

SECTION 09260**GYPSUM BOARD ASSEMBLIES****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Interior metal stud wall framing.
- B. Metal channel ceiling framing.
- C. Acoustic insulation.
- D. Gypsum sheathing.
- E. Tile backing board.
- F. Gypsum wallboard.
- G. Glass mat faced gypsum board.
- H. Joint treatment and accessories.

1.02 RELATED REQUIREMENTS

- A. Section 06100 - Rough Carpentry: Wood blocking for support of wall-mounted equipment.
- B. Section 07900 - Joint Sealers: Acoustic sealant.

1.03 REFERENCE STANDARDS

- A. AISI SG02-1 - North American Specification for the Design of Cold-Formed Steel Structural Members; American Iron and Steel Institute; 2001 with 2004 supplement. (replaced SG-971)
- B. ANSI A108.11 - American National Standard for Interior Installation of Cementitious Backer Units; 1999 (R2005).
- C. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2009.
- D. ASTM C 475/C 475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2002 (Reapproved 2007).
- E. ASTM C 645 - Standard Specification for Nonstructural Steel Framing Members; 2007.
- F. ASTM C 665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2006.
- G. ASTM C 754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2007.
- H. ASTM C 840 - Standard Specification for Application and Finishing of Gypsum Board; 2007.
- I. ASTM C 954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2007.
- J. ASTM C 1002 - Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2007.
- K. ASTM C 1047 - Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base; 2005.
- L. ASTM C 1177/C 1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing; 2006.

- M. ASTM C 1178/C 1178M - Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel; 2006.
- N. ASTM C 1280 - Standard Specification for Application of Gypsum Sheathing; 2007.
- O. ASTM C 1396/C 1396M - Standard Specification for Gypsum Board; 2006a.
- P. ASTM C 1629/C 1629 - Standard Classification for Abuse-Resistant Nondecorated Interior Gypsum Panel Products and Fiber-Reinforced Cement Panels; 2006.
- Q. ASTM D 3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2000 (Reapproved 2005).
- R. ASTM E 72 - Standard Test Methods of Conducting Strength Tests of Panels for Building Construction; 2005.
- S. ASTM E 90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2004.
- T. ASTM E 413 - Classification for Rating Sound Insulation; 2004.
- U. GA-214 - Recommended Levels of Gypsum Board Finish; Gypsum Association; 2007.
- V. GA-226 - Application of Gypsum Board to Form Curved Surfaces; Gypsum Association; 2008.
- W. GA-600 - Fire Resistance Design Manual; Gypsum Association; 2009.
- X. UL (FRD) - Fire Resistance Directory; Underwriters Laboratories Inc.; current edition.

1.04 SYSTEM DESCRIPTION

- A. Acoustic Attenuation for Interior Partitions Indicated as Acoustic: STC of 45-49 calculated in accordance with ASTM E 413, based on tests conducted in accordance with ASTM E 90.

1.05 SUBMITTALS

- A. See Section 01300 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on metal framing, gypsum board, glass mat faced gypsum board, accessories, joint finishing system, and thermal and acoustical insulation and acoustical caulk as part of assemblies. Designate where and how components are to be installed in order to achieve specified requirements.
- C. Product Data: Provide manufacturer's data on partition head to structure connectors, showing compliance with requirements.
- D. Test Reports: For all stud framing products that do not comply with ASTM C 645 or C 754, provide independent laboratory reports showing maximum stud heights at required spacings and deflections.

1.06 QUALITY ASSURANCE

- A. Perform in accordance with ASTM C 840.
 - 1. Maintain one copy of standards at project site.
- B. Installer Qualifications: Company specializing in performing gypsum board application and finishing, with minimum 3 years of documented experience.

1.07 REGULATORY REQUIREMENTS

- A. Conform to applicable code for fire rated assemblies as indicated on drawings.

PART 2 PRODUCTS

2.01 METAL FRAMING MATERIALS

- A. Manufacturers - Metal Framing, Connectors, and Accessories:
 - 1. Clark Western Building Systems: www.clarkwestern.com.
 - 2. Dietrich Metal Framing: www.dietrichindustries.com.
 - 3. Marino\Ware: www.marinoware.com.
 - 4. Telling Industries: www.tellingindustries.com.
- B. Metal Framing Connectors and Accessories:
 - 1. Same manufacturer as framing.
- C. Non-Loadbearing Interior Framing System Components: ASTM C 645; galvanized sheet steel, of size and properties necessary to comply with ASTM C 754 for the spacing indicated, with maximum deflection of wall framing of L/360 at 5 psf, minimum of 22 gauge.
 - 1. Exception: The minimum metal thickness and section properties requirements of ASTM C 645 are waived provided steel of 40 ksi minimum yield strength is used, the metal is continuously dimpled, the effective thickness is at least twice the base metal thickness, and maximum stud heights are determined by testing in accordance with ASTM E 72 using assemblies specified by ASTM C 754.
 - 2. Studs: "C" shaped with flat or formed webs with knurled faces.
 - 3. Runners: U shaped, sized to match studs.
 - 4. Ceiling Channels: C shaped.
 - 5. Furring: Hat-shaped sections, minimum depth of 7/8 inch.
 - 6. Studs at door opening: 20 gauge. If adjacent wall studs are heavier than 20 gauge, match wall stud gauge.
 - 7. Studs behind cabinet: 18 gauge.
- D. Ceiling Hangers: Type and size as specified in ASTM C 754 for spacing required.
- E. Partition Head to Structure Connections: Provide mechanical anchorage devices that accommodate deflection using slotted holes, screws and anti-friction bushings, preventing rotation of studs while maintaining structural performance of partition.
 - 1. Structural Performance: Maintain lateral load resistance and vertical movement capacity required by applicable code, when evaluated in accordance with AISI North American Specification for the Design of Cold-Formed Steel Structural Members.
 - 2. Material: ASTM A 653/A 653M steel sheet, SS Grade 50/340, with G60/Z180 hot dipped galvanized coating.
 - 3. Provide components UL-listed for use in UL-listed fire-rated head of partition joint systems of fire rating and movement required.
 - 4. Deflection and Firestop Track:
 - a. Provide mechanical anchorage devices as described above that accommodate deflection while maintaining the fire-rating of the wall assembly.

2.02 BOARD MATERIALS

- A. Manufacturers - Gypsum-Based Board:
 - 1. Georgia-Pacific Gypsum LLC: www.gp.com/gypsum.
 - 2. National Gypsum Company: www.nationalgypsum.com.
 - 3. Temple-Inland Inc: www.templeinland.com.
 - 4. USG Corporation: www.usg.com.
 - 5. Substitutions: See Section 01600 - Product Requirements.
- B. Type X: Fire resistant, UL rated.
 - 1. Application: All vertical and horizontal surfaces to receive drywall, unless otherwise indicated.
 - a. Thickness: 5/8 inch.
 - b. Edges: Tapered
 - 2. Products:
 - a. Georgia-Pacific Gypsum LLC; ToughRock Fireguard Type X Gypsum Board.

- C. Abuse-Resistant Type: Gypsum wallboard especially formulated for increased impact resistance, with enhanced gypsum core and heavy duty face and back paper.
 - 1. Application: High-traffic areas indicated.
 - 2. Duty Level: As indicated.
 - 3. Core Type: Type X.
 - 4. Thickness: 5/8 inch.
 - 5. Edges: Tapered.
 - 6. Products:
 - a. Georgia-Pacific Gypsum LLC; DensArmor Plus Abuse-Resistant Interior Panel.
- D. High Impact-Rated Wallboard: Tested to Level 3 soft-body and hard-body impact in accordance with ASTM C 1629.
 - 1. Application: High-traffic areas indicated.
 - 2. Mold Resistance: Score of 10, when tested in accordance with ASTM D 3273.
 - 3. Core Type: Type X.
 - 4. Thickness: 5/8 inch.
 - 5. Edges: Tapered.
 - 6. Products:
 - a. Georgia-Pacific Gypsum LLC; DensArmor Plus Impact-Resistant Interior Panel.
- E. High-Performance Interior Panel: Noncombustible interior panel that consists of a moisture-resistant gypsum core with coated fiberglass mats.
 - 1. Application: Use on interiors of exterior walls or where moisture intrusion is most likely.
 - 2. Core Type: Type X.
 - 3. Thickness: 5/8 inch.
 - 4. Edges: Tapered.
 - 5. Products:
 - a. Georgia-Pacific Gypsum LLC; DensArmor Plus High-Performance Interior Panel.
- F. Flexible Type: Manufactured to bend to fit radii and be more flexible than standard type gypsum board of same thickness.
 - 1. Thickness: 1/4 inch.
 - 2. Edges: Tapered.
 - 3. Products:
 - a. Georgia-Pacific Gypsum LLC; ToughRock FlexRoc Gypsum Board.
- G. Backing Board For Wet Areas:
 - 1. Application: Surfaces behind tile in wet areas including tub and shower surrounds and shower ceilings.
 - 2. Glass-Mat-Faced Board: Acrylic coated glass mat water-resistant gypsum backing panel as defined in ASTM C 1178.
 - a. Core Type: Type X.
 - b. Thickness: 5/8 inch.
 - c. Products:
 - 1) Georgia-Pacific Gypsum LLC; DensShield Tile Backer.
- H. Water-Resistant Gypsum Board: Water-resistant gypsum board as defined in ASTM C 1396/C 1396M; sizes to minimum joints in place; ends square cut.
 - 1. Application: At wet areas around sinks and toilets.
 - 2. Core Type: Type X.
 - 3. Thickness: 5/8 inch.
 - 4. Edges: Tapered.
 - 5. Products:
 - a. Georgia-Pacific Gypsum LLC; ToughRock Fireguard Type X Moisture-Guard Gypsum Board ("Greenboard").
- I. Exterior Sheathing Board: Sizes to minimize joints in place; ends square cut.

1. Application: Exterior sheathing, also include exterior ceilings and soffits, unless otherwise indicated.
2. Glass-Mat-Faced Sheathing: Glass mat faced gypsum substrate as defined in ASTM C 1177/C 1177M.
3. Core Type: Type X.
4. Thickness: 5/8 inch.
5. Joints and screws are to be sealed in accordance with manufacturers recommendations to prevent moisture from passing through joints prior to application of air and moisture barrier.
6. Edges: Square, for vertical application.
7. Glass-Mat-Faced Products:
 - a. Georgia-Pacific Gypsum LLC; DensGlass Exterior Sheathing.

2.03 ACCESSORIES

- A. Acoustic Insulation: ASTM C 665; preformed glass fiber, friction fit type, unfaced. Thickness: 3 inch.
- B. Acoustic Sealant: As specified in Section 07900.
- C. Finishing Accessories: ASTM C 1047, galvanized steel, rolled zinc, or rigid plastic, unless otherwise indicated.
 1. Types: As detailed or required for finished appearance.
 2. Special Shapes: In addition to conventional cornerbead and control joints, provide J-bead at exposed panel edges.
- D. Joint Materials: ASTM C 475 and as recommended by gypsum board manufacturer for project conditions.
 1. Tape: 2 inch wide, coated glass fiber tape for joints and corners, except as otherwise indicated.
 2. Chemical hardening type compound.
- E. Screws for Attachment to Steel Members Less Than 0.03 inch In Thickness, to Wood Members, and to Gypsum Board: ASTM C 1002; self-piercing tapping type; cadmium-plated for exterior locations.
- F. Screws for Attachment to Steel Members From 0.033 to 0.112 inch in Thickness: ASTM C 954; steel drill screws for application of gypsum board to loadbearing steel studs.
- G. Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.
- H. Stenciling Material:
 1. Stencil: Substantial stencil material with words formed by minimum 4" high uppercase letters of a Helvetica or similar letter style. Coordinate with the Wall Legend on drawings for types of rated partitions.
 - a. Contractor to coordinate with local codes officials and others having jurisdiction to determine requirements of verbiage, spacing between, size of stenciling and color of paint per each wall designation.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that project conditions are appropriate for work of this section to commence.

3.02 FRAMING INSTALLATION

- A. Metal Framing: Install in accordance with ASTM C 754 and manufacturer's instructions.
- B. Suspended Ceilings and Soffits: Space framing and furring members as indicated.
 1. Laterally brace entire suspension system.

2. Install bracing as required at exterior locations to resist wind uplift.
- C. Studs: Space studs at 16 inches on center.
1. Extend partition framing to structure where indicated and to ceiling in other locations.
 2. Partitions Terminating at Ceiling: Attach ceiling runner securely to ceiling track in accordance with manufacturer's instructions.
 3. Extend stud framing through ceiling to structure above only where indicated. Maintain clearance under structural building members to avoid deflection transfer to studs. Provide extended leg ceiling runners.
 4. Partitions Terminating at Structure: Attach top runner to structure, maintain clearance between top of studs and structure, and connect studs to track using specified mechanical devices in accordance with manufacturer's instructions; verify free movement of top of stud connections; do not leave studs unattached to track.
- D. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.
- E. Standard Wall Furring: Install at concrete walls scheduled to receive gypsum board, not more than 4 inches from floor and ceiling lines and abutting walls. Secure in place on alternate channel flanges at maximum 16 inches on center.
1. Orientation: Horizontal.
 2. Spacing: At 16 inches on center.
- F. Acoustic Furring: Install resilient channels at maximum 24 inches on center. Locate joints over framing members.
- G. Furring for Fire Ratings: Install as required for fire resistance ratings indicated and to GA-600 requirements.
- H. Blocking: Install wood blocking for support of:
1. Framed openings.
 2. Wall mounted cabinets.
 3. Plumbing fixtures.
 4. Toilet partitions.
 5. Toilet accessories.
 6. Wall mounted door hardware.
 7. Monitors and TV's.
 8. Equipment.
 9. Lockers.
 10. Curtain Track.

3.03 ACOUSTIC ACCESSORIES INSTALLATION

- A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.
1. Install supplementary wire supports to prevent sagging of insulation within wall cavity.
- B. Acoustic Sealant: Install in accordance with manufacturer's instructions.
1. Place two beads continuously on substrate before installation of perimeter framing members.
 2. Seal around all penetrations by conduit, pipe, ducts, and rough-in boxes in sound walls.
 3. Treat designated sound walls with a continuous bead of acoustical sealant between gypsum board and floor substrate on each side of partition.
 4. Where sound wall is designated as partition to deck, seal head of wall structure above on each side of partition.

3.04 BOARD AND GLASS MAT FACED BOARD INSTALLATION

- A. Comply with ASTM C 840. Install to minimize butt end joints, especially in highly visible locations.

- B. Single-Layer Non-Rated: Install gypsum board parallel to framing, with ends and edges occurring over firm bearing.
- C. Double-Layer Non-Rated: Use gypsum board for first layer, placed perpendicular to framing or furring members, with ends and edges occurring over firm bearing. Use glass mat faced gypsum board at exterior walls and at other locations as indicated. Place second layer perpendicular to framing or furring members. Offset joints of second layer from joints of first layer.
- D. Exterior Sheathing: Comply with ASTM C 1280. Install sheathing vertically, with edges butted tight and ends occurring over firm bearing. Seal joints and screws in accordance with manufacturer's written instructions.
- E. Water Resistant Gypsum Board: Install over steel framing members and plywood substrate where indicated, in accordance with ANSI A108.11 and manufacturer's instructions.
- F. Installation on Metal Framing: Use screws for attachment of all gypsum board. Install screws in non-rated walls in accordance with manufacturer's written instructions. Install screws in rated walls in accordance with UL requirements.
- G. Curved Surfaces: Apply gypsum board to curved substrates in accordance with GA-226.
- H. Moisture Protection: Treat cut edges and holes in moisture resistant gypsum board and exterior gypsum soffit board with sealant.

3.05 INSTALLATION OF TRIM AND ACCESSORIES

- A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
 - 1. Not more than 30 feet apart on walls and ceilings over 50 feet long.
 - 2. Extend control joint to structure above.
- B. Corner Beads: Install at external corners, using longest practical lengths.
- C. Edge Trim: Install vinyl casing beads at locations where gypsum board abuts dissimilar materials and as indicated.

3.06 JOINT TREATMENT

- A. Glass Mat Faced Gypsum Board and Exterior Glass Mat Faced Sheathing: Use fiberglass joint tape, bedded and finished with chemical hardening type joint compound.
- B. Finish gypsum board in accordance with levels defined in ASTM C 840 and as scheduled below.
- C. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
- D. Fill and finish joints and corners of backing board as recommended by manufacturer.

3.07 TOLERANCES

- A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

3.08 FINISH LEVEL SCHEDULE (Refer to GA-214 for requirements of each level)

- A. Level 0: Not used.
- B. Level 1: Not used.
- C. Level 2: Above finished ceilings concealed from view. Utility areas such as mechanical and electrical rooms where no finish is scheduled. Use on water resistant drywall that is used as a substrate for tile.
- D. Level 3: Walls scheduled to receive textured wall finish or heavy wall covering. Prepared surface to be coated with a primer/ sealer prior to application of final finishes.

- E. Level 4: Walls and ceilings scheduled to receive flat or eggshell paint or light wall covering finish. Prepared surface to be coated with a primer / sealer prior to application of final finishes.
- F. Level 5: Walls and ceilings scheduled to receive semi-gloss, gloss or enamel paint finish. Glass mat faced drywall to have level 5 finish regardless of final finish scheduled. Prepared surface to be coated with a primer / sealer prior to the application of final finishes.

END OF SECTION

SECTION 09300**TILE****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Tile for floor applications.
- B. Tile for wall applications.
- C. Stone thresholds.
- D. Ceramic accessories.
- E. Non-ceramic trim.

1.02 RELATED REQUIREMENTS

- A. Section 07900 - Joint Sealers.
- B. Section 09260 - Gypsum Board Assemblies: Installation of tile backer board.

1.03 REFERENCE STANDARDS

- A. ANSI A108 Series/A118 Series/A136.1 - American National Standard Specifications for the Installation of Ceramic Tile (Compendium); 2005.
 - 1. ANSI A108.1a - American National Standard Specifications for Installation of Ceramic Tile in the Wet-Set Method, with Portland Cement Mortar; 2005.
 - 2. ANSI A108.1b - American National Standard Specifications for Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex Portland Cement Mortar; 1999 (R2005).
 - 3. ANSI A108.1c - Specifications for Contractors Option: Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar or Installation of Ceramic Tile on a Cured Portland Cement Mortar Bed with Dry-Set or Latex Portland Cement Mortar; 1999 (R2005).
 - 4. ANSI A108.4 - American National Standard Specifications for Installation of Ceramic Tile with Organic Adhesives or Water Cleanable Tile-Setting Epoxy Adhesive; 1999 (R2005).
 - 5. ANSI A108.5 - American National Standard Specifications for Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar; 1999 (R2005).
 - 6. ANSI A108.6 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile-Setting and -Grouting Epoxy; 1999 (R2005).
 - 7. ANSI A108.8 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant Furan Resin Mortar and Grout; 1999 (R2005).
 - 8. ANSI A108.9 - American National Standard Specifications for Installation of Ceramic Tile with Modified Epoxy Emulsion Mortar/Grout; 1999 (R2005).
 - 9. ANSI A108.10 - American National Standard Specifications for Installation of Grout in Tilework; 1999 (R2005).
 - 10. ANSI A118.1 - American National Standard Specifications for Dry-Set Portland Cement Mortar; 1999 (R2005).
 - 11. ANSI A118.3 - American National Standard Specifications for Chemical Resistant, Water Cleanable Tile Setting and -Grouting Epoxy and Water Cleanable Tile-Setting Epoxy Adhesive; 1999 (R2005).
 - 12. ANSI A118.4 - American National Standard Specifications for Latex-Portland Cement Mortar; 1999 (R2005).
 - 13. ANSI A118.6 - American National Standard Specifications for Standard Cement Grouts for Tile Installation; 1999 (R2005).
 - 14. ANSI A118.7 - American National Standard Specifications for Polymer Modified Cement Grouts for Tile Installation; 1999 (R2005).
 - 15. ANSI A118.8 - American National Standard Specifications for Modified Epoxy Emulsion

Mortar/Grout; 1999 (R2005).

16. ANSI A137.1 - American National Standard Specifications for Ceramic Tile; 2008.

- B. TCA (HB) - Handbook for Ceramic Tile Installation; Tile Council of North America, Inc.; 2007/2008.

1.04 SUBMITTALS

- A. See Section 01300 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.
- C. Samples: Mount tile and apply grout on two plywood panels, minimum 18 x 18 inches in size illustrating pattern, color variations, and grout joint size variations.
- D. Maintenance Data: Include recommended cleaning methods, cleaning materials, stain removal methods, and polishes and waxes.

1.05 QUALITY ASSURANCE

- A. Maintain one copy of TCA Handbook and ANSI A108 Series/A118 Series on site.
- B. Installer Qualifications: Company specializing in performing tile installation, with minimum of five years of documented experience.

1.06 FIELD CONDITIONS

- A. Maintain ambient and substrate temperature of 50 degrees F during installation of mortar materials.

PART 2 PRODUCTS

2.01 TILE

- A. Manufacturers: As selected by Owner.
- B. Ceramic Mosaic Tile: ANSI A137.1
1. As selected by Owner.
 2. Trim Units: Matching bead, cove, and surface bullnose shapes in sizes indicated.
- C. Glazed Wall Tile: ANSI A137.1
1. As selected by Owner.
 2. Trim Units: Matching bead, bullnose, cove, and base shapes in sizes indicated.
- D. Porcelain Tile: ANSI A137.1
1. As selected by Owner.
 2. Trim Units: Matching bullnose, cove, cove base, and window sill or step nosing shapes in sizes indicated.

2.02 TRIM AND ACCESSORIES

- A. Ceramic Accessories: Glazed finish, same color and finish as adjacent field tile unless otherwise requested by Owner; same manufacturer as tile.
- B. Non-Ceramic Trim: Satin natural anodized extruded aluminum, style and dimensions to suit application, for setting using tile mortar or adhesive.
1. Manufacturer:
 - a. Schluter-Systems: www.schluter.com.
 - 1) Tile to Vinyl: Reno - AEV.
 - 2) Tile to Carpet: Reno.
 - b. Substitutions: See Section 01600 - Product Requirements.
- C. Thresholds: Marble, white or gray, honed finish; 2 inches wide by full width of wall or frame

opening; 1/2 inch thick; beveled one long edge with radiused corners on top side; without holes, cracks, or open seams.

2.03 MORTAR MATERIALS

- A. Manufacturers:
 - 1. Bostik Inc: www.bostik-us.com.
 - 2. Substitutions: See Section 01600 - Product Requirements.
- B. Mortar Bond Coat Materials:
 - 1. Dry-Set Portland Cement type: ANSI A118.1.
 - 2. Latex-Portland Cement type: ANSI A118.4.
 - 3. Epoxy: ANSI A118.3.

2.04 GROUT MATERIALS

- A. Manufacturers:
 - 1. Laticrete; Product Spectra LOCK: www.laticrete.com.
 - 2. Substitutions: See Section 01600 - Product Requirements.
- B. Standard Grout: Any type specified in ANSI A118.6 or A118.7.
- C. Epoxy Grout: ANSI A118.8, modified epoxy emulsion grout.
 - 1. Color as selected.

2.05 ACCESSORY MATERIALS

- A. Uncoupling Membrane: 1/8 inch thick polyurethane matting with three-dimensional grid structure with dovetail shaped cavities and fleece webbing laminated to the underside to provide a mechanical bond to the substrate adhesive (DITRA).
 - 1. Acceptable Product: Schluter Systems "DITRA".
- B. Waterproofing Membrane at Showers and Tiled Tubs: Polyethylene waterproofing sheet membrane equipped with anchoring fleece on both sides, 8/1000th inch thick, minimum; applied as instructed by manufacturer.
 - 1. Manufacturer: Schluter Systems; Product Kerdi.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that sub-floor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive tile.
- B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive tile.
- C. Verify that sub-floor surfaces are dust-free and free of substances that could impair bonding of setting materials to sub-floor surfaces.

3.02 PREPARATION

- A. Protect surrounding work from damage.
- B. Vacuum clean surfaces and damp clean.
- C. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.

3.03 INSTALLATION - GENERAL

- A. Install tile, thresholds, and stair treads and grout in accordance with applicable requirements of ANSI A108.1 through A108.13, manufacturer's instructions, and TCA Handbook recommendations.

- B. Request tile pattern. Do not interrupt tile pattern through openings.
- C. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor joints.
- D. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make joints watertight, without voids, cracks, excess mortar, or excess grout.
- E. Form internal angles square and external angles bullnosed.
- F. Install ceramic accessories rigidly in prepared openings.
- G. Install non-ceramic trim in accordance with manufacturer's instructions.
- H. Install thresholds where indicated.
- I. Sound tile after setting. Replace hollow sounding units.
- J. Keep expansion joints free of adhesive or grout. Apply sealant to joints.
- K. Allow tile to set for a minimum of 48 hours prior to grouting.
- L. Grout tile joints as per manufacturer's recommendations. Use standard grout unless otherwise indicated.
- M. Apply sealant to junction of tile and dissimilar materials and junction of dissimilar planes.

3.04 INSTALLATION - FLOORS - THIN-SET METHODS

- A. Over interior concrete substrates, install in accordance with TCA Handbook Method F113, dry-set or latex-Portland cement bond coat, with standard grout, unless otherwise indicated.
 - 1. Use uncoupling membrane under all tile unless other underlayment is indicated.
 - 2. Where waterproofing membrane is indicated, install in accordance with TCA Handbook Method F122, with latex-Portland cement grout.
 - 3. Where epoxy bond coat and grout are indicated, install in accordance with TCA Handbook Method F131.
 - 4. Where epoxy grout is indicated, but not epoxy bond coat, install in accordance with TCA Handbook Method F115.

3.05 INSTALLATION - WALL TILE

- A. Over coated glass mat backer board on studs, install in accordance with TCA Handbook Method W245.

3.06 CLEANING

- A. Clean tile and grout surfaces as per manufacturer's recommendations.

3.07 PROTECTION

- A. Do not permit traffic over finished floor surface for 4 days after installation.

END OF SECTION

SECTION 09511**SUSPENDED ACOUSTICAL CEILINGS****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Suspended metal grid ceiling system.
- B. Acoustical units.

1.02 RELATED REQUIREMENTS

- A. Section 07212 - Board and Batt Insulation: Acoustical insulation.
- B. Section 07900 - Joint Sealers: Acoustical sealant.
- C. Mechanical Specifications - Fire Suppression Sprinklers: Sprinkler heads in ceiling system.
- D. Mechanical Specifications - Air Outlets and Inlets: Air diffusion devices in ceiling.
- E. Electrical Specifications - Fire Alarm Systems: Fire alarm components in ceiling system.
- F. Electrical Specifications - Interior Luminaires: Light fixtures in ceiling system.

1.03 REFERENCE STANDARDS

- A. ASTM C 635 - Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2004.
- B. ASTM C 636/C 636M - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels; 2006.
- C. ASTM C 665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2006.
- D. ASTM E 580/E 580M - Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions; 2008a.
- E. UL (FRD) - Fire Resistance Directory; Underwriters Laboratories Inc.; current edition.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Sequence work to ensure acoustical ceilings are not installed until building is enclosed, sufficient heat is provided, dust generating activities have terminated, and overhead work is completed, tested, and approved.
- B. Do not install acoustical units until after interior wet work is dry.

1.05 SUBMITTALS

- A. See Section 01300 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on suspension system components.
- C. Samples: Submit two samples 6 x 6 inch in size illustrating material and finish of acoustical units.
- D. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01600 - Product Requirements, for additional provisions.
 - 2. Extra Acoustical Units: Quantity of 40 sq. ft. of each type of acoustical unit for Owner's use in maintenance of project.

1.06 QUALITY ASSURANCE

- A. Suspension System Manufacturer Qualifications: Company specializing in manufacturing the

products specified in this section with minimum three years documented experience.

- B. Acoustical Unit Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum five years documented experience.

1.07 FIELD CONDITIONS

- A. Maintain uniform temperature of minimum 60 degrees F, and maximum humidity of 40 percent prior to, during, and after acoustical unit installation.

PART 2 PRODUCTS

2.01 ACOUSTICAL UNITS

- A. Manufacturers: As selected by Owner.
 - 1. Substitutions: See Section 01600 - Product Requirements.

2.02 SUSPENSION SYSTEM(S)

- A. Manufacturers: As selected by Owner.
 - 1. Substitutions: See Section 01600 - Product Requirements.
- B. Suspension Systems - General: ASTM C 635; die cut and interlocking components, with stabilizer bars, clips, splices, perimeter moldings, and hold down clips as required.

2.03 ACCESSORIES

- A. Support Channels and Hangers: Galvanized steel; size and type to suit application, seismic requirements, and ceiling system flatness requirement specified.
- B. Perimeter Moldings: Same material and finish as grid.
 - 1. At Exposed Grid: Provide L-shaped molding for mounting at same elevation as face of grid.
 - 2. At Concealed Grid: Provide concealed molding.
- C. Acoustical Insulation: Specified in Section 07212.
 - 1. Thickness: 2 inch.
 - 2. Size: To fit acoustical suspension system.
- D. Touch-up Paint: Type and color to match acoustical and grid units.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that layout of hangers will not interfere with other work.

3.02 INSTALLATION - SUSPENSION SYSTEM

- A. Install suspension system in accordance with ASTM C 636/C 636M, ASTM E 580/E 580M, and manufacturer's instructions. Hangers supported only from the building's structural members. Locate hangers not less than 6 inches from each end and spaced 4'-0" along carrying channel or direct-hung runners, unless otherwise indicated, leveling to tolerance of 1/8 inch in 12'-0". All materials and workmanship shall meet seismic requirements.
- B. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360. Secure wire hangers by looping and wire-tying, either directly to structure or inserts, eye-screws or other devices which are secure and appropriate for substrate, and which will not deteriorate or fail with age or elevated temperatures.
- C. Locate system on room axis according to reflected plan.
- D. Install after major above-ceiling work is complete. Coordinate the location of hangers with other work.

- E. Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.
- F. Where ducts or other equipment prevent the regular spacing of hangers, provide intermediate spaced trapeze supports of size required to span distance created by interfering items.
- G. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.
- H. Support fixture loads using supplementary hangers located within 6 inches of each corner, or support components independently.
- I. Do not eccentrically load system or induce rotation of runners.
- J. Perimeter Molding: Install at intersection of ceiling and vertical surfaces and at junctions with other interruptions. Screw-attach moldings to substrate at intervals not over 16 inches on center and not more than 3 inches from ends, leveling with ceiling suspension system to tolerance of 1/8 inch in 12'-0".
 - 1. Use longest practical lengths.
 - 2. Overlap and rivet corners.

3.03 INSTALLATION - ACOUSTICAL UNITS

- A. Install acoustical units in accordance with manufacturer's instructions.
- B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.
- C. Lay directional patterned units with pattern parallel to longest room axis.
- D. Fit border trim neatly against abutting surfaces.
- E. Install units after above-ceiling work is complete.
- F. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.
- G. Cutting Acoustical Units:
 - 1. Cut to fit irregular grid and perimeter edge trim.
 - 2. Make field cut edges of same profile as factory edges.
 - 3. Double cut and field paint exposed reveal edges.
- H. Where round obstructions occur, provide preformed closures to match perimeter molding.
- I. Coordinate installation of ceiling tiles with all other trades having product installation within ceiling system.

3.04 TOLERANCES

- A. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet.
- B. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: 2 degrees.

END OF SECTION

SECTION 09650**RESILIENT FLOORING****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Resilient sheet flooring.
- B. Resilient tile flooring.
- C. Resilient vinyl Plank flooring
- D. Resilient base.
- E. Installation accessories.

1.02 RELATED REQUIREMENTS

- A. Section 03505 - Self-Leveling Underlayment.

1.03 REFERENCE STANDARDS

- A. ASTM E 648 - Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source; 2008b.
- B. ASTM F 1066 - Standard Specification for Vinyl Composition Floor Tile; 2004.
- C. ASTM F 1303 - Standard Specification for Sheet Vinyl Floor Covering with Backing; 2004.
- D. ASTM F 1344 - Standard Specification for Rubber Floor Tile; 2004.
- E. ASTM F 1861 - Standard Specification for Resilient Wall Base; 2008.
- F. ASTM F 1913 - Standard Specification for Vinyl Sheet Floor Covering Without Backing; 2004.
- G. FS RR-T-650 - Treads, Metallic and Nonmetallic, Skid Resistant; Federal Specifications and Standards; Revision E, 1994.
- H. NFPA 253 - Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source; National Fire Protection Association; 2006.

1.04 PERFORMANCE REQUIREMENTS

- A. Conform to applicable code for fire performance ratings as follows:
 - 1. Critical radiant flux: Minimum 0.45 watt per square centimeter, per ASTM E 648 Class 1.
 - 2. Flame spread: Maximum 25, per ASTM E 84, Class A
 - 3. Smoke developed: Maximum 450, per ASTM E 84.
 - 4. Smoke density: Maximum 450, per ASTM E 662.

1.05 SUBMITTALS

- A. See Section 01300 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.
- C. Shop Drawings: Indicate seaming plan.
- D. Verification Samples: Submit two samples, 12x12 inch in size illustrating color and pattern for each resilient flooring product specified.
- E. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.
- F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.

1. See Section 01600 - Product Requirements, for additional provisions.
2. Extra Flooring Material: 50 square feet of each type and color.
3. Extra Wall Base: 20 linear feet of each type and color.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Protect roll materials from damage by storing on end.

1.07 FIELD CONDITIONS

- A. Maintain temperature in storage area between 55 degrees F and 90 degrees F.
- B. Store materials for not less than 48 hours prior to installation in area of installation at a temperature of 70 degrees F to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F.

PART 2 PRODUCTS

2.01 SHEET FLOORING

- A. Vinyl Sheet Flooring: Homogeneous without backing, with color and pattern throughout full thickness, and:
 1. Minimum Requirements: Comply with ASTM F 1303, Type II, without backing, or ASTM F 1913.
 2. Critical Radiant Flux (CRF): Minimum 0.45 watt per square centimeter, when tested in accordance with ASTM E 648 or NFPA 253.
 3. Total Thickness and Wear Layer Thickness: 0.080 inch nominal.
 4. Sheet Width: 72 inch minimum.
 5. Static Load Resistance: 125 psi minimum, when tested as specified in ASTM F 1303.
 6. Heat welded seams. Color as selected by Owner.
 7. Integral coved base with cap strip.
 8. Pattern: As selected by Owner.
 9. Manufacturers: As selected by Owner.
- B. Vinyl Plank Flooring: Homogeneous without backing, with color and pattern throughout full thickness, and:
 1. Minimum Requirements: Comply with ASTM F 1303, Type I, with Class A fibrous backing.
 2. Critical Radiant Flux (CRF): Minimum 0.45 watt per square centimeter, when tested in accordance with ASTM E 648 or NFPA 253.
 3. Wear Layer Thickness: 0.020 inch minimum.
 4. Total Thickness: 0.120 inch minimum.
 5. Sheet Width: 2.95 inch minimum.
 6. Pattern: As selected by Owner.
 7. Manufacturers: As selected by Owner.
- C. Vinyl Welding Rod: Solid vinyl bead produced by manufacturer of vinyl flooring for heat welding seams, in color matching field color. Color as selected by Owner.

2.02 TILE FLOORING

- A. Vinyl Composition Tile: Homogeneous, with color extending throughout thickness, and:
 1. Minimum Requirements: Comply with ASTM F 1066, of Class corresponding to type specified.
 2. Critical Radiant Flux (CRF): Minimum 0.45 watt per square centimeter, when tested in accordance with ASTM E 648 or NFPA 253. Class 1
 3. Size: As selected by Owner, ___x___ inch.
 4. Thickness: .120 inch.
 5. Pattern: As selected by Owner.
 6. Manufacturers: As selected by Owner.
 - a. Substitutions: See Section 01600 - Product Requirements.

- B. Feature Strips: Of same material as tile, and as selected by Owner.

2.03 RESILIENT BASE

- A. Resilient Base: ASTM F 1861, Type TS rubber, vulcanized thermoset; top set Style B, Cove, and as follows:
 1. Critical Radiant Flux (CRF): Minimum 0.45 watt per square centimeter, when tested in accordance with ASTM E 648 or NFPA 253.
 2. Height: 4 inch.
 3. Thickness: 0.080 inch thick.
 4. Finish: As selected by Owner.
 5. Length: Roll.
 6. Color: As selected by Owner.
 7. Manufacturers: As selected by Owner.

2.04 ACCESSORIES

- A. Primers, Adhesives, and Seaming Materials: Waterproof; types recommended by flooring manufacturer.
 1. Use epoxy adhesive under areas to receive Vinyl Wood Flooring.
- B. Filler for Coved Base: Plastic.
- C. Sealer and Wax: Types recommended by flooring manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces are flat to tolerances acceptable to flooring manufacturer, free of cracks that might telegraph through flooring, clean, dry, and free of curing compounds, surface hardeners, and other chemicals that might interfere with bonding of flooring to substrate.
- B. Verify that sub-floor surfaces are smooth and flat FF 32 (3/16" in 10ft.) ASTM F 710 and within the tolerances specified for that type of work and are ready to receive resilient flooring.
- C. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive resilient base.
- D. Verify that sub-floor surfaces are dust-free and free of substances that could impair bonding of adhesive materials to sub-floor surfaces.
- E. Verify that concrete sub-floor surfaces comply with ASTM F710 and are ready for resilient flooring installation by testing for moisture emission rate and alkalinity; obtain instructions if test results are not within the following limits:
 1. Moisture emission rate: Not greater than 3 lb per 1000 sq ft per 24 hours when tested using calcium chloride moisture test kit for 72 hours.
 2. Alkalinity: pH range of 5-9.
- F. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

- A. Prepare sub-floor surfaces as recommended by flooring and adhesive manufacturers.
- B. Representatives of the flooring contractor and general contractor agree to meet 30 days before start of the floor covering to review and agree in respect that the conditions set forth by the floor covering manufacturers have been met.
- C. Remove sub-floor ridges and bumps. Fill minor low spots, cracks, joints, holes, and other defects with cement based sub-floor filler to achieve smooth, flat, hard surface as recommended by the flooring manufacturer. Avoid organic solvents.

- D. Prohibit traffic until filler is cured.
- E. Clean substrate. Remove coatings from sub-floor surfaces that would prevent adhesive bond, including curing compounds incompatible with resilient flooring adhesives, paints, oils, waxes and sealers. Broom clean and vacuum surfaces to be covered, and inspect sub-floor.
- F. Report conditions contrary to contract requirements that would prevent a proper installation. Do not proceed with the installation until unsatisfactory conditions have been corrected.

3.03 INSTALLATION

- A. Starting installation constitutes acceptance of sub-floor conditions.
- B. Install in accordance with manufacturer's instructions.
- C. Spread only enough adhesive to permit installation of materials before initial set.
- D. Fit joints tightly.
- E. Set flooring in place, press with heavy roller to attain full adhesion.
- F. Where type of floor finish, pattern, or color are different on opposite sides of door, terminate flooring under centerline of door.
- G. Install edge strips at unprotected or exposed edges, where flooring terminates, and where indicated.
- H. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.

3.04 SHEET FLOORING

- A. Install in accordance with manufacturer's instructions.
- B. Spread only enough adhesive to permit installation of materials before initial set.
- C. Set flooring in place, press with heavy roller to attain full adhesion.
- D. Lay flooring with joints and seams in accordance with seaming plan. Lay out seams to avoid widths less than 1/3 of roll width. Avoid cross seams, filler pieces and strips. Match edges for color shading and pattern at the seams in compliance with manufacturer's recommendations.
- E. Lay flooring with tightly butted seams, without any seam sealer unless otherwise indicated.
- F. Prepare Heat -Welded seams with special routing tool supplied for this purpose and heat weld vinyl welding rod in seams. Use methods and sequence of work in conformance with written instructions of the flooring manufacturer's instructions. Finish all seams flush and free from, voids, recesses, and raised areas. heat welding.
- G. Where floor finishes are different on opposite sides of door, terminate flooring under centerline of door.
- H. Verify that concrete sub-floor surfaces are ready for resilient flooring installation by testing for moisture emission rate and alkalinity; obtain instructions if test results are not within the following limits:
 - 1. Moisture emission rate: Not greater than 3 lb per 1000 sq ft per 24 hours when tested using calcium chloride moisture test kit for 72 hours.
 - 2. Alkalinity: pH range of 5-9.
- I. Coved Base: Install as detailed on drawings, using coved base filler, with a radius of 1" as backing at floor to wall junction. Extend sheet flooring vertically to height indicated, and cover top edge with metal cap strip. Provide strips made of extruded aluminum with a mill finish, unless otherwise shown.

- J. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.
- K. Install flooring in recessed floor access covers. Maintain floor pattern.
- L. Provide transition/reducing strips tapered to meet abutting materials.

3.05 TILE FLOORING

- A. Install in accordance with manufacturer's instructions.
- B. Mix tile from container to ensure shade variations are consistent when tile is placed, unless manufacturer's instructions say otherwise.
- C. Spread only enough adhesive to permit installation of materials before initial set.
- D. Set flooring in place, press with heavy roller to attain full adhesion.
- E. Install tile to pattern as selected by Owner. Allow minimum 1/2 full size tile width at room or area perimeter.
- F. Where floor finishes are different on opposite sides of door, terminate flooring under centerline of door.
- G. Install edge strips at unprotected or exposed edges, where flooring terminates, and where indicated. Before installation of flooring, secure metal strips with stainless steel screws.
- H. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.
- I. Install flooring in recessed floor access covers. Maintain floor pattern.
- J. At movable partitions, install flooring under partitions without interrupting floor pattern.
- K. Install feature strips and floor markings where indicated. Fit joints tightly.

3.06 RESILIENT BASE

- A. Fit joints tightly and make vertical. Maintain minimum dimension of 21 inches between joints.
- B. Miter internal corners by cutting an inverted V-shaped notch in the toe of the wall base at the point where corner is formed to produce snug fit to substrate. At external corners, 'V' cut back of base strip to 2/3 of its thickness and fold.
- C. Install base on solid backing. Bond tightly to wall and floor surfaces.
- D. Scribe and fit to door frames and other interruptions.

3.07 INSTALLATION - VINYL WOOD FLOORING

- A. Install in accordance with manufacturer's instructions
- B. Use epoxy adhesive under areas to receive Vinyl Wood Flooring.
- C. Verify that concrete sub-floor surfaces are ready for resilient plank tile installation by testing for moisture emission rate and alkalinity; obtain instructions if test results are not within the following limits:
 - 1. Moisture emission rate: Not greater than 3 lb per 1000 sq ft per 24 hours when tested using calcium chloride moisture test kit for 72 hours.
 - 2. Alkalinity: pH range of 5-9
- D. After addressing the issue of moisture testing, the floor can be prepared for the installation of a new plank floor. Remove any sealers, curing compounds, dirt grease, paint, or old adhesives which have been applied to the surface of the concrete. These can hinder the adhesive bond. Do not install new flooring over concrete sealers or curing compounds. Remove such foreign

matter by mechanical means such as bead blasting, scarifying, or sanding. The use of solvents or chemical adhesive removers is not recommended

- E. Plank manufacturer recommends specific cementitious underlayment products. For exact recommendations and instructions, the underlayment manufacturer must be consulted. If plank flooring manufacturer recommended products are not used, products used shall be cementitious, and shall develop a minimum compressive strength of 3500 psi per ASTM C-109. Gypsum Based products or products which do not meet this psi criteria are not acceptable. Also, do not install cementitious products over gypsum products.
- F. Minor repairs using trowelable latex patching compounds.
 - 1. It is often necessary to patch or "skim coat" an exiting floor to make the surface acceptable for the installation of flooring products, using an acceptable cementitious latex patching compound.
 - 2. Gypsum based floor patches are not acceptable.
 - a. Follow manufacturers instructions for proper application. Apply a sufficient amount of patching compound to cover all depressions, joints, etc. Apply successive coats, if necessary, once the previous coat has dried according to manufacturers guidelines. Sand and/or scrape all uneven spots or any trowel ridges smooth, and vacuum. Once the patching compound is thoroughly dry and the smoothness of the floor is acceptable, proceed with the installation of the new plank flooring system.
 - b. Adhere over entire surface. Fit accurately and securely.

3.08 CLEANING

- A. Remove excess adhesive from floor, base, and wall surfaces without damage.
- B. Clean, seal, and wax (2 coats) in accordance with manufacturer's instructions.

3.09 PROTECTION

- A. Prohibit traffic on resilient flooring for 48 hours after installation.
- B. Protect flooring against mars, marks, indentations, rolling loads, and other damage from construction operators and placement of equipment and fixtures during remainder of construction period. Use protection methods indicated or recommended by manufacture of resilient product involved.
- C. Clean and remove all excess wax off base.

END OF SECTION

SECTION 09680**CARPET****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Carpet, direct-glued.
- B. Accessories.

1.02 RELATED REQUIREMENTS

- A. Electrical Specifications: Electrical and telephone floor cover plate with recess for carpet.

1.03 REFERENCE STANDARDS

- A. ASTM D 2859 - Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials; 2006.
- B. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2008.
- C. ASTM E 648 - Standard Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source; 2008b.
- D. CRI (CIS) - Carpet Installation Standard; Carpet and Rug Institute; 2009.
- E. NFPA 253 - Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source; National Fire Protection Association; 2006.

1.04 SUBMITTALS

- A. See Section 01300 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate seaming plan, method of joining seams, direction of carpet pile and pattern, location of edge moldings and edge bindings, layout of flat wire system.
- C. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.
- D. Samples: Submit three samples 12 x 12 inch in size illustrating color and pattern for each carpet material specified.
- E. Submit two, 4 inch long samples of edge strip for each color specified.
- F. Manufacturer's Installation Instructions: Indicate special procedures.
- G. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing specified carpet with minimum three years documented experience.
- B. Installer Qualifications: Company specializing in installing carpet with minimum three years experience.

1.06 FIELD CONDITIONS

- A. Store materials in area of installation for minimum period of 24 hours prior to installation.
- B. Maintain minimum 70 degrees F ambient temperature 24 hours prior to, during and 24 hours after installation.

- C. Ventilate installation area during installation and for 72 hours after installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Carpet: As selected by Owner.

2.02 CARPET

- A. Carpet:
 - 1. Roll Width: 12 ft.
 - 2. Color: As selected by Owner.
 - 3. Pattern: As selected by Owner.
 - 4. Surface Burning Characteristics: Flame spread/Smoke developed index of 25/250, maximum, when tested in accordance with ASTM E 84.
 - 5. Critical Radiant Flux: Minimum of 0.22 watts/sq cm, when tested in accordance with ASTM E 648 or NFPA 253.
 - 6. Surface Flammability Ignition: Pass ASTM D 2859 (the "pill test").

2.03 ACCESSORIES

- A. Sub-Floor Filler: Type recommended by carpet manufacturer.
- B. Tackless Strip: Carpet gripper, of type recommended by carpet manufacturer to suit application, with attachment devices.
- C. Moldings and Edge Strips: color as selected by Owner.
- D. Adhesives: Compatible with materials being adhered.
- E. Seam Adhesive: Recommended by manufacturer.
- F. Contact Adhesive: Compatible with carpet material; releasable type.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that sub-floor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive carpet.
- B. Verify that sub-floor surfaces are dust-free and free of substances that could impair bonding of adhesives to sub floor surfaces.
- C. Verify that concrete sub-floor surfaces are ready for carpet installation by testing for moisture emission rate and alkalinity; obtain instructions if test results are not within the following limits:
 - 1. Moisture emission rate: Not greater than 3 lb per 1000 sq ft per 24 hours when tested using calcium chloride moisture test kit for 72 hours.
 - 2. Alkalinity: pH range of 5-9.
- D. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

- A. Remove sub-floor ridges and bumps. Fill minor or local low spots, cracks, joints, holes, and other defects with sub-floor filler.
- B. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Prohibit traffic until filler is cured.
- C. Clean substrate.

3.03 INSTALLATION - GENERAL

- A. Starting installation constitutes acceptance of sub-floor conditions.
- B. Install carpet and cushion in accordance with manufacturer's instructions and CRI Carpet Installation Standard.
- C. Verify carpet match before cutting to ensure minimal variation between dye lots.
- D. Lay out carpet and locate seams in accordance with shop drawings:
 - 1. Locate seams in area of least traffic, out of areas of pivoting traffic, and parallel to main traffic.
 - 2. Do not locate seams perpendicular through door openings.
 - 3. Align run of pile in same direction as anticipated traffic and in same direction on adjacent pieces.
 - 4. Locate change of color or pattern between rooms under door centerline.
 - 5. Provide monolithic color, pattern, and texture match within any one area.
- E. Install carpet tight and flat on subfloor, well fastened at edges, with a uniform appearance.

3.04 DIRECT-GLUED CARPET

- A. Double cut carpet seams, with accurate pattern match. Make cuts straight, true, and unfrayed. Apply seam adhesive to cut edges of woven carpet immediately.
- B. Apply contact adhesive to floor uniformly at rate recommended by manufacturer. After sufficient open time, press carpet into adhesive.
- C. Apply seam adhesive to the base of the edge glued down. Lay adjoining piece with seam straight, not overlapped or peaked, and free of gaps.
- D. Roll with appropriate roller for complete contact of adhesive to carpet backing.
- E. Trim carpet neatly at walls and around interruptions.
- F. Complete installation of edge strips, concealing exposed edges. Bind cut edges where not concealed by edge strips.

3.05 CLEANING

- A. Remove excess adhesive from floor and wall surfaces without damage.
- B. Clean and vacuum carpet surfaces.

END OF SECTION

SECTION 09685**CARPET TILE****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Carpet tile, fully adhered.

1.02 REFERENCE STANDARDS

- A. ASTM D 2859 - Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials; 2006.
- B. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2008.
- C. ASTM E 648 - Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source; 2008b.
- D. CRI (CIS) - Carpet Installation Standard; Carpet and Rug Institute; 2009.
- E. CRI (GLA) - Green Label Testing Program - Approved Adhesive Products; Carpet and Rug Institute; Current Edition.
- F. NFPA 253 - Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source; National Fire Protection Association; 2006.

1.03 SUBMITTALS

- A. See Section 01300 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.
- C. Samples: Submit three carpet tiles illustrating color and pattern design for each carpet color selected.
- D. Submit two, 4 inch long samples of edge strip.
- E. Manufacturer's Installation Instructions: Indicate special procedures.
- F. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning.
- G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01600 - Product Requirements, for additional provisions.
 - 2. Provide amounts as indicated on Finish Drawings of carpet tiles of each color and pattern selected.

1.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing specified carpet tile with minimum ten years documented experience.
- B. Installer Qualifications: Company specializing in installing carpet with minimum three years experience.

1.05 FIELD CONDITIONS

- A. Store materials in area of installation for minimum period of 24 hours prior to installation.

PART 2 PRODUCTS**2.01 MANUFACTURERS**

- A. Product: As selected by Owner.

2.02 MATERIALS

- A. Carpet Tile: As selected by Owner, manufactured in one color dye lot.
 - 1. Tile Size: 18 x 18 inch, nominal.
 - 2. Color: As selected by Owner.
 - 3. Pattern: As selected by Owner.
 - 4. Surface Burning Characteristics: Flame spread/Smoke developed index of 25/250, maximum, when tested in accordance with ASTM E 84.
 - 5. Critical Radiant Flux: Minimum of 0.22 watts/sq cm, when tested in accordance with ASTM E 648 or NFPA 253.
 - 6. Surface Flammability Ignition: Pass ASTM D 2859 (the "pill test").
 - 7. Rows: 6.9 per inch.
 - 8. Gage: 1/12 inch.
 - 9. Primary Backing Material: 100% reclaimed content, Nylon Reinforced Matrix.
 - 10. Total Weight: 162.3 oz/sq yd.

2.03 ACCESSORIES

- A. Sub-Floor Filler: White premix latex; type recommended by flooring material manufacturer.
- B. Edge Strips:, color as selected by Owner.
- C. Adhesives: Acceptable to carpet tile manufacturer, compatible with materials being adhered; maximum VOC of 50 g/L; CRI Green Label certified; in lieu of labeled product, independent test report showing compliance is acceptable.
- D. Contact Adhesive: Compatible with carpet material, releasable type.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that sub-floor surfaces are smooth and flat within tolerances specified for that type of work and are ready to receive carpet tile.
- B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive carpet tile.
- C. Verify that sub-floor surfaces are dust-free and free of substances that could impair bonding of adhesive materials to sub-floor surfaces.
- D. Verify that concrete sub-floor surfaces are ready for carpet tile installation by testing for moisture emission rate and alkalinity; obtain instructions if test results are not within limits recommended by carpet tile manufacturer and adhesive materials manufacturer.
- E. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

- A. Remove sub-floor ridges and bumps. Fill minor or local low spots, cracks, joints, holes, and other defects with sub-floor filler.
- B. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Prohibit traffic until filler is cured.
- C. Vacuum clean substrate.

3.03 INSTALLATION

- A. Starting installation constitutes acceptance of sub-floor conditions.
- B. Install carpet tile in accordance with manufacturer's instructions and CRI Carpet Installation

Standard.

- C. Blend carpet from different cartons to ensure minimal variation in color match.
- D. Cut carpet tile clean. Fit carpet tight to intersection with vertical surfaces without gaps.
- E. Lay carpet tile in square pattern, with pile direction parallel to next unit, set parallel to building lines.
- F. Locate change of color or pattern between rooms under door centerline.
- G. Fully adhere carpet tile to substrate.
- H. Trim carpet tile neatly at walls and around interruptions.
- I. Complete installation of edge strips, concealing exposed edges.

3.04 CLEANING

- A. Remove excess adhesive without damage, from floor, base, and wall surfaces.
- B. Clean and vacuum carpet surfaces.

END OF SECTION

SECTION 09720**WALL COVERING****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Surface preparation and prime painting.
- B. Wall covering and borders.

1.02 REFERENCE STANDARDS

- A. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2010.
- B. ASTM F 793 - Standard Classification of Wallcovering by Use Characteristics; 2007.
- C. FS L-P-1040 - Plastic Sheets and Strips (Polyvinyl Fluoride); Federal Specifications and Standards; Revision B, 1977.

1.03 SUBMITTALS

- A. See Section 01300 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on wall covering and adhesive.
- C. Samples: Submit two samples of wall covering, 8 x 8 inch in size illustrating color, finish, and texture.
- D. Test Reports: Indicate verification of flame and smoke ratings, when tested by UL.
- E. Manufacturer's Installation Instructions: Indicate special procedures.
- F. Maintenance Data: Submit data on cleaning, touch-up, and repair of covered surfaces.
- G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01600 - Product Requirements, for additional provisions.
 - 2. Extra Wall Covering Materials: 25 linear feet of each color and pattern of wall covering; store where directed.
 - 3. Package and label each roll by manufacturer, color and pattern, and destination room number.

1.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section with minimum five years of experience.

1.05 MOCK-UP

- A. Locate where directed.
- B. Mock-up may remain as part of the Work.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Inspect roll materials at arrival on site, to verify acceptability.
- B. Protect packaged adhesive from temperature cycling and cold temperatures.
- C. Do not store roll goods on end.

1.07 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the adhesive or wall covering product manufacturer.

- B. Maintain these conditions 24 hours before, during, and after installation of adhesive and wall covering.
- C. Provide lighting level of 80 ft candles measured mid-height at substrate surfaces.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. As selected by Owner.

2.02 MATERIALS

- A. Wall Covering: Vinyl roll stock, conforming to the following:
 - 1. As selected by Owner.
- B. Adhesive: Type recommended by wall covering manufacturer to suit application to substrate.
- C. Substrate Filler: As recommended by adhesive and wall covering manufacturers; compatible with substrate.
- D. Substrate Primer and Sealer: Alkyd enamel type.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate surfaces are prime painted and ready to receive work, and conform to requirements of the wall covering manufacturer.
- B. Measure moisture content of surfaces using an electronic moisture meter. Do not apply wall coverings if moisture content of substrate exceeds level recommended by wall covering manufacturer.
- C. Verify flatness tolerance of surfaces does not vary more than 1/8 inch in 10 feet nor vary at a rate greater than 1/16 inch/ft.

3.02 PREPARATION

- A. Fill cracks in substrate and smooth irregularities with filler; sand smooth.
- B. Wash impervious surfaces with tetra-sodium phosphate, rinse and neutralize; wipe dry.
- C. Surface Appurtenances: Remove or mask electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.
- D. Surfaces: Correct defects and clean surfaces that affect work of this section. Remove existing coatings that exhibit loose surface defects.
- E. Apply one coat of primer sealer to substrate surfaces. Allow to dry. Lightly sand smooth.
- F. Vacuum clean surfaces free of loose particles.

3.03 INSTALLATION

- A. Apply adhesive and wall covering in accordance with manufacturer's instructions.
- B. Razor trim edges on flat work table. Do not razor cut on gypsum board surfaces.
- C. Apply wall covering smooth, without wrinkles, gaps or overlaps. Eliminate air pockets and ensure full bond to substrate surface. Butt edges tightly.
- D. Do not seam within 2 inches of internal corners or within 6 inches of external corners.
- E. Install wall covering before installation of bases and items attached to or spaced slightly from wall surface.

- F. Do not install wall covering more than 1/4 inch below top of resilient base.
- G. Cover spaces above and below windows, above doors, in pattern sequence from roll.
- H. Remove excess adhesive while wet from seam before proceeding to next wall covering sheet.
Wipe clean with dry cloth.

3.04 CLEANING

- A. Clean wall coverings of excess adhesive, dust, dirt, and other contaminants.
- B. Reinstall wall plates and accessories removed prior to work of this section.

3.05 PROTECTION

- A. Do not permit construction activities at or near finished wall covering areas.

END OF SECTION

SECTION 09900**PAINTS AND COATINGS****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Use products specified in this section to finish all surfaces exposed to view, unless otherwise indicated, including but not limited to the following:
 - 1. Interior wall and ceiling surfaces.
 - 2. Interior wood doors and woodwork.
 - 3. Interior concrete floors.
 - 4. Opening frames and trim.
 - 5. Exterior metal items.
 - a. Finish aluminum, stainless steel, copper, and bronze only if specifically indicated to receive field finish.
 - 6. Roof-mounted equipment, piping, ductwork, brackets, and hangers.
- B. Do not paint the following:
 - 1. Items specified or provided with factory finish.
 - 2. Items indicated to receive other finish.
 - 3. Items indicated to remain naturally finished.
 - 4. Concrete masonry in utility, mechanical, and electrical spaces.
 - 5. Stainless steel, anodized aluminum, bronze, terne, or lead.
 - 6. Equipment nameplates, fire rating labels, and operating parts of equipment.
 - 7. Acoustical materials.
 - 8. Concealed piping, ductwork, and conduit.
- C. Materials and products having factory-applied primer are not considered factory finished.
- D. For colors, see Finish Schedule on Drawings, except for colors for mechanical and electrical color coding.

1.02 RELATED SECTIONS

- A. Section 05500 - Metal Fabrications: Shop priming.
- B. Section 06200 - Finish Carpentry: Back priming of trim.
- C. Section 15190 - Mechanical Identification: Markers and color coding scheme.
- D. Section 16195 - Electrical Identification: Markers and color coding scheme.

1.03 REFERENCES

- A. ANSI Z535.1 - American National Standard Safety Color Code; 2006.
- B. ASTM D 16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications; 2007.
- C. ASME A13.1 - Scheme for the Identification of Piping Systems; The American Society of Mechanical Engineers; 2007 (ANSI/ASME A13.1).

1.04 DEFINITIONS

- A. Conform to definitions of terms in ASTM D 16 in interpreting requirements of this specification section.

1.05 SUBMITTALS

- A. See Section 01300 - Administrative Requirements, for submittal procedures.

- B. Product Data: Manufacturer's descriptive literature for coating materials and coating application accessories.
- C. Verification Samples: Two samples, minimum size 6 inches square, representing actual color and finish of each finish coating type, color, and finish to be applied.
- D. Manufacturer's printed application instructions for each product, including product storage requirements and surface preparation requirements.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacture of coatings of quality specified with minimum of 10 years experience.
- B. Installer Qualifications: Company specializing in commercial painting and finishing with 5 years documented experience and approved by the coating manufacturer.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Store products of this section in manufacturer's unopened packaging until installation.
- B. Establish and maintain storage area conditions for products of this section in accordance with manufacturer's instructions until installation.
- C. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction over project.

1.08 PROJECT CONDITIONS

- A. Do not apply coatings to exterior surfaces except under environmental conditions recommended by coating manufacturer.
- B. Establish and maintain environmental conditions recommended by coating manufacturer before, during, and after application of coatings to interior surfaces.
- C. During application of coating materials, post "WET PAINT" signs.
- D. During application of solvent-based materials, post "NO SMOKING" signs.

1.09 SEQUENCING

- A. Do not allow application of finish coats in an area until moisture-producing construction activities, dust-producing construction activities, and other construction activities which could impair performance or appearance of finish coatings, have been completed in that area.

1.10 EXTRA MATERIALS

- A. Extra Materials: Supply for each finish coating material, color, and finish specified two gallons of coating material, in sealed 1 gallon containers, marked with color and finish identification.
- B. Custom Colors: Provide details of color formula and product availability.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Base Manufacturer: Sherwin-Williams Paint Company.
- B. Substitutions: See Section 01600 - Product Requirements.
- C. Unless otherwise specified for an individual product or material, supply all products specified in this section from the same manufacturer.

2.02 MATERIALS

- A. Paints and Coatings - General:

1. Acceptable products: Indicated in Schedules at the end of this section.
 2. Unless otherwise indicated, provide factory-mixed coatings. When required, mix coatings to correct consistency in accordance with manufacturer's instructions before application. Do not dilute or thin coatings, except as instructed.
 3. Do not add additives, except as instructed or recommended by coating manufacturer.
 4. For opaque finishes, tint each coat, including primer coat and intermediate coats, one-half shade darker than succeeding coat, with final finish coat as base color.
 5. Supply each coating material in quantity required for this section from a single production run.
 6. Colors: As selected by Owner.
- B. Coating Application Accessories: Specified in this section or in coating manufacturer's application instructions, including but not limited to thinners, sealers, primers, cleaning agents, etching agents, cleaning cloths, sanding materials, and clean-up materials.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Immediately prior to coating application, ensure that surfaces to receive coatings are dry.
- B. Ensure that moisture-retaining substrates to receive coatings have moisture content within tolerances allowed by coating manufacturer, using moisture measurement techniques recommended by coating manufacturer.
- C. Immediately prior to coating application, examine surfaces to receive coatings for surface imperfections and for contaminants which could impair performance or appearance of coatings, including but not limited to, loose primer, rust, scale, oil, grease, mildew, algae, or fungus, stains or marks, cracks, indentations, or abrasions.
- D. Correct the above conditions and other conditions which could impair performance or appearance of coatings in accordance with specified surface preparation procedures before proceeding with coating application.

3.02 PREPARATION

- A. Do not start work until surfaces to be finished are in proper condition to produce finished surfaces of uniform, satisfactory appearance.
- B. Stains and Marks: Remove completely, if possible, using materials and methods recommended by coating manufacturer; cover stains and marks which cannot be completely removed with isolating primer or sealer recommended by coating manufacturer to prevent bleed-through.
- C. Mildew, Algae, and Fungus: Remove using materials and methods recommended by coating manufacturer.
- D. Remove dust and loose particulate matter from surfaces to receive coatings immediately prior to coating application.
- E. Remove or protect hardware, electrical equipment plates, mechanical grilles and louvers, lighting fixture trim, and other items not indicated to receive coatings which are adjacent to surfaces to receive coatings.
- F. Disconnect equipment adjacent to surfaces indicated to receive coatings.
- G. Move equipment and fixtures adjacent to surfaces indicated to receive coatings to allow application of coatings.
- H. Protect surfaces not indicated to receive coatings which are adjacent to surfaces indicated to receive coatings.
- I. Do not allow coatings on surfaces not indicated to receive them.

- J. Prepare surfaces in accordance with manufacturer's instructions for specified coatings and indicated materials, using only methods and materials recommended by coating manufacturer, and as follows:
- K. Existing Coatings:
 - 1. Remove surface irregularities by scraping or sanding to produce uniform substrate for coating application; apply one coat primer of type recommended by coating manufacturer for maximum coating adhesion.
 - 2. If presence of lead in existing coatings is suspected, cease surface preparation of existing coating and notify Architect immediately.
- L. Concrete and Concrete Masonry: Clean surfaces free of loose particles, sand, efflorescence, laitance, form oil, curing compounds, and other substances which could impair coating performance or appearance.
- M. Concrete Floors: Remove contaminants which could impair coating performance or appearance, acid-etch, flush with clean water; verify alkaline-acid balance recommended by coating manufacturer; mechanically abrade surface, if required, to achieve medium-sandpaper texture.
- N. Restored Masonry Surfaces: Clean surfaces free of loose particles, sand, efflorescence, laitance, cleaning compounds, and other substances which could impair coating performance or appearance.
- O. Ferrous Metals, Unprimed: Remove rust or scale, if present, by wire brush cleaning, power tool cleaning, or sandblast cleaning; remove grease, oil, and other contaminants which could impair coating performance or appearance by solvent cleaning, with phosphoric-acid solution cleaning of welds, bolts and nuts; spot-prime repaired welds with specified primer.
- P. Ferrous Metals, Shop-Primed: Remove loose primer and rust, if present, by scraping and sanding, feathering edges of cleaned areas to produce uniform flat surface; solvent-clean surfaces and spot-prime bare metal with specified primer, feathering edges to produce uniform flat surface.
- Q. Galvanized Steel: Wipe down surfaces using clean, lint-free cloths saturated with mineral spirits or lacquer thinner; wipe dry using clean, lint-free cloths.
- R. Copper: Clean surfaces by pressurized steam, pressurized water, or solvent washing.
- S. Wood:
 - 1. Seal knots, pitch streaks, and sap areas with sealer recommended by coating manufacturer; fill nail recesses and cracks with filler recommended by coating manufacturer; sand surfaces smooth.
 - 2. Apply primer coat to back of wood trim and paneling.
- T. Doors: Prior to finishing, apply additional primer or sealer coat to door tops and bottoms.
- U. Field-Glazed Frames and Sash: Prior to glazing, apply primer or sealer coat to glazing channels.
- V. Gypsum Board: Repair cracks, holes, indentations, and other surface defects using joint compound to produce surface flush with adjacent undamaged surface; sand to produce uniform flat surface when dry.
- W. Polyvinyl Chloride (PVC) Pipe: Remove ink markings by wiping down with clean-lint-free cloths saturated denatured alcohol.

3.03 APPLICATION

- A. Apply each coat to uniform coating thickness in accordance with manufacturer's instructions, not exceeding manufacturer's specified maximum spread rate for indicated surface; thins, brush marks, roller marks, orange-peel, or other application imperfections are not permitted.
- B. Allow manufacturer's specified drying time, and ensure correct coating adhesion, for each coat

before applying next coat. Two coat minimum.

- C. Inspect each coat before applying next coat; touch-up surface imperfections with coating material, feathering, and sanding if required; touch-up areas to achieve flat, uniform surface without surface defects visible from 5 feet.
- D. Remove dust and other foreign materials from substrate immediately prior to applying each coat.
- E. Where coating application abuts other materials or other coating color, terminate coating, making clean sharp termination line without coating overlap.
- F. Where color changes occur between adjoining spaces, through framed openings which are of same color as adjoining surfaces, change color at outside stop corner nearest to face of closed door.
- G. Re-prepare and re-coat unsatisfactory finishes; refinish entire area to corners or other natural terminations.

3.04 MECHANICAL AND ELECTRICAL EQUIPMENT

- A. Wood Equipment Panels: Apply primer coat to panel back before mounting; finish in accordance with requirements for interior wood, flat finish, including edges, before mounting equipment.
- B. HVAC Ductwork: Finish interior surfaces visible through grilles and louvers with one coat acrylic flat wall paint, color black.
- C. Piping, Ductwork, and Conduit Exposed to View in Finished Utility, Mechanical, and Electrical Spaces: Finish in accordance with requirements for unprimed ferrous metal items.
 - 1. Use colors specified in ASME A13.1 and ANSI Z535.1.
 - 2. Do not allow coatings on identification tags or markings.
 - 3. Replace identification markings when painted accidentally.
- D. Access Panels, Electrical Panels, and Cover Plates: Finish in accordance with requirements for shop-primed ferrous metal items, including doors, door backs and sight-exposed cabinet surfaces, color matching adjacent surfaces unless otherwise indicated; do not allow coatings on identification plates, tags, or markings.

3.05 RE-INSTALLATION

- A. Re-install hardware, electrical equipment plates, mechanical grilles and louvers, lighting fixture trim, and other items which have been removed to protect from contact with coatings.
- B. Reconnect equipment adjacent to surfaces indicated to receive coatings.
- C. Relocate to original position equipment and fixtures which have been moved to allow application of coatings.
- D. Remove protective materials.

3.06 CLEANING

- A. Clean excess coating materials, and coating materials deposited on surfaces to indicated to receive coatings, as construction activities of this section progress; do not allow to dry.

3.07 PROTECTION

- A. Protected completed coating applications from damage by subsequent construction activities.
- B. Repair to Architect's acceptance coating applications which are damaged by subsequent construction activities in accordance with specified application procedures; re-apply finish coating to nearest adjacent change of surface plane, in both horizontal and vertical directions, where repairs cannot be made to Architect's acceptance.

3.08 SCHEDULE - EXTERIOR PAINT SYSTEMS

- A. Ferrous Metals:
 - 1. Unprimed:
 - a. 1st Coat: S-W Pro Industrial Pro-Cryl® Primer, B66-310 Series
 - 1) 2-4 mils dry
 - b. 2nd Coat: S-W Industrial Urethane Enamel, B54-150 Series
 - c. 3rd Coat: S-W Industrial Urethane Enamel, B54-150 Series
 - 1) 2-4 mils dry per coat
 - 2. Shop-primed:
 - a. Touch-up: as required.
 - b. 1st Coat: S-W Pro Industrial Pro-Cryl® Primer, B66-310 Series
 - 1) 2-4 mils dry
 - c. 2nd Coat: S-W Industrial Urethane Enamel, B54-150 Series
 - d. 3rd Coat: S-W Industrial Urethane Enamel, B54-150 Series
 - 1) 2-4 mils dry per coat
 - 3. Galvanized:
 - a. 1st Coat: S-W Pro Industrial Pro-Cryl® Primer, B66-310 Series
 - 1) 2-4 mils dry
 - b. 2nd Coat: S-W Industrial Urethane Enamel, B54-150 Series
 - c. 3rd Coat: S-W Industrial Urethane Enamel, B54-150 Series
 - 1) 2-4 mils dry per coat
- B. Copper:
 - 1. Alkyd-Urethane:
 - a. 1st Coat: S-W Pro Industrial Pro-Cryl® Primer, B66-310 Series
 - 1) 2-4 mils dry
 - b. 2nd Coat: S-W Industrial Urethane Enamel, B54-150 Series
 - c. 3rd Coat: S-W Industrial Urethane Enamel, B54-150 Series
 - 1) 2-4 mils dry per coat
 - 2. Acrylic - Gloss Finish:
 - a. 1st Coat: S-W DTM Wash Primer, B71Y1
 - 1) 0.7 - 1.3 mils dry - spray application recommended
 - b. 2nd Coat: S-W DTM Acrylic Coating, B66-100 Series
 - c. 3rd Coat: S-W DTM Acrylic Coating, B66-100 Series
 - 1) 2.5 - 4.0 mils dry per coat
- C. Wood - Paint (Opaque):
 - 1. Gloss finish:
 - a. 1st Coat: S-W Exterior Latex Wood Primer, B42W8041
 - 1) 4 mils wet, 1.4 mils dry
 - b. 2nd Coat: S-W A-100 Exterior Latex Gloss, A8W100 Series
 - c. 3rd Coat: S-W A-100 Exterior Latex Gloss, A8W100 Series
 - 1) 4 mils wet, 1.3 mils dry per coat
 - 2. Semi-gloss finish:
 - a. 1st Coat: S-W Exterior Latex Wood Primer, B42W8041
 - 1) 4 mils wet, 1.4 mils dry
 - b. 2nd Coat: S-W Metalatex Acrylic Semi-Gloss, B42 Series
 - c. 3rd Coat: S-W Metalatex Acrylic Semi-Gloss, B42 Series
 - 1) 4 mils wet, 1.5 mils dry per coat
 - 3. Satin finish:
 - a. 1st Coat: S-W Exterior Latex Wood Primer, B42W8041
 - 1) 4 mils wet, 1.4 mils dry
 - b. 2nd Coat: S-W A-100 Exterior Latex Satin, A82 Series
 - c. 3rd Coat: S-W A-100 Exterior Latex Satin, A82 Series
 - 1) 4 mils wet, 1.4 mils dry per coat

4. NOTE: A-100 Exterior Alkyd Primer, Y24W20 is also an acceptable wood primer and may provide better prevention of Tannin Staining.
- D. Wood - Transparent Finish:
1. New wood:
 - a. 1st Coat: S-W DeckScapes Ext. Waterborne Clear, A15T260
 - b. 2nd Coat: S-W DeckScapes Ext. Waterborne Clear, A15T260
 - 1) 150-300 sq/ft gal
- E. Wood - Semi-Transparent Finish:
1. 1st Coat: S-W WoodScapes Polyurethane Stain, A15T5
 2. 2nd Coat: S-W WoodScapes Polyurethane Stain, A15T5
 - a. 100-350 sq ft/gal
- F. Wood - Opaque Stain Finish - Solid Color:
1. 1st Coat: S-W WoodScapes Solid Color Stain, A15 Series
 2. 2nd Coat: S-W WoodScapes Solid Color Stain, A15 Series
 - a. 200-400 sq ft/gal

3.09 SCHEDULE - INTERIOR PAINT SYSTEMS

- A. Concrete Floors - Clear Sealer/Dustproofers:
1. 1st Coat: H&C Concrete & Masonry Waterproofing Sealer Clear
 2. 2nd Coat: H&C Concrete & Masonry Waterproofing Sealer Clear
 - a. 100-250 sq ft/gal
 3. Contractor to verify any sealer used in areas to receive adhered flooring material, that sealer is compatible with adhesive.
 4. Contractor to coordinate any sealer used in areas to receive sheet vinyl flooring, that sealer will be of a dissipating type.
- B. Concrete Masonry:
1. Flat finish:
 - a. 1st Coat: S-W PrepRite® Block Filler, B25W25
 - 1) 75-125 sq ft/gal
 - b. 2nd Coat: S-W ProMar® 200 Latex Flat, B30W200 Series
 - c. 3rd Coat: S-W ProMar® 200 Latex Flat, B30W200 Series
 - 1) 4 mils wet, 1.4 mils dry per coat
 2. EggShell / Satin finish:
 - a. 1st Coat: S-W PrepRite® Block Filler, B25W25
 - 1) 75-125 sq ft/gal
 - b. 2nd Coat: S-W ProMar® 200 Latex Eg-Shel, B20W2200 Series
 - c. 3rd Coat: S-W ProMar® 200 Latex Eg-Shel, B20W2200 Series
 - 1) 4 mils wet, 1.6 mils dry per coat
 3. Semi-gloss finish:
 - a. 1st Coat: S-W PrepRite® Block Filler, B25W25
 - 1) 75-125 sq ft/gal
 - b. 2nd Coat: S-W ProMar® 200 Latex Semi-Gloss, B31W2200 Series
 - c. 3rd Coat: S-W ProMar® 200 Latex Semi-Gloss, B31W2200 Series
 - 1) 4 mils wet, 1.3 mils dry per coat
 4. Gloss finish:
 - a. 1st Coat: S-W PrepRite® Block Filler, B25W25
 - 1) 75-125 sq ft/gal
 - b. 2nd Coat: S-W ProMar® 200 Latex Gloss, B21W200 Series
 - c. 3rd Coat: S-W ProMar® 200 Latex Gloss, B21W200 Series
 - 1) 4 mils wet, 1.5 mils dry per coat
- C. Concrete Masonry - Epoxy Finish:
1. Dry areas, gloss finish:

- a. 1st Coat: S-W Heavy Duty Block Filler, B42W46
 - 1) 18 mils wet, 10 mils wet
 - b. 2nd Coat: S-W Water Based Catalyzed Epoxy B70/B60V15 Series
 - c. 3rd Coat: S-W Water Based Catalyzed Epoxy B70/B60V15 Series
 - 1) 2.5-3 mils dry per coat
 2. High-moisture areas, gloss finish:
 - a. 1st Coat: S-W Heavy Duty Block Filler, B42W46
 - 1) 18 mils wet, 10 mils wet
 - b. 2nd Coat: S-W Tile-Clad HS Epoxy, B62Z Series
 - c. 3rd Coat: S-W Tile-Clad HS Epoxy, B62Z Series
 - 1) 2.5-4 mils dry per coat
- D. Ferrous Metals:
1. Unprimed:
 - a. 1st Coat: S-W Pro Industrial Pro-Cryl® Primer, B66-310 Series
 - 1) 2-4 mils dry
 - b. 2nd Coat: S-W Industrial Urethane Enamel, B54-150 Series
 - c. 3rd Coat: S-W Industrial Urethane Enamel, B54-150 Series
 - 1) 2-4 mils dry per coat
 2. Shop-primed:
 - a. Touch-up: as recommended by finish coating manufacturer for colors of finish coats.
 - b. 1st Coat: S-W Pro Industrial Pro-Cryl® Primer, B66-310 Series
 - 1) 2-4 mils dry
 - c. 2nd Coat: S-W Industrial Urethane Enamel, B54-150 Series
 - d. 3rd Coat: S-W Industrial Urethane Enamel, B54-150 Series
 - 1) 2-4 mils dry per coat
 3. Galvanized:
 - a. 1st Coat: S-W Pro Industrial Pro-Cryl® Primer, B66-310 Series
 - 1) 2-4 mils dry
 - b. 2nd Coat: S-W Industrial Urethane Enamel, B54-150 Series
 - c. 3rd Coat: S-W Industrial Urethane Enamel, B54-150 Series
 - 1) 2-4 mils dry per coat
- E. Wood - Paint (Opaque) Finish:
1. Gloss finish:
 - a. 1st Coat: S-W Premium Wall & Wood Primer, B28W8111
 - 1) 4 mils wet, 1.8 mils dry
 - b. 2nd Coat: S-W ProMar® 200 Alkyd Semi-Gloss, B34W200 Series
 - c. 3rd Coat: S-W ProMar® 200 Alkyd Semi-Gloss, B34W200 Series
 - 1) 4 mils wet, 1.7 mils dry per coat
 2. Semi-gloss finish:
 - a. 1st Coat: S-W Premium Wall & Wood Primer, B28W8111
 - 1) 4 mils wet, 1.8 mils dry
 - b. 2nd Coat: S-W ProMar® 200 Alkyd Semi-Gloss, B34W200 Series
 - c. 3rd Coat: S-W ProMar® 200 Alkyd Semi-Gloss, B34W200 Series
 - 1) 4 mils wet, 1.7 mils dry per coat
- F. Wood - Transparent finish:
1. Untinted, urethane:
 - a. 1st Coat: S-W WoodClassics Polyurethane Varnish, A67 Series
 - b. 2nd Coat: S-W WoodClassics Polyurethane Varnish, A67 Series
 - 1) 350-400 sq ft/gal
 2. Tinted, urethane:
 - a. 1st Coat: S-W WoodClassics Oil Stain, A49 Series
 - 1) 450-500 sq ft/gal
 - b. 2nd Coat: S-W WoodClassics Polyurethane Varnish, A67 Series

- c. 3rd Coat: S-W WoodClassics Polyurethane Varnish, A67 Series
 - 1) 350-400 sq ft/gal
 - 3. Rough-surfaced, flat finish:
 - a. 1st Coat: S-W WoodClassics Oil Stain, A49 Series
 - 1) 450-500 sq ft/gal
- G. Gypsum Board:
 - 1. Flat finish:
 - a. 1st Coat: S-W ProMar 200 Latex Primer, B28W8200
 - 1) 4 mils wet, 1.2 mils dry
 - b. 2nd Coat: S-W ProMar® 200 Latex Flat, B30W200 Series
 - c. 3rd Coat: S-W ProMar® 200 Latex Flat, B30W200 Series
 - 1) 4 mils wet, 1.4 mils dry per coat
 - 2. Eggshell / Satin finish:
 - a. 1st Coat: S-W ProMar 200 Latex Primer, B28W8200
 - 1) 4 mils wet, 1.2 mils dry
 - b. 2nd Coat: S-W ProMar® 200 Latex Eg-Shel, B20W2200 Series
 - c. 3rd Coat: S-W ProMar® 200 Latex Eg-Shel, B20W2200 Series
 - 1) 4 mils wet, 1.6 mils dry per coat
 - 3. Semi-gloss finish:
 - a. 1st Coat: S-W ProMar 200 Latex Primer, B28W8200
 - 1) 4 mils wet, 1.2 mils dry
 - b. 2nd Coat: S-W ProMar® 200 Latex Semi-Gloss, B31W2200 Series
 - c. 3rd Coat: S-W ProMar® 200 Latex Semi-Gloss, B31W2200 Series
 - 1) 4 mils wet, 1.3 mils dry per coat
 - 4. Gloss finish:
 - a. 1st Coat: S-W ProMar 200 Latex Primer, B28W8200
 - 1) 4 mils wet, 1.2 mils dry
 - b. 2nd Coat: S-W ProMar® 200 Latex Gloss, B21W200 Series
 - c. 3rd Coat: S-W ProMar® 200 Latex Gloss, B21W200 Series
 - 1) 4 mils wet, 1.5 mils dry per coat
- H. Fire-Retardant Intumescent Coating (Class A):
 - 1. Over combustible materials, flat finish:
 - a. One coat primer, type recommended by finish coating manufacturer for substrate material.
 - b. One coat Flame Control Number 20-20 Flat Latex Intumescent Fire Retardant Paint, manufactured by Flame Control Coatings, Inc., applied at spread rate of 190 sq ft per gallon, maximum.
 - 2. Over combustible materials, low-gloss washable finish:
 - a. One coat primer, type recommended by finish coating manufacturer for substrate material.
 - b. One coat Flame Control Number 20-20 Flat Latex Intumescent Fire Retardant Paint, manufactured by Flame Control Coatings, Inc., applied at spread rate of 190 sq ft per gallon, maximum.
 - c. One coat Flame Control Number 40-40 Low-Gloss Latex Fire Resistant Coating, manufactured by Flame Control Coatings, Inc., applied at spread rate of 625 sq ft per gallon, maximum.

END OF SECTION

SECTION 09960**HIGH PERFORMANCE COATINGS****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Exterior coating systems.

1.02 REFERENCES

- A. ASTM D 16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications; 2008.
- B. ASTM D 4263 - Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method; 2005.
- C. ASTM F 1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride; 2004.
- D. ICRI Guideline No. 310.2 (formerly 03732) - Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays; International Concrete Repair Institute; 1997.
- E. SSPC-SP 1 - Solvent Cleaning; Steel Structures Painting Council; 1982 (Ed. 2004).
- F. SSPC-SP 2 - Hand Tool Cleaning; Steel Structures Painting Council; 1982 (Ed. 2004).
- G. SSPC-SP 3 - Power Tool Cleaning; Steel Structures Painting Council; 1982 (Ed. 2004).
- H. SSPC-SP 6 - Commercial Blast Cleaning; Steel Structures Painting Council; 2006. (NACE 3)
- I. SSPC-SP 13 - Surface Preparation of Concrete; Steel Structures Painting Council; 1997 (Ed. 2003) (NACE 6).

1.03 DEFINITIONS

- A. Definitions of Painting Terms: In accordance with ASTM D 16, unless otherwise specified.
- B. Dry Film Thickness (DFT): Thickness of a coat of paint in fully cured state measured in mils.

1.04 SUBMITTALS

- A. See Section 01300 - Administrative Requirements, for submittal procedures.
- B. Product Data: Submit manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
 - 4. Operation and maintenance data.
- C. Selection Samples: For each finish specified submit two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- D. Verification Samples: For each finish specified, a field panel of 6' sq. shall be constructed showing the color and finish.

1.05 QUALITY ASSURANCE

- A. Manufacturers Quality Assurance: Submit manufacturer's certification that coatings comply with specified requirements and are suitable for intended application. Warranty for five years.
- B. Applicator's Quality Assurance: Submit list of a minimum of 5 completed projects of similar size and complexity to this Work. Include for each project:

1. Project name and location.
 2. Name of owner.
 3. Name of contractor.
 4. Name of architect.
 5. Name of coating manufacturer.
 6. Approximate area of coatings applied.
 7. Date of completion.
- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
1. Prepare 6' x 6' foot mock-up for each coating system specified using same materials, tools, equipment, and procedures intended for actual surface preparation and application.
 2. Do not proceed with remaining work until workmanship and color, is approved by Architect.
 3. Retain mock-ups to establish intended standards by which coating systems will be judged.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying:
1. Coating or material name.
 2. Manufacturer.
 3. Color name and number.
 4. Batch or lot number.
 5. Date of manufacture.
 6. Mixing and thinning instructions.
- B. Storage:
1. Store materials in a clean dry area and within temperature range in accordance with manufacturer's instructions.
 2. Keep containers sealed until ready for use.
 3. Do not use materials beyond manufacturers shelf life limits.
- C. Handling: Protect materials during handling and application to prevent damage or contamination.

1.07 ENVIRONMENTAL REQUIREMENTS

- A. Weather:
1. Air and Surface Temperatures: Prepare surfaces and apply and cure coatings within air and surface temperature range in accordance with manufacturers instructions.
 2. Surface Temperature: Minimum of 5 degrees F above dew point.
 3. Relative Humidity: Prepare surfaces and apply and cure coatings within relative humidity range in accordance with manufacturers instructions.
 4. Precipitation: Do not prepare surfaces or apply coatings in rain, snow, fog, or mist.
 5. Wind: Do not spray coatings if wind velocity is above manufacturers recommended limit.
- B. Ventilation: Provide ventilation during coating evaporation stage in confined or enclosed areas in accordance with manufacturers instructions.
- C. Dust and Contaminants:
1. Schedule coating work to avoid excessive dust and airborne contaminants.
 2. Protect work areas from excessive dust and airborne contaminants during coating application and curing.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Acceptable Manufacturer: Tex Cote Textured Coatings of America, Inc.. 4101 Ravenswood Rd., Suite 401 FT. Lauderdale, FL 33312 (Tel: 954-581-9516)

- B. Substitutions: Not permitted.

2.02 COATING SYSTEMS FOR CONCRETE AND MASONRY - EXTERIOR

- A. System Type XL-70W PRIMER & TC-600 TEXTURED; Moderate to Severe Exposure:
 - 1. System Type:
 - a. Tex-Cote XL-70W: A water-based epoxy, acrylic hybrid for use under water based top coats.
 - b. Tex-Cote 600: A water based, textured coating with elastomeric properties having excellent adhesion and flexibility.
 - 2. Surface Preparation: Per TCA requirements (Tex-Bond, Flex-Patch, Skim Cote.)
 - 3. Finish Color and Finish Texture: Two colors - match SW 6106 Kilim Beige and SW7038 Tony Taupe. See elevation for locations. Finish to be Fine.

2.03 ACCESSORIES

- A. Coating Application Accessories:
 - 1. Accessories required for application of specified coatings: Provide in accordance with coating manufacturers instructions, including thinners.
 - 2. Provide only products manufactured or specifically approved by coating manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PROTECTION OF SURFACES NOT SCHEDULED TO BE COATED

- A. Protect surrounding areas and surfaces not scheduled to be coated from damage during surface preparation and application of coatings.
- B. Immediately remove coatings that fall on surrounding areas and surfaces not scheduled to be coated.

3.03 SURFACE PREPARATION OF CONCRETE AND MASONRY

- A. Prepare concrete and masonry surfaces in accordance with manufacturers instructions.
- B. Ensure surfaces are clean, dry, and free of oil, grease, dirt, dust, and other contaminants.
- C. Test concrete for moisture in accordance with ASTM D 4263 and F 1869.
- D. Allow concrete in accordance with TCA requirements for placement of their materials..
- E. Level protrusions.

3.04 APPLICATION

- A. Apply coatings in accordance with manufacturer's instructions.
- B. Mix and thin coatings, including multi-component materials, in accordance with manufacturers instructions.
- C. Keep containers closed when not in use to avoid contamination.
- D. Do not use mixed coatings beyond pot life limits.
- E. Use application equipment, tools, pressure settings, and techniques in accordance with manufacturers instructions.
- F. Uniformly apply coatings at spreading rate required to achieve specified DFT.

- G. Apply coatings to be free of film characteristics or defects that would adversely affect performance or appearance of coating systems.
- H. Stripe paint with brush critical locations on steel such as welds, corners, and edges using specified primer.

3.05 REPAIR

- A. Materials and Surfaces Not Scheduled To Be Coated: Repair or replace damaged materials and surfaces not scheduled to be coated.
- B. Damaged Coatings: Touch-up or repair damaged coatings. Touch-up of minor damage shall be acceptable where result is not visibly different from adjacent surfaces. Recoat entire surface where touch-up result is visibly different, either in sheen, texture, or color.
- C. Coating Defects: Repair in accordance with manufacturers instructions coatings that exhibit film characteristics or defects that would adversely affect performance or appearance of coating systems.

3.06 FIELD QUALITY CONTROL

- A. Manufacturer's Field Services: Manufacturer's representative shall provide technical assistance and guidance for surface preparation and application of coating systems.

3.07 CLEANING

- A. Remove temporary coverings and protection of surrounding areas and surfaces.

3.08 PROTECTION OF COATING SYSTEMS

- A. Protect surfaces of coating systems from damage during construction.
- B. Touch-up, or repair damaged products before Substantial Completion.

3.09 ONE-YEAR INSPECTION

- A. Owner will set date for one-year inspection of coating systems.
- B. Inspection shall be attended by Owner, Contractor, Architect, and manufacturers representative.
- C. Repair deficiencies in coating systems as determined by Architect in accordance with manufacturers instructions.

END OF SECTION