57177	Prelude 15/16" grid 12' HD Main Beam -Sepia
57166	12' Angle Molding -Sepia

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with ASTM C 636 and seismic design requirements indicated, per manufacturer's written instructions and CISCA's "Ceiling Systems Handbook."

- B. Measure each ceiling area and establish layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders.
- C. Suspend ceiling hangers from building's structural members, plumb and free from contact with insulation or other objects within ceiling plenum. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers, use trapezes or equivalent devices. When steel framing does not permit installation of hanger wires at spacing required, install carrying channels or other supplemental support for attachment of hanger wires.
 - 1. Do not attach hangers to steel deck tabs or to steel roof deck.
- D. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical panels. Screw attach moldings to substrate at intervals not more than **16 inches** o.c. and not more than **3 inches** from ends, leveling with ceiling suspension system to a tolerance of **1/8 inch in 12 feet**. Miter corners accurately and connect securely.
- E. Install suspension system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.
- F. Install acoustical panels with undamaged edges and fit accurately into suspension system runners and edge moldings. Scribe and cut panels at borders and penetrations to provide a neat, precise fit.

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END OF SECTION 095113

SECTION 096513 - RESILIENT BASE AND ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Resilient base.
 - 2. Resilient molding accessories.

1.2 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: As determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.
 - 1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

1.3 PROJECT CONDITIONS

- A. Maintain ambient temperatures within range recommended by manufacturer in spaces to receive resilient products.
- B. Until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer.
- C. Install resilient products after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 RESILIENT BASE

- A. Resilient Base:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one the following:
 - a. Roppe Corporation, USA.
 - b. Approved Equal.
- B. Resilient Base Standard: ASTM F 1861.
 - 1. Material Requirement: Type TV (vinyl, thermoplastic).
 - 2. Manufacturing Method: Group II (layered).
 - 3. Style: Cove (base with toe).
- C. Minimum Thickness: 0.125 inch.
- D. Height: 4 inches.
- E. Lengths: Cut lengths 48 inches long or coils in manufacturer's standard length.
- F. Outside Corners: Job formed or preformed.
- G. Inside Corners: Job formed or preformed.
- H. Finish: Satin.
- I. Colors and Patterns:
 - 1. 193 "Black/Brown" at all locations

2.2 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by manufacturer to suit resilient products and substrate conditions indicated.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.
- B. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.
- C. Do not install resilient products until they are same temperature as the space where they are to be installed.
 - 1. Move resilient products and installation materials into spaces where they will be installed at least 48 hours in advance of installation.
- D. Sweep and vacuum clean substrates to be covered by resilient products immediately before installation.

3.2 RESILIENT BASE INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient base.
- B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.
- C. Install resilient base in lengths as long as practicable without gaps at seams and with tops of adjacent pieces aligned.
- D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.
- E. Do not stretch resilient base during installation.

3.3 RESILIENT ACCESSORY INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient accessories.

3.4 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protection of resilient products.
- B. Cover resilient products until Substantial Completion.

END OF SECTION 096513

SECTION 099100 - PAINTING

PART 1 GENERAL

1.1 SUMMARY

- A. This Section includes surface preparation and the application of paint systems (SCAQMD Compliant) on the following interior substrates:
 - Concrete Pallet Bumper.
 - Steel.
 - Galvanized metal.
 - Wood.
 - Gypsum board.
 - Polypropylene scrim insulation covering.
- B. This Section also includes surface preparation and the application of paint systems on the following exterior substrates:
 - Pressure treated wood.
 - Plastics.
 - Steel.
 - Galvanized metal.
 - Cast concrete.
 - Concrete masonry units (CMU).
- C. See 2.2 Applications /Scope

1.2 RELATED DOCUMENTS

- A. Project drawings.
- B. Division 01
- C. Section 033000 - Cast Concrete.
- D. Section 042000 - Unit Masonry.
- E. Section 055000 - Metal Fabrications.
- F. Section 061053- Miscellaneous Rough Carpentry.
- G. Section 061600- Sheathing.
- H. Section 072100- Thermal Insulation.
- I. Section 081113- Hollow Metal Doors and Frames.
- J. Section 083613- Sectional OH Doors.
- K. Section 092900- Gypsum Board.
- L. Section 230500 - Common Work Results for HVAC.
- M. Section 260500 - Common Work Results for Electrical.

1.3 REFERENCES

- A. Material Safety Data Sheets / Environmental Data Sheets: Per manufacturer's MSDS/EDS for specific VOCs (calculated per 40 CFR 59.406). VOCs may vary by base and sheen.
- B. South Coast Air Quality Management District (SCAQMD): Rule 1113 - Architectural Coatings.

1.4 SUBMITTALS

- A. Submit under provisions of Section 013300 - Submittal Procedures.
- B. Product Data: For each paint system indicated, including.
 - 1. Product characteristics.
 - 2. Surface preparation instructions and recommendations.
 - 3. Primer requirements and finish specification.
 - 4. Storage and handling requirements and recommendations.
 - 5. Application methods.
 - 6. Cautions for storage, handling and installation.

- C. Verification Samples: For each finish product specified, submit samples that represent actual product, in specified color and sheen.
- D. Laboratory Test Reports: For paints and coatings, documentation indicating that they meet the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers", the California Green Building Code, SCAQMD, as well as all local and regional authorities with jurisdiction.

1.5 CLOSEOUT SUBMITTALS

- A. Coatings Maintenance Manual: Upon conclusion of the project, the Contractor or paint manufacturer/supplier shall furnish a coating maintenance manual, such as Sherwin-Williams "Custodian Project Color and Product Information" report or equal. Manual shall include an Area Summary with finish schedule, Area Detail designating where each product/color/finish was used, product data pages, Material Safety Data Sheets, care and cleaning instructions, touch-up procedures, and color samples of each color and finish used.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.
- B. Paint exposed surfaces. If a color of finish, or a surface is not specifically mentioned, Architect will select from standard products, colors and sheens available.
- C. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels unless indicated.
- D. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish surfaces for verification of products, colors and sheens.
 - 2. Finish area designated by Architect.
 - 3. Provide samples that designate primer and finish coats.
 - 4. Do not proceed with remaining work until the Architect approves the mock-up.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver manufacturer's unopened containers to the work site. Packaging shall bear the manufacturer's name, label, and the following list of information.
 - 1. Product name, and type (description).
 - 2. Application and use instructions.
 - 3. Surface preparation.
 - 4. VOC content.
 - 5. Environmental handling.
 - 6. Batch date.
 - 7. Color number.
- B. Storage: Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.
- C. Store materials in an area that is within the acceptable temperature range, per manufacturer's instructions. Protect from freezing.
- D. Handling: Maintain a clean, dry storage area, to prevent contamination or damage to the coatings.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside

manufacturer's absolute limits.

1.9 EXTRA MATERIALS

- A. Furnish extra paint materials from the same production run as the materials applied and in the quantities described below. Package with protective covering for storage and identify with labels describing contents. Deliver extra materials to Owner.
- B. Furnish Owner with an additional one percent of each material and color, but not less than 1 gal (3.8 l) or 1 case, as appropriate.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Sherwin-Williams, which is located at: 101 Prospect Ave.; Cleveland, OH 44115; Toll Free Tel: 800-524-5979; Tel: 216-566-2000; Fax: 440-826-1989; Email: [request info \(specifications@sherwin.com\)](mailto:request%20info%40specifications@sherwin.com); Web: www.sherwin-williams.com www.generalpolymers.com
- B. Substitutions subject to pre-approval of materials and color match.

2.2 APPLICATIONS/SCOPE

- A. Interior Paints and Coatings:(SCAQMD COMPLIANT)
 - 1. Concrete: Poured, precast, tilt-up, cast-in-place, cement board, plaster.
 - 2. Concrete: Floor striping (include traffic yellow and clear coating).
 - 3. Masonry: Concrete masonry units, including split-face, scored, and smooth block.
 - 4. Metal: Aluminum, galvanized steel.
 - 5. Metal: Structural steel, joists, trusses, beams, partitions and similar items.
 - 6. Wood: Walls, ceilings, doors, trim and similar items.
 - 7. Wood: Floors (non-vehicular), painted.
 - 8. Drywall: Drywall board, Gypsum board.
- B. Exterior Paints and Coatings:
 - 1. Concrete: Cementitious siding, flexboard, and shingles (non-roof).
 - 2. Masonry: Concrete masonry units, cinder or concrete block.
 - 3. Concrete: Concrete floor of dumpster enclosure.
 - 4. Metal: Aluminum, galvanized steel.
 - 5. Metal: Miscellaneous iron, ornamental iron, ferrous metal.
 - 6. Wood: Siding, trim, pressure treated framing, and miscellaneous hardboard.
 - 7. Architectural PVC, plastic, fiberglass.
 - 8. EIFS & stucco.

2.3 PAINT MATERIALS - GENERAL

- A. Paints and Coatings.
 - 1. Unless otherwise indicated, provide factory-mixed coatings. When required, mix coatings to correct consistency in accordance with manufacturer's instructions before application. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.
 - 2. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color. Or follow manufactures product instructions for optimal color conformance.
- B. Primers: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.
- C. Coating Application Accessories: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required, per manufacturer's specifications.
- D. Color: Refer to Finish Schedule for paint colors, and as selected.

- E. Provide paints with a flame spread range of 76-200 (Class C) at all exposed locations.

2.4 INTERIOR PAINT SYSTEMS (SCAQMD COMPLIANT)

A. CMU - (Block Walls) **-PT-1**

- 1. Latex Systems:
 - a. Semi-Gloss Finish:
 - 1) 1st Coat: S-W Preprite Block Filler, B25W25
 - 2) 2nd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss, B31-2600 Series.
 - 3) 3rd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss, B31-2600 Series (4 mils wet, 1.6 mils dry per coat).

B. CEILING SUBSTRATES: (Exposed Steel, Wood, Galvanized Ductwork, Conduit, Polypropylene Scrim Insulation Covering) **-PT-2**

- 1. Multi-Surface Acrylic Dry-Fall Coating System:
 - a. System For Retrofits, Renovations and "Store Refresh Projects":
 - 1) 1st Coat: S-W Pro Industrial Multi-Surface Acrylic, B66-1560 Eg-Shel. (<50 g/L VOC)
 - 2) 2nd Coat: S-W Pro Industrial Multi-Surface Acrylic, B66-1560 Eg-Shel. (<50 g/L VOC) (5.0 mils wet, 2.0 mils dry per coat).
 - b. System For New Construction Only:
 - 1) Exposed Deck: Steel
 - 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer B66-310 (<96 g/L VOC)
 - 2nd Coat: S-W Waterborne Acrylic DryFall B42W181 (<50 g/L VOC)
 - 2) Exposed Deck: Galvanized
 - 1st Coat: S-W Waterborne Acrylic DryFall B42W181 (<50 g/L VOC)
 - 2nd Coat: S-W Waterborne Acrylic DryFall B42W181 (<50 g/L VOC)

C. METAL: (Steel Doors and Frames, Pallet Bumpers/Curbs) **-PT-3**

- 1. Latex Systems:
 - a. Semi-Gloss Finish High Performance:
 - 1) Prepare surfaces per section 3.2 of this specification.
 - 2) 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series (5.0 mils wet, 2.0 mils dry).
 - 3) 2nd Coat: S-W Pro Industrial Semi-Gloss Acrylic Coating B66-650 Series.
 - 4) 3rd Coat: S-W Pro Industrial Semi-Gloss Acrylic Coating, B66-650 Series (6.0 mils wet, 2.5 mils dry per coat).

D. METAL: (Galv. Steel Grills) **-PT-4**

- 1. Latex Systems:
 - a. Semi-Gloss Finish High Performance:
 - 1) 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series (5.0 mils wet, 2.0 mils dry).
 - 2) 2nd Coat: S-W Pro Industrial Semi-Gloss Acrylic Coating B66-650 Series.
 - 3) 3rd Coat: S-W Pro Industrial Semi-Gloss Acrylic Coating, B66-650 Series (6.0 mils wet, 2.5 mils dry per coat).

E. GYPSUM BOARD: Walls, Soffits **-PT-5**

- 1. Latex Systems:
 - a. Egg-Shell / Satin Finish:
 - 1) 1st Coat: S-W ProMar 200 Zero VOC Interior Latex Primer, B28W2600 (4 mils wet, 1.5 mils dry).
 - 2) 2nd Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-2600 Series.
 - 3) 3rd Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-2600 Series (4 mils wet, 1.7 mils dry per coat)

F. GYPSUM BOARD: Walls, Soffits **-PT-6**

- 1. Latex Systems:
 - a. Flat:
 - 1) 1st Coat: S-W ProMar 200 Zero VOC Interior Latex Primer, B28W2600 (4 mils wet, 1.5 mils dry).
 - 2) 2nd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-2600 Series.

- 3) 3rd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-2600 Series (4 mils wet, 1.7 mils dry per coat)
- G. WOOD: Plywood Walls, Trim: **-PT-7**
 - 1. Latex Systems:
 - a. Semi - Gloss Finish:
 - 1) 1st Coat: S-W Premium Wall and Wood Primer, B28W8111 (4 mils wet, 1.8 mils dry).
 - 2) 2nd Coat: S-W ProClassic Waterborne Acrylic Semi-Gloss, B31 Series.
 - 3) 3rd Coat: S-W ProClassic Waterborne Acrylic Semi-Gloss, B31 Series (4 mils wet, 1.3 mils dry per coat).
- H. METAL: Steel: Ladders, Railings, Bumper Covers, Bollards & Exterior H.M. Doors **-PT-8**
 - 1. Urethane System (Water Base):
 - a. Gloss Finish:
 - 1) Prepare surfaces per section 3.2 of this specification.
 - 2) 1st Coat: **S-W Macropoxy 646-100 Fast Cure Epoxy**
 - 3) 2nd Coat: S-W Waterbased Acrolon 100, B65-720 Series.
 - 4) 3rd Coat: S-W Waterbased Acrolon 100, B65-720 Series (4.0 mils wet, 2 mils dry per coat).
- I. CONCRETE: Cooler Floors **-PT-9** **-Note: This product is only used as needed at the discretion of the Aldi Construction Manager ; Installer must be certified by supplier to be qualified to install this product.**
 - 1. Breatheable, Water Based Slurry System
 - a. Gloss Finish
 - 1) 1st Coat: General Polymers 3460 WBE with 20% Potable Water.
 - 2) 2nd Coat: Slurry Installation (1/16"): 3460 WBE (smooth finish) with 5150-15 AA S Aggregate.
 - 3) 3rd Coat: Urethane Topcoat: 4408 Gloss WB Urethane.
- J. CONCRETE: Floor Striping: **-PT-10**
 - 1. Epoxy Systems:
 - a. Safety Yellow Gloss Finish:
 - 1) 1st Coat: S-W ArmorSeal 8100 Water Based Epoxy.
 - 2) 2nd Coat: S-W ArmorSeal 8100 Water Based Epoxy.
 - 3) 3rd Coat (Clear Coat): S-W Armorseal 8100 Water Based Epoxy

2.5 EXTERIOR PAINT SYSTEMS

- A. CONCRETE: Cast Foundations, Loading Docks, PreCast Panels. **-PT-15**
 - 1. Acrylic Systems:
 - a. Satin Finish- Early Moisture Resistant:
 - 1) 1st Coat: S-W Loxon Concrete & Masonry Primer Sealer, A24W8300 (8 mils wet, 3.2 mils dry).
 - 2) 2nd Coat: S-W Latitude Acrylic Satin, K62-650 Series.
 - 3) 3rd Coat: S-W Latitude Acrylic Satin, K62-650 Series (4 mils wet, 1.52 mils dry per coat).
- B. MASONRY (CMU, Dumpster Enclosure Walls) **-PT-16**
 - 1. Urethane System
 - a. Gloss Finish
 - 1) 1st Coat: S-W Loxon BlockSurfacer, A24W200 (50-100 sq ft/gal).
 - 2) 2nd Coat: S-W Macropoxy 646-100 Fast Cure Epoxy.
 - 3) 3rd Coat: S-W Waterbased Acrolon 100, B65-720 Series (4.0 mils wet, 2 mils dry per coat).
- C. STUCCO/EIFS **-PT-17**
 - 1. Acrylic Systems
 - a. Satin Moisture Resistant Finish:

- 1) 1st Coat: S-W Loxon BlockSurfacer, A24W200 (50-100 sq ft/gal).
 - 2) 2nd Coat: S-W Latitude Latex Satin, K62-650 Series.
 - 3) 3rd Coat: S-W Latitude Latex Satin, K62-650 Series (4 mils wet, 1.56 mils dry per coat).
- D. WOOD: Pressure Treated, Dumpster Enclosure Roof Structure, Misc. Trim—**PT-18**
1. Acrylic Systems:
 - a. Satin Finish - Early Moisture Resistant Finish:
 - b.
 - 1) 1st Coat: S-W Exterior Latex Wood Primer, B42W8041 (4 mils wet, 1.4 mils dry). **Specifier Note: Substitute Primer for S-W PrepRite ProBlock if PVC Trim**
 - 2) 2nd Coat: S-W Latitude Latex Satin, K62-650 Series.
 - 3) 3rd Coat: S-W Latitude Latex Satin, K62-650 Series (4 mils wet, 1.52 mils dry per coat).
- E. METAL: Steel, Lintels, Railings, Cart Guides, Bollards, Misc. Structural Steel—**PT-19**
1. Latex Systems:
 - a. Gloss Finish:
 - 1) 1st Coat: S-W Macropoxy 646-100 Fast Cure Epoxy
 - 2) 2nd Coat: S-W Waterbased Acrolon 100, B65-720 Series.
 - 3) 3rd Coat: S-W Waterbased Acrolon 100, B65-720 Series (4.0 mils wet, 2 mils dry per coat).
- F. MASONRY: Typical CMU Walls—**PT-20**
1. Acrylic Systems:
 - a. Satin Finish - Early Moisture Resistant Finish:
 - 1) 1st Coat: S-W Loxon BlockSurfacer, A24W200 (50-100 sq ft/gal).
 - 2) 2nd Coat: S-W Latitude Latex Satin, K62-650 Series.
 - 3) 3rd Coat: S-W Latitude Latex Satin, K62-650 Series (4 mils wet, 1.52 mils dry per coat).

PART 3 EXECUTION

3.1 EXAMINATION

- a. Do not begin installation until substrates have been properly prepared; notify Architect of unsatisfactory conditions before proceeding. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - Concrete: 12 percent.
 - Wood: 15 percent.
 - Gypsum Board: 12 percent.
- B. Proceed with work only after conditions have been corrected and approved by all parties, otherwise application of coatings will be considered as an acceptance of surface conditions.
- C. Previously Painted Surfaces: Verify that existing painted surfaces do not contain lead based paints, notify Architect immediately if lead based paints are encountered.

3.2 SURFACE PREPARATION

- A. General: Surfaces shall be dry and in sound condition. Remove oil, dust, dirt, loose rust, peeling paint or other contamination to ensure good adhesion.
 1. Remove mildew before painting by washing with a solution of 1 part liquid household bleach and 3 parts of warm water. Apply the solution and scrub the mildewed area. Allow the solution to remain on the surface for 10 minutes. Rinse thoroughly with clean water and allow the surface to dry a minimum of 48 hours before painting. Wear protective glasses or goggles, waterproof gloves, and protective clothing. Quickly wash off any of the mixture that comes in contact with your skin. Do not add detergents or ammonia to the bleach/water solution.
 2. Remove items including but not limited to thermostats, electrical outlets, switch covers and similar items prior to painting. After completing painting operations in each space or area,

- reinstall items removed using workers skilled in the trades involved.
3. No exterior painting should be done immediately after a rain, during foggy weather, when rain is predicted, or when the temperature is below 50 degrees F (10 degrees C), unless products are designed specifically for these conditions. On large expanses of metal siding, the air, surface and material temperatures must be 50 degrees F (10 degrees F) or higher to use low temperature products.
- B. Aluminum: Remove all oil, grease, dirt, oxide and other foreign material by cleaning per SSPC-SP1, Solvent Cleaning.
 - C. Block (Cinder and Concrete): Remove all loose mortar and foreign material. Surface must be free of laitance, concrete dust, dirt, form release agents, moisture curing membranes, loose cement, and hardeners. Concrete and mortar must be cured at least 30 days at 75 degrees F (24 degrees C). The pH of the surface should be between 6 and 9, unless the products are designed to be used in high pH environments. On tilt-up and poured-in-place concrete, commercial detergents and abrasive blasting may be necessary to prepare the surface. Fill bug holes, air pockets, and other voids with a cement patching compound.
 - D. Concrete, SSPC-SP13 or NACE 6: This standard gives requirements for surface preparation of concrete by mechanical, chemical, or thermal methods prior to the application of bonded protective coating or lining systems. The requirements of this standard are applicable to all types of cementitious surfaces including cast-in-place concrete floors and walls, precast slabs, masonry walls, and shotcrete surfaces. An acceptable prepared concrete surface should be free of contaminants, laitance, loosely adhering concrete, and dust, and should provide a sound, uniform substrate suitable for the application of protective coating or lining systems.
 - E. Cement Composition Siding/Panels: Remove all surface contamination by washing with an appropriate cleaner, rinse thoroughly and allow to dry. Existing peeled or checked paint should be scraped and sanded to a sound surface. Pressure clean, if needed, with a minimum of 2100 psi pressure to remove all dirt, dust, grease, oil, loose particles, laitance, foreign material, and peeling or defective coatings. Allow the surface to dry thoroughly. The pH of the surface should be between 6 and 9, unless the products are designed to be used in high pH environments.
 - F. Exterior Composition Board (Hardboard): Some composition boards may exude a waxy material that must be removed with a solvent prior to coating. Whether factory primed or unprimed, exterior composition board siding (hardboard) must be cleaned thoroughly and primed with a universal non-alkyd primer.
 - G. Drywall - Interior: Must be clean and dry. All nail heads must be set and spackled. Joints must be taped and covered with a joint compound. Spackled nail heads and tape joints must be sanded smooth and all dust removed prior to painting.
 - H. Galvanized Metal (including exterior H.M. doors): Clean per SSPC-SP1 using detergent and water or a degreasing cleaner to remove greases and oils. Apply a test area, priming as required. Allow the coating to dry at least one week before testing. If adhesion is poor, Brush Blast per SSPC-SP7 is necessary to remove these treatments.
 - I. Plaster: Must be allowed to dry thoroughly for at least 30 days before painting, unless the products are designed to be used in high pH environments. Room must be ventilated while drying; in cold, damp weather, rooms must be heated. Damaged areas must be repaired with an appropriate patching material. Bare plaster must be cured and hard. Textured, soft, porous, or powdery plaster should be treated with a solution of 1 pint household vinegar to 1 gallon of water. Repeat until the surface is hard, rinse with clear water and allow to dry.
 - J. Steel: Structural, Plate, interior H.M. doors, frames and similar Items: Should be cleaned by one or more of the surface preparations described below. These methods are used throughout the world for describing methods for cleaning structural steel. Visual standards are available through the Society of Protective Coatings. A brief description of these standards together with numbers by which they can be specified follow.
 1. Solvent Cleaning, SSPC-SP1: Solvent cleaning is a method for removing all visible oil, grease, soil, drawing and cutting compounds, and other soluble contaminants. Solvent cleaning does not remove rust or mill scale. Change rags and cleaning solution frequently so that deposits of

- oil and grease are not spread over additional areas in the cleaning process. Be sure to allow adequate ventilation.
2. Hand Tool Cleaning, SSPC-SP2: Hand Tool Cleaning removes all loose mill scale, loose rust, and other detrimental foreign matter. It is not intended that adherent mill scale, rust, and paint be removed by this process. Beforehand tool cleaning, remove visible oil, grease, soluble welding residues, and salts by the methods outlined in SSPC-SP1.
 3. Power Tool Cleaning, SSPC-SP3: Power Tool Cleaning removes all loose mill scale, loose rust, and other detrimental foreign matter. It is not intended that adherent mill scale, rust, and paint be removed by this process. Before power tool cleaning, remove visible oil, grease, soluble welding residues, and salts by the methods outlined in SSPC-SP1.
 4. White Metal Blast Cleaning, SSPC-SP5 or NACE 1: A White Metal Blast Cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter. Before blast cleaning, visible deposits of oil or grease shall be removed by any of the methods specified in SSPC-SP1 or other agreed upon methods.
 5. Commercial Blast Cleaning, SSPC-SP6 or NACE 3: A Commercial Blast Cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter, except for staining. Staining shall be limited to no more than 33 percent of each square inch of surface area and may consist of light shadows, slight streaks, or minor discoloration caused by stains of rust, stains of mill scale, or stains of previously applied paint. Before blast cleaning, visible deposits of oil or grease shall be removed by any of the methods specified in SSPC-SP1 or other agreed upon methods.
 6. Brush-Off Blast Cleaning, SSPC-SP7 or NACE 4: A Brush-Off Blast Cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, loose mill scale, loose rust, and loose paint. Tightly adherent mill scale, rust, and paint may remain on the surface. Before blast cleaning, visible deposits of oil or grease shall be removed by any of the methods specified in SSPC-SP 1 or other agreed upon methods.
 7. Power Tool Cleaning to Bare Metal, SSPC-SP11: Metallic surfaces that are prepared according to this specification, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, mill scale, rust, paint, oxide corrosion products, and other foreign matter. Slight residues of rust and paint may be left in the lower portions of pits if the original surface is pitted. Prior to power tool surface preparation, remove visible deposits of oil or grease by any of the methods specified in SSPC-SP1, Solvent Cleaning, or other agreed upon methods.
 8. Near-White Blast Cleaning, SSPC-SP10 or NACE 2: A Near White Blast Cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter, except for staining. Staining shall be limited to no more than 5 percent of each square inch of surface area and may consist of light shadows, slight streaks, or minor discoloration caused by stains of rust, stains of mill scale, or stains of previously applied paint. Before blast cleaning, visible deposits of oil or grease shall be removed by any of the methods specified in SSPC-SP1 or other agreed upon methods.
 9. High- and Ultra-High Pressure Water Jetting for Steel and Other Hard Materials: SSPC-SP12 or NACE 5: This standard provides requirements for the use of high- and ultra-high pressure water jetting to achieve various degrees of surface cleanliness. This standard is limited in scope to the use of water only without the addition of solid particles in the stream.
 10. Water Blasting, SSPC-SP12/NACE No. 5: Removal of oil grease dirt, loose rust, loose mill scale, and loose paint by water at pressures of 2,000 to 2,500 psi at a flow of 4 to 14 gallons per minute.
- K. Vinyl Siding, Architectural Plastics and Fiberglass: Clean vinyl siding thoroughly by scrubbing with a warm, soapy water solution. Rinse thoroughly. Do not paint vinyl siding with any color darker than the original color, unless the paint system features Sherwin-Williams VinylSafe technology. Painting with darker colors that are not Sherwin-Williams VinylSafe may cause siding to warp
- L. Stucco and EIFS: Must be clean and free of any loose stucco. If recommended procedures for applying stucco are followed, and normal drying conditions prevail, the surface may be painted in 30 days. The pH of the surface should be between 6 and 9, unless the products are designed to be used in high pH environments such as Loxon.
- M. Wood: Must be clean and dry. Prime and paint as soon as possible. Knots and pitch streaks must be scraped, sanded, and spot primed before a full priming coat is applied. Patch all nail holes and

imperfections with a wood filler or putty and sand smooth.

3.3 INSTALLATION

- A. Apply paints according to manufacturer's written instructions. If Project requires restricted application method (e.g., using only spray or rollers), revise first subparagraph below accordingly. Use applicators and techniques suited for paint and substrate indicated. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- E. Painting Mechanical and Electrical Work: Paint items exposed in equipment rooms and occupied spaces including, but not limited to, the following:
 - Mechanical Work:
 - Uninsulated metal piping.
 - Uninsulated plastic piping.
 - Pipe hangers and supports.
 - Tanks that do not have factory-applied final finishes.
 - Visible portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets.
 - Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
 - Mechanical equipment that is indicated to have a factory-primed finish for field painting.
 - Electrical Work:
 - Switchgear.
 - Panelboards.
 - Electrical piping and conduits.
 - Electrical equipment that is indicated to have a factory-primed finish for field painting.
- F. Regardless of number of coats specified, apply as many coats as necessary for complete hide, and uniform appearance.

3.4 PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 EXTERIOR AND INTERIOR PAINTING SCHEDULE

- A. **REFER TO DRAWING A-603**

END OF SECTION