

## SECTION 092200

### METAL SUPPORT ASSEMBLIES

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Section Includes:
  - 1. Metal stud interior partition framing.
  - 2. Metal interior wall furring.
  - 3. Suspended metal channel ceiling and soffit framing.
- B. Related Sections:
  - 1. Division 01: Administrative, procedural, and temporary work requirements.

##### 1.2 REFERENCES

- A. ASTM International (ASTM):
  - 1. A641 - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire.
  - 2. A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process.
  - 3. A1003/A1003M - Standard Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members.
  - 4. C635 - Standard Specification for Metal Suspension Systems for Acoustical Tile and Lay-In Panel Ceilings.
  - 5. C636 - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels.
  - 6. C645 - Standard Specification for Non-Load (Axial) Bearing Steel Studs, Runners (Track), and Rigid Furring Channels for Screw Application of Gypsum Board.
  - 7. C754 - Standard Practice for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Wall board, Backing Board, or Water-Resistant Backing Board.
  - 8. E90 - Standard Test Method for Airborne Sound Transmission Loss of Building Partitions.
  - 9. E413 - Standard Test Method for Classification for Rating Sound Insulation.
- B. Steel Framing Industry Association (SFIA) - Member Directory.
- C. Steel Stud Manufacturer's Association (SSMA) - Member Directory.

##### 1.3 SUBMITTALS

- A. Submittals for Review:
  - 1. Product Data: Illustrate framing types, gages, and locations.

##### 1.4 QUALITY ASSURANCE

- A. Manufacturer: Current member of SSMA.
- B. Installer Qualifications: Minimum 3 years documented experience in work of this Section.
- C. Acoustic Ratings: Construct assemblies to achieve acoustic ratings indicated on Drawings, tested to ASTM E90 and classified in accordance with ASTM E413.

- D. Deflection Limits:
  - 1. Limit deflection of partitions to following limits, based on 5 PSF uniform design load.
    - a. Partitions to receive tile: L/240.
    - b. Other partitions: L/120.
    - c. If partition height exceeds stud manufacturer's limiting height for applicable loading and deflection, install bracing above ceiling, decrease stud spacing, or increase stud gage.
  - 2. Limit deflection of ceilings to L/360.

## **PART 2 PRODUCTS**

### **2.1 MANUFACTURERS**

- A. Acceptable Manufacturers:
  - 1. ClarkDietrich Building Systems ([www.clarkdietrich.com](http://www.clarkdietrich.com))
  - 2. MarinoWare ([www.marinoware.com](http://www.marinoware.com))

B. Substitutions: Under provisions of Division 01.

### **2.2 MATERIALS**

A. Steel: ASTM A653/A653M or ASTM A1003/1003M, Class G40 hot dip galvanized.

### **2.3 COMPONENTS**

A. Provide components in accordance with ASTM C645.

B. Studs: Non-load bearing roll-formed steel, SSMA stud profile, C-shaped, punched for utility access.

C. Top and Bottom Tracks:

- 1. Same material and finish as studs, C-shaped.
- 2. Standard track: SSMA stud track profile, 1-1/2 inch legs.
- 3. Deep leg track: SSMA deep stud track profile, 2 inch legs.
- 4. Deflection track: Deep leg track with slotted screw holes; permit plus or minus 1/2 inch movement of overhead structure without damage to partition.

D. Suspended Ceiling Framing:

- 1. Runner channels: 1-1/2 inches deep, cold roll formed, channel shaped, 16 gage base steel thickness.
- 2. Furring channels: Hat shaped, 7/8 inch deep, 25 gage base steel thickness.
- 3. In lieu of runner and furring channels, install proprietary framing system:
  - a. ASTM C635; manufactured specifically for suspended gypsum board ceiling applications.
  - b. Tees: Double web design; 1-1/2 inches high with 1-3/8 inch wide knurled faces, with interlocking ends and punched holes for cross tees and hanger wires.
  - c. Material: Galvanized steel.

E. Suspended Soffit Framing:

- 1. Runner channels: 1-1/2 inches deep, cold roll formed, 16 gage base steel thickness.
- 2. Furring channels: 3/4 inch deep, cold roll formed, 16 gage base steel thickness.

### **2.4 ACCESSORIES**

A. Fasteners: 3/8 inch long pan head screws.

B. Wire: ASTM A 641, galvanized steel.

- 1. Hanger wire: 8 gage base steel thickness.
- 2. Tie wire: 18 gage base steel thickness, soft annealed.

## **PART 3 EXECUTION**

### **3.1 INSTALLATION OF PARTITION FRAMING**

- A. Install in accordance with ASTM C754 and manufacturer's instructions.
- B. Attach top and bottom tracks at ends and 24 inches on center maximum.
- C. Position studs vertically in tracks, spaced maximum 16 inches on center unless indicated otherwise.
- D. Install deflection track at head of partitions extending to structure. Cut studs 1/2 inch shorter than required length and fit into top track. Fasten studs to top track in manner permitting track movement.
- E. Locate studs maximum 2 inches from door frames and abutting construction.
- F. Use heavier gage studs or double studs on both sides of openings in partitions.
- G. Install horizontal track as header above openings in partitions. Install studs from header to top track.
- H. Brace furred partitions with adjustable bracket located at mid height.
- I. Provide wood or metal bracing in partitions to receive and support fixtures, trim, accessories and other applied items.
- J. Brace ceiling height partitions to structure at 48 inches on center maximum.

### **3.2 INSTALLATION OF CEILING FRAMING – RUNNER AND FURRING CHANNELS**

- A. Install in accordance with ASTM C754 and manufacturer's instructions.
- B. Space hanger wires 36 48 inches on center maximum along runner channels and within 6 inches of ends of channels; secure to structure above.
- C. Space runner channels 48 inches on center maximum and within 6 inches of abutting construction.
  - 1. Position channels for ceiling height; level and saddle tie along channels.
  - 2. Provide 1 inch clearance between channels and abutting construction.
  - 3. Overlap channel ends 12 inches at splices; secure each end with double loop tie wire.
- D. Space furring channels 16 inches on center maximum, perpendicular to runners and within 6 inches of abutting construction.
  - 1. Provide 1 inch clearance between channels and abutting construction.
  - 2. Secure to runners with clips on alternate sides of runners; saddle tie if clips cannot be alternated.
  - 3. Overlap channel ends 8 inches at splices; secure each end with double loop tie wire.
- E. Where openings interrupt furring or runner channels, install reinforcing to restore stability.
- F. Provide double runner or furring channels side by side where expansion and control joints occur; do not continue channels over joints.

### **3.3 INSTALLATION OF CEILING FRAMING – PROPRIETARY FRAMING SYSTEM**

- A. Install in accordance with ASTM C636 and manufacturer's instructions.
- B. Space hanger wires maximum 48 inches on center. Install additional hangers where required to support light fixtures and ceiling supported equipment.
- C. Do not suspend hangers directly from metal deck. Attach steel channel horizontally to adjacent framing members; place hanger at regular spacing.

- D. Hang suspension system independent of walls, columns, ducts, pipes, and conduit.
- E. Where ducts or other equipment prevent regular spacing of hangers:
  - 1. Reinforce nearest related hangers to span extra distance, or:
  - 2. Suspend steel channel horizontally beneath duct or equipment; place hanger at regular spacing.
- F. Install main tees at maximum 48 inches on center. Fully engage end locks.
- G. Install cross tees perpendicular to main tees to form 24 x 48 inch modules. Lock cross tees to main tees.

END OF SECTION

## SECTION 092900

### GYPSUM BOARD

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Section Includes:
  - 1. Acoustical insulation.
  - 2. Gypsum board.
  - 3. Taping and bedding of gypsum board.
- B. Related Sections:
  - 1. Division 01: Administrative, procedural, and temporary work requirements.
  - 2. Section 079200 - Joint Sealers.

##### 1.2 REFERENCES

- A. American National Standards Institute (ANSI):
  - 1. A108.11 - Interior Installation of Cementitious Backer Units.
  - 2. A118.9 - Test Methods and Specifications for Cementitious Backer Units.
- B. ASTM International (ASTM):
  - 1. C475 - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.
  - 2. C665 - Standard Specification for Mineral Fiber Blanket Thermal Insulation for Wood Frame and Light Construction Buildings.
  - 3. C1002 - Standard Specification for Steel Drill Screws for the Application of Gypsum Board.
  - 4. C1047 - Standard Specifications for Accessories for Gypsum Wallboard and Gypsum Veneer Base.
  - 5. C1396 - Standard Specification for Gypsum Board.
  - 6. E90 - Standard Test Method for Airborne Sound Transmission Loss of Building Partitions.
  - 7. E413 - Standard Test Method for Classification for Rating Sound Insulation.
- C. Gypsum Association (GA):
  - 1. GA-214 - Levels of Gypsum Board Finish.
  - 2. GA-216 - Recommended Specifications for the Application and Finishing of Gypsum Board.
  - 3. GA-600 - Fire Resistance Design Manual.
- D. Underwriters Laboratories, Inc. (UL) - Fire Resistance Directory.

##### 1.3 SUBMITTALS

- A. Submittals for Review:
  - 1. Product Data: Illustrate panel product types, thicknesses, and locations; acoustical insulation; and accessories.

##### 1.4 QUALITY ASSURANCE

- A. Fire Resistance Ratings:
  - 1. Construct assemblies to achieve fire resistance ratings indicated on Drawings, in accordance with applicable GA or UL design number.
  - 2. If requirements of assembly numbers referenced conflict with Contract Document requirements, conform to assembly requirements.
- B. Acoustic Ratings: Construct assemblies to achieve acoustic ratings indicated on Drawings, tested to ASTM E90 and classified in accordance with ASTM E413.

## 1.5 PROJECT CONDITIONS

- A. Do not install gypsum board until building is substantially weathertight.
- B. Maintain temperature in spaces in which work is being performed above 50 degrees F during and after installation.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Acceptable Manufacturers - Gypsum Panels:
  - 1. CertainTeed Gypsum, Inc. ([www.certainteed.com](http://www.certainteed.com))
  - 2. GP Gypsum Corporation. ([www.gp.com](http://www.gp.com))
  - 3. National Gypsum Co. ([www.nationalgypsum.com](http://www.nationalgypsum.com))
  - 4. USG Corporation. ([www.usg.com](http://www.usg.com))
- B. Substitutions: Under provisions of Division 01.

### 2.2 MATERIALS - GYPSUM PANELS

- A. Regular Gypsum Board: ASTM C1396; 48 inches wide x thickness indicated, maximum practical length, tapered edge.
- B. Water Resistant Gypsum Board: ASTM C1396; 48 inches wide x thickness indicated, maximum practical length, water resistant; apply to walls at restrooms, lavatories, janitors closets, kitchens, and bars, unless otherwise noted on the Drawings.

### 2.3 ACCESSORIES

- A. Fasteners: ASTM C1002, Type S screws, minimum 5/8 inch penetration into framing.
- B. Acoustical Insulation:
  - 1. ASTM C665, Type I, glass fiber composition, unfaced.
  - 2. Free from urea-formaldehyde resins, phenol, acrylics, and artificial colors.
- C. Adhesive: Type recommended by gypsum panel manufacturer.
- D. Trim Accessories: ASTM C1047.
  - 1. Material: Formed steel, minimum 26 gage core steel, hot dip galvanized finish, expanded flanges.
  - 2. Corner reinforcement: GA-216, Type CB-100 x 100.
  - 3. Casing: GA-216, Type LC.
  - 4. Control joint.
  - 5. Drywall Reveal: Fry Reglet, 3/4 inch, DRM-625-75, Tan finish.
- E. Acoustical Sealer: Specified in Section 079200.
- F. Joint Treatment Materials: Reinforcing tape and joint compound; ASTM C475.

## PART 3 EXECUTION

### 3.1 INSTALLATION OF GYPSUM PANELS

- A. Install panels and accessories in accordance with ASTM C754, GA-216, and manufacturer's instructions.
- B. Accurately cut panels to fit around openings and projections. Do not tear face paper or break gypsum core.

- C. Apply panels at non fire-rated assemblies in most economical manner, with ends and edges occurring over supports.
- D. Apply panels at fire-rated assemblies as required by design assembly.
- E. Stagger joints on opposite sides of partitions.
- F. Do not locate joints to align with edges of openings unless a control joint is installed.
- G. Mechanically fasten single layer panels to framing. Place fasteners minimum 3/8 inch from edges of panels; drive heads slightly below surface. Stagger fasteners at abutting edges.
- H. Apply face layer of double layer applications with joints offset from those in base layer; secure with mechanical fasteners to framing or with adhesive to base layer.
- I. At deflection compensating head tracks, cut panels 1/2 inch short of structure at head; do not secure panels to top runner channel.
- J. Treat cut edges and holes in moisture resistant gypsum board with joint sealer.
- K. Where recessed items occur in fire rated partitions, box item on all sides with gypsum board as required to maintain continuity of fire rating.

### 3.2 INSTALLATION OF ACOUSTICAL PARTITIONS

- A. Extend acoustical partitions past intersecting non-acoustical partitions.
- B. Install acoustical insulation:
  1. Butt to framing members and adjacent construction.
  2. Carry around pipes, wiring, outlets, and other construction without voids.
  3. Press against one gypsum board surface to form slight air space on opposite side.
- C. Seal acoustical partitions at perimeter and around penetrations:
  1. Apply continuous bead of sealer between gypsum panel edges and adjacent construction.
  2. Seal space between gypsum panels at control joints, prior to installing metal control joint.
  3. Apply sealer to penetrations through partitions.

### 3.3 INSTALLATION OF ACOUSTICAL INSULATION ABOVE CEILINGS

- A. Install acoustical insulation in continuous layer. Butt tightly to adjacent insulation and to other construction.
- B. Carry over pipes, wiring, boxes, and other construction without voids.

### 3.4 INSTALLATION OF ACCESSORIES

- A. Install in accordance with manufacturer's instructions.
- B. Install corner reinforcement at outside corners. Use single lengths where length of corner does not exceed standard length.
- C. Install casings where indicated and where gypsum board abuts dissimilar materials or stops with edge exposed.
- D. Install control joints at ceilings:
  1. At maximum 50 feet on center.
  2. Where ceiling framing changes direction.

- E. Install control joints at walls and partitions:
  - 1. At changes in backup material.
  - 2. At maximum 30 feet on center.
  - 3. Above one jamb both jambs of openings in partitions.
- F. Install drywall reveal where indicated in the Drawings.

### 3.5 JOINT TREATMENT

- A. Treat joints and fasteners in gypsum board in accordance with GA-214.
- B. Levels of Finish:
  - 1. Surfaces in plenums, janitor closets: Level 1 finish.
  - 2. Surfaces to receive tile: Level 2 finish.
  - 3. Surfaces to receive flat, eggshell paints, wall coverings: Level 4 finish.
  - 4. Surfaces to receive semigloss or gloss paints: Level 5 finish.

END OF SECTION



## SECTION 093000

### TILING

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Section Includes:
  - 1. Tile floor and wall finishes.
- B. Related Sections:
  - 1. Division 01: Administrative, procedural, and temporary work requirements.
  - 2. Section 079200 - Joint Sealers.

##### 1.2 REFERENCES

- A. American National Standards Institute (ANSI):
  - 1. A108/A118/A136.1 - American National Standard for Installation of Ceramic Tile.
  - 2. A137.1 - Specifications for Ceramic Tile.
- B. ASTM International (ASTM) D4263 - Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method.
- C. Tile Council of North America (TCNA) - Handbook for Ceramic, Glass and Stone Tile Installation.

##### 1.3 SUBMITTALS

- A. Submittals for Review:
  - 1. Product Data: Manufacturer's installation, cleaning, and maintenance instructions.
  - 2. Samples:
    - a. Tile: Two (2) maximum 6 inch x 6 inch samples of each tile; do not send full size tiles.
    - b. Grout: Two (2) color charts for sanded and epoxy grout.

##### 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Minimum 3 years documented experience in work of this Section.
- B. Tile and Trim Units: Meet ANSI A137.1, Standard Grade.
- C. Dynamic Static Coefficient of Friction for Floor Tile: Minimum 0.42, tested in accordance with ANSI A137.1 using BOT-3000 tribometer.

##### 1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver mortar, adhesive, and grout containers bearing hallmark certifying compliance with reference standards.
- B. Protect adhesive containers from freezing and overheating according to manufacturer's instructions.

##### 1.6 PROJECT CONDITIONS

- A. Environmental Requirements: Maintain minimum ambient temperature of 50 degrees F during and after installation.

##### 1.7 MAINTENANCE

- A. Extra Materials: One unopened carton of each tile.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Contract Documents are based on products by:
  - 1. Custom Building Products ([www.custombuildingproducts.com](http://www.custombuildingproducts.com))
  - 2. Laticrete International, Inc. ([www.laticrete.com](http://www.laticrete.com))
  - 3. Schluter Systems ([www.schluter.com](http://www.schluter.com))
- B. Substitutions: Under provisions of Division 01.

### 2.2 MATERIALS

- A. Tile: Refer to Finish Legend.

### 2.3 ACCESSORIES

- A. Latex-Portland Cement Mortar: ANSI A118.4, polymer modified dry set type.
- B. Water: Clean, potable.
- C. Grout:
  - 1. Sanded:
    - a. Type: ANSI A118.6, polymer modified type, sanded.
    - b. Source: Polyblend Sanded Grout by Custom Building Products or approved substitute.
  - 2. Epoxy:
    - a. Type: A118.3, epoxy type.
    - b. Source: 100 Percent Solids Epoxy Grout by Custom Building Products or approved substitute.
  - 3. Color: Submit colors per finish legend for approval.
- D. Subfloor Leveler System: Speed Finish Patching and Finishing Compound by Custom Building Products or approved substitute.
- E. Joint Sealers: Specified in Section 079200.
- F. Crack Suppression Membrane:
  - 1. Type: ANSI A118.12, load bearing, single component, cold liquid applied type with reinforcing fabric, reinforced self-adhering sheet type, Standard High Performance Class.
  - 2. Source: Fracture Free Prevention Membrane by Custom Building Products or approved substitute.
- G. Edge Protection:
  - 1. Vertical Tile: Vertical Tile (to be installed at all exposed tile corners without exception)
    - a. Schluter – Jolly AGSG
    - b. Size: Tile size varies, Contractor to coordinate size and location of edge protection to create flush condition between edge of trim and edge of tile.
  - 2. Horizontal Tile (to be installed at top of all tile base without exception)
    - a. Schluter – Jolly AGSG
    - b. Size: Tile size varies, Contractor to coordinate size and location of edge protection to create flush condition between edge of trim and edge of tile.
  - 3. Cove Base (to be installed in all restrooms as typical base)
    - a. Schluter – DILEX-AHK – AHK1S100AE
    - b. Size: 3/8"
  - 4. Tile to Carpet
    - a. Schluter – RENO-TK – ATK100AT
    - b. Size: 3/8"
    - c. Finish: Nickel

5. Tile to Resilient Floor
  - a. Schluter – RENO-U – ATK100AT
  - b. Size: Tile size varies, Contractor to coordinate size and location of edge protection to create flush condition between edge of trim and edge of tile.
  - c. Finish: Satin Anodized Aluminum

### **PART 3 EXECUTION**

#### **3.1 PREPARATION**

- A. Clean surfaces to remove loose and foreign matter that could impair adhesion.
- B. Remove ridges and projections. Fill voids and depressions with patching compound compatible with setting materials.
- C. Allowable Substrate Tolerances:
  1. Thin set method:
    - a. Maximum variation in substrate surface: 1/8 inch in 8 feet.
    - b. Maximum height of abrupt irregularities: 1/32 inch.
- D. Test concrete substrate to ASTM D4263; do not install tile until surfaces are sufficiently dry.

#### **3.2 INSTALLATION**

- A. Install crack suppression membrane in accordance with manufacturer's instructions.
- B. Methods:
  1. Walls: ANSI A108.5, thin set with latex-Portland cement mortar.
  2. Floors: ANSI A108.5, thin set with latex-Portland cement mortar.
- C. Minimize pieces less than one half size. Locate cuts to be inconspicuous.
- D. Lay tile to pattern furnished by Architect. Do not interrupt tile pattern through openings.
- E. Joint Width: 1/8 inch, plus or minus 1/16 inch.
- F. Make joints watertight, without voids, cracks, excess mortar, or excess grout. Align joints in wall and floor of same-sized tile.
- G. Fit tile around projections and at perimeter. Smooth and clean cut edges. Ensure that trim will completely cover cut edges.
- H. Allow tile to set for a minimum of 48 hours before grouting.
- I. Grout tile joints in accordance with ANSI A108.10 without excess grout.
- J. Control Joints:
  1. Provide control joints at:
    - a. Changes in backup material.
    - b. Changes in plane.
    - c. Over joints in substrate.
    - d. Maximum 24 feet on center at interior locations except maximum 8 feet at surfaces exposed to direct sunlight.
    - e. Maximum 16 feet on center at exterior locations.
  2. Form joints per TCNA Method EJ-171.
  3. Install joint backing and joint sealer as specified in Section 079200.

### 3.3 ADJUSTING

- A. Remove and replace pieces that have been damaged during installation.

### 3.4 PROTECTION

- A. Provide protection for completed work using nonstaining sheet coverings.
- B. Prohibit traffic on tile floors for minimum 3 days after installation.

END OF SECTION

## SECTION 095100

### ACOUSTICAL CEILINGS

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Section Includes:
  - 1. Suspended metal ceiling grid system.
  - 2. Acoustical panels.
- B. Related Sections:
  - 1. Division 01: Administrative, procedural, and temporary work requirements.

##### 1.2 REFERENCES

- A. ASTM International (ASTM):
  - 1. A641 - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire.
  - 2. C636 - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels.
  - 3. E1264 - Standard Classification of Acoustical Ceiling Products.
- B. Ceiling and Interior Systems Construction Association (CISCA) - Ceiling Systems Handbook.

##### 1.3 SUBMITTALS

- A. Submittals for Review:
  - 1. Samples:
    - a. 12 x 12 inch acoustical panel samples.
    - b. 6 inch long suspension system samples showing each profile.
- B. Quality Control Submittals:
  - 1. Certificates of Compliance: Certification from an independent testing laboratory that acoustical panels meet fire hazard classification requirements.

##### 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Minimum 3 years documented experience in work of this Section.
- B. Fire Hazard Classification: Class A rated, tested to ASTM E1264.

##### 1.5 PROJECT CONDITIONS

- A. Environmental Requirements: Install in approximately same conditions of temperature and humidity as will prevail after installation.

##### 1.6 MAINTENANCE

- A. Extra Materials: One unopened carton of each acoustical panel.

#### PART 2 PRODUCTS

##### 2.1 MANUFACTURERS

- A. Contract Documents are based on products by Armstrong World Industries, Inc. ([www.armstrong.com](http://www.armstrong.com))
- B. Substitutions: Under provisions of Division 01.

## 2.2 MATERIALS

- A. Suspension Grid System: Refer to Finish Legend.
- B. Acoustical Panels: Refer to Finish Legend.

## 2.3 ACCESSORIES

- A. Support Channels: Prime painted steel; size and type to suit application.
- B. Hanger Wire: ASTM A641, minimum 12 gage galvanized steel.
- C. Touch-Up Paint: Color to match acoustical panels and suspension grid.

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. Install ceilings in accordance with ASTM C636 and CISCA Handbook.
- B. Minimize panels less than one half size.
- C. Install molding around perimeters and abutting surfaces. Miter molding at exterior corners; cut flanges and bend web to form interior corners.
- D. Space hanger wires maximum 48 inches on center. Install additional hangers where required to support light fixtures and ceiling supported equipment.
- E. Do not suspend hangers directly from metal deck. Attach steel channel horizontally to adjacent framing members; place hanger at regular spacing.
- F. Hang suspension system independent of walls, columns, ducts, pipes, and conduit.
- G. Where ducts or other equipment prevent regular spacing of hangers:
  - 1. Reinforce nearest related hangers to span extra distance, or:
  - 2. Suspend steel channel horizontally beneath duct or equipment; place hanger at regular spacing.
- H. Install main tees at maximum 48 inches on center.
- I. Install cross tees to form 24 x 24 inch modules. Lock cross tees to main tees.
- J. Support ends of tees on flange of perimeter molding.
- K. Place acoustical panels with edges resting flat on suspension grid.
- L. Cutting Acoustic Units:
  - 1. Cut to fit irregular grid and perimeter edge trim and around penetrations.
  - 2. Locate cuts to be concealed.
  - 3. Cut and field paint exposed edges of reveal edge units to match factory edge.
- M. Installation Tolerances: Ceilings level to 1/8 inch in 12 feet measured in any direction.

### 3.2 ADJUSTING

- A. Touch up minor scratches and abrasions to match factory finish.

END OF SECTION

## SECTION 096513

### RESILIENT BASE

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Section Includes:
  - 1. Resilient wall base.
- B. Related Sections:
  - 1. Division 01: Administrative, procedural, and temporary work requirements.

##### 1.2 REFERENCES

- A. ASTM International (ASTM) F1861 - Standard Specification for Resilient Wall Base.

##### 1.3 SUBMITTALS

- A. Submittals for Review:
  - 1. Samples: 4 inch long samples in each color.

##### 1.4 MAINTENANCE

- A. Extra Materials: One unopened carton of each profile and color.

#### PART 2 PRODUCTS

##### 2.1 MATERIALS

- A. Resilient Base: Refer to Finish Legend.

##### 2.2 ACCESSORIES

- A. Adhesive: Water based, waterproof, recommended by base manufacturer.

#### PART 3 EXECUTION

##### 3.1 PREPARATION

- A. Prepare surfaces to receive base:
  - 1. Remove materials that could interfere with adhesion.
  - 2. Fill low spots with patching compound; finish flush with adjacent surface.
  - 3. Remove high spots, ridges and nibs.

##### 3.2 INSTALLATION

- A. Apply adhesive continuously to back of base.
- B. Maintain top edge true to line and bottom edge in continuous contact with floor. Butt joints tight; butt base tight to adjacent construction.
- C. Do not install pieces less than 6 inches long.
- D. Miter and butt inside corners.
- E. At outside corners "V" cut back of base to 2/3 of its thickness and bend around corner.

- F. At exposed ends, install premolded units.
- G. Scribe to door frames and other interruptions.

END OF SECTION



## SECTION 096519

### RESILIENT TILE FLOORING

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Section Includes:
  - 1. Resilient tile flooring.
  - 2. Reducers.
- B. Related Sections:
  - 1. Division 01: Administrative, procedural, and temporary work requirements.
  - 2. Appendix: Tandus Centiva Installation Guidelines.

##### 1.2 REFERENCES

- A. ASTM International (ASTM):
  - 1. D2047 - Standard Test Method for Static Coefficient of Friction of Polish-Coated Flooring Surfaces as Measured by the James Machine.
  - 2. E648 - Standard Test Method for Flooring Radiant Panel Test.
  - 3. F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.
  - 4. F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.

##### 1.3 SUBMITTALS

- A. Submittals for Review:
  - 1. Product Data: Provide data on specified products, describing physical and performance characteristics.
  - 2. Samples:
    - a. Flooring: 6 x 6 inch samples of RT3 (others supplied by Owner).
    - b. Reducers: 4 inch long samples in each color.
    - c. Adhesive
- B. Quality Control Submittals:
  - 1. Certificates of Compliance: Certification from an independent testing laboratory that flooring meets fire hazard classification requirements.

##### 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Minimum 3 years documented experience in work of this Section.
- B. Fire Hazard Classification: Class I rated, tested to ASTM E648.
- C. Static Coefficient of Friction: Minimum 0.5, tested to ASTM D2047.

##### 1.5 PROJECT CONDITIONS

- A. Product must be on site for at least 48 hours at a temperature between 68-72 degrees F in order to acclimate properly prior to being installed.
- B. Maintain temperature in spaces to receive flooring between 65 and 85 F degrees and 45-65% RH for 72 hours before and during installation. See appendix for full details.
- C. Maintain minimum temperature of 68-72 degrees F after flooring is installed, except as otherwise specified.

## 1.6 MAINTENANCE

- A. Extra Materials: One unopened carton of each color and pattern.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Contract documents are based on products by Tandus Centiva, a Tarkett Company.  
([www.tandus-centiva.com](http://www.tandus-centiva.com))

### 2.2 MATERIALS

- A. Vinyl Composition Tile: Refer to Finish Legend.
- B. Luxury Vinyl Tile: Refer to Finish Legend.

### 2.3 ACCESSORIES

- A. Reducer Strips:
  - 1. Source: VT-3 by Armstrong or approved substitute.
  - 2. Color: Black.
- B. Snap Down Divider:
  - 1. Source: VT-3, VT-6, or VT-7 by Armstrong or approved substitute.
  - 2. Location: As required per adjacent materials.
- C. Leveling Compound: White, premixed, latex based.
- D. Adhesive:
  - 1. Vinyl Composition Tile: Water based, waterproof, recommended by flooring manufacturer.
  - 2. Luxury Vinyl Tile: Centi 2001 Wet Set Adhesive by Tandus Centiva.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify that concrete floors have cured a minimum 28 days and do not exhibit negative alkalinity, carbonization, or dusting. All reports must be shared with Architect and Owner.

### 3.2 PREPARATION

- A. Clean substrate to ASTM F710.
- B. Fill cracks, voids, and depressions in substrate with leveling compound.
- C. Grind off high spots and projections in substrate; leave smooth and level to 1/4 inch in 10 feet.
- D. Test substrate for moisture content to ASTM F1869; do not install flooring until moisture emission level is acceptable to flooring manufacturer.

### 3.3 INSTALLATION OF TILE

- A. Install vinyl composition tile in accordance with manufacturer's instructions.
- B. Install luxury vinyl composition tile in accordance with Tandus Centiva Installation Guidelines, included in these specifications in the Appendix.
- C. Mix materials from multiple containers to ensure shade variations are consistent when flooring is placed.
- D. Spread only enough adhesive to permit installation of flooring before initial set.
- E. Lay flooring with joints parallel to building lines to produce symmetrical pattern.
- F. Install flooring to pattern directed by Architect. Allow minimum half-size units at room or area perimeter.
- G. Set flooring in place; press with heavy roller to attain full adhesion.
- H. Scribe flooring to walls, columns, cabinets, and other appurtenances to produce tight joints. Ensure that base, trim, plates, or escutcheons will completely cover cut edges.
- I. Extend flooring into recesses and under equipment.
- J. Terminate flooring at centerline of door openings where adjacent floor finish is dissimilar.
- K. Install grounding tape at static-dissipating flooring in accordance with manufacturer's instructions. Ground to building ground system.

### 3.4 INSTALLATION OF REDUCER STRIPS

- A. Install where tile stops with edge exposed; set in adhesive.
- B. Center strips under doors where flooring terminates at door openings.
- C. Install in longest practical lengths; butt ends tight.
- D. Scribe to abutting surfaces.

### 3.5 ADJUSTING

- A. Correct tiles that are not seated; replace damaged tiles.

### 3.6 CLEANING

- A. Clean flooring and machine buff in accordance with manufacturer's instructions.

### 3.7 PROTECTION

- A. Do not allow traffic on flooring until adhesive has set.
- B. Cover areas subject to traffic with protective covering.

END OF SECTION

## SECTION 096813

### TILE CARPETING

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Section Includes:
  - 1. Tile carpeting.
- B. Related Sections:
  - 1. Division 01: Administrative, procedural, and temporary work requirements.

##### 1.2 REFERENCES

- A. ASTM International (ASTM):
  - 1. D4258 - Standard Practice for Surface Cleaning Concrete for Coating.
  - 2. E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
  - 3. F710 - Standard Practice for Preparing Concrete to Receive Resilient Flooring.
  - 4. F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
  - 5. F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.
- B. Carpet and Rug Institute (CRI) 104 - Standard for Installation Specification of Commercial Carpet.

##### 1.3 SUBMITTALS

- A. Submittals for Review:
  - 1. Shop Drawings: Indicate carpet tile locations, dye lot limitations, direction of carpet tile in each room or area, and type and location of edgings.
  - 2. Samples:
    - a. Carpet tile: 12 x 12 inch samples of CP2.
  - 3. Warranty: Sample warranty form.
- B. Quality Control Submittals:
  - 1. Certificates of Compliance: Certification from an independent testing laboratory that carpet tiles meet fire hazard classification requirements.

##### 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Minimum 3 years documented experience in work of this Section.
- B. Fire Hazard Classification: Maximum flame spread/smoke developed rating of 75/125, tested to ASTM E84.

##### 1.5 PROJECT CONDITIONS

- A. Do not begin installation until painting and finishing work have been completed.
- B. Environmental Requirements:
  - 1. Temperature of spaces and subfloor between 65 and 90 degrees F.
  - 2. Humidity in spaces to receive carpet tiles between 20 and 65 percent.

##### 1.6 MAINTENANCE

- A. Extra Materials: One unopened carton of each tile.

## **PART 2 PRODUCTS**

### **2.1 MATERIALS**

- A. Carpet Tiles: Refer to Finish Legend.

### **2.2 ACCESSORIES**

- A. Adhesive:
  - 1. Waterproof, latex based cement formulated specifically for installing carpet tiles of CP2; recommended by carpet tile manufacturer. CP1 adhesive furnished by Owner
  - 2. Maximum volatile organic compound (VOC) content: 50 grams per liter.
- B. Leveling Compound: Premixed, latex based.

## **PART 3 EXECUTION**

### **3.1 EXAMINATION**

- A. Verify that concrete floors have cured a minimum 28 days and do not exhibit negative alkalinity, carbonization, or dusting.

### **3.2 PREPARATION**

- A. Clean substrate to ASTM D4258.
- B. Fill cracks, voids, and depressions with leveling compound.
- C. Grind ridges and high spots smooth.
- D. Test Substrate (all reports must be shared with Architect and Owner):
  - 1. Moisture vapor: Test to ASTM F1869; do not install carpet tiles until moisture emission level is acceptable to carpet manufacturer.
  - 2. Humidity: Test to ASTM F2170; do not install carpet tiles until relative humidity is acceptable to carpet manufacturer.
  - 3. Alkalinity: Test to ASTM F710; do not install carpet tiles unless pH is acceptable to carpet manufacturer.

### **3.3 INSTALLATION OF CARPET TILES**

- A. Install in accordance with CRI 104.
- B. Install carpet tile and adhesive in accordance with manufacturers' instructions.
- C. Blend carpet tiles from different cartons to ensure minimal variation in color match.
- D. Lay out each room or area to minimize tiles less than one half size.
- E. Cut tile clean. Fit tiles tight to intersection with vertical surfaces without gaps.
- F. Lay carpet tile to manufacturer's recommended pattern, set parallel to building lines.
- G. Locate change of color or pattern between rooms under door centerline.
- H. Fully adhere carpet tiles to substrate.
- I. Apply seam filler at all edges of carpet tiles by Astro Carpet Mills, following manufacturer's instructions (Lasertag Arena).

J. Bind cut edges where not concealed by edge strips.

### 3.4 CLEANING

A. Clean spots as recommended by carpet tile manufacturer.

B. Cut off loose threads flush with top surface.

C. Clean with commercial vacuum cleaner.

END OF SECTION

## SECTION 097200

### WALL COVERINGS

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Section Includes:
  - 1. Wall coverings.
- B. Related Sections:
  - 1. Division 01: Administrative, procedural, and temporary work requirements.

##### 1.2 REFERENCES

- A. ASTM International (ASTM) E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

##### 1.3 SUBMITTALS

- A. Submittals for Review:
  - 1. Product Data: Manufacturer's descriptive data for each wall covering.
  - 2. Samples:
    - a. Three (3) 6 x 6 inch wall covering samples in each color and pattern.
    - b. Adhesive for vinyl wall covering.
- B. Quality Control Submittals:
  - 1. Certificates of Compliance: Certification from an independent testing laboratory that wall covering meets fire hazard classification requirements.

##### 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Minimum 3 years documented experience in work of this Section.
- B. Fire Hazard Classification: Tested to ASTM E84 with following results:
  - 1. Flame spread: Maximum 75.
  - 2. Smoke density: Maximum 450.

##### 1.5 DELIVERY, STORAGE AND HANDLING

- A. Store materials in clean, dry storage area at minimum 40 degrees F and normal humidity.
- B. Do not store rolls in upright position.

##### 1.6 PROJECT CONDITIONS

- A. Maintain minimum temperature of 50 degrees F in areas to receive wall covering for three days prior to, during, and after installation.

#### PART 2 PRODUCTS

##### 2.1 MATERIALS

- A. Wall Coverings: Refer to Finish Schedule.

##### 2.2 ACCESSORIES

- A. Sealer: Type recommended by wall covering manufacturer.

- B. Adhesive:
  - 1. Type recommended by wall covering manufacturer; water based, mildew resistant.
  - 2. Vinyl Wall Covering: Heavy Duty Clear Strippable Adhesive is required.
  - 3. Acoustical Wall Covering: Roman 774 is required.
- C. Patching Compound: White latex type.

### **PART 3 EXECUTION**

#### **3.1 PREPARATION**

- A. Prepare substrate to receive wall covering:
  - 1. Remove high spots.
  - 2. Fill holes, cracks, and depressions with patching compound; sand smooth and flush.
  - 3. Remove loose and foreign matter that could impair adhesion.
  - 4. Apply sealer as recommended by wall covering manufacturer.
- B. Remove wall covering from packaging, place in installation area, and allow to acclimatize for minimum 24 hours prior to installation.

#### **3.2 INSTALLATION - GENERAL**

- A. Install in accordance with manufacturer's instructions.
- B. Install panels vertically.
- C. Do not locate joints within 6 inches of corners. Horizontal joints not permitted.
- D. Smooth wall covering to eliminate bubbles and ensure adhesion. Remove excess adhesive from seams immediately.
- E. Use panels in exact order they are cut from roll. Reverse every other panel of non-matching patterns.
- F. Fill in above and below openings with panels cut in consecutive order from roll.
- G. Install wall covering free from bubbles, wrinkles, open or loose seams, and other visible defects.

END OF SECTION



## SECTION 097733

### SANITARY WALL PANELS

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Section Includes:
  - 1. Prefinished sanitary wall panels.
  - 2. Trim.
- B. Related Sections:
  - 1. Division 01: Administrative, procedural, and temporary work requirements.
  - 2. Section 07 9200 - Joint Sealers.

##### 1.2 REFERENCES

- A. ASTM International (ASTM) E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

##### 1.3 SUBMITTALS

- A. Submittals for Review:
  - 1. Samples:
    - a. 6 x 6 inch panel samples in each color.
    - b. 6 inch long trim samples.
- B. Quality Control Submittals:
  - 1. Certificates of Compliance: Certification from an independent testing laboratory that panels meet fire hazard classification requirements.

##### 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Minimum 3 years documented experience in work of this Section.
- B. Fire Hazard Classification: Tested to ASTM E84.
  - 1. Flame spread: Maximum 200.
  - 2. Smoke density: Maximum 450.

##### 1.5 PROJECT CONDITIONS

- A. Do not install products if temperature, humidity, and ventilation requirements are outside limits recommended by manufacturer.

#### PART 2 PRODUCTS

##### 2.1 MANUFACTURERS

- A. Contract Documents are based on products by Marlite. ([www.marlite.com](http://www.marlite.com))
- B. Substitutions: Under provisions of Division 01.

##### 2.2 MATERIALS

- A. Sanitary Wall Panels: Refer to Finish Legend.

## 2.3 ACCESSORIES

- A. Trim:
  - 1. One piece extruded PVC, manufacturer's standard profile.
  - 2. Inside and outside corners, division bar, and J-molding.
  - 3. Color: To match panels.
- B. Adhesive: Compatible with panels and substrate; recommended by panel manufacturer.
- C. Joint Sealer: Specified in Section 07 9200.
- D. Patching Compound: White latex type.

## **PART 3 EXECUTION**

### 3.1 PREPARATION

- A. Prepare substrate to receive panels:
  - 1. Remove high spots.
  - 2. Fill low spots with patching compound; sand smooth.
  - 3. Remove loose and foreign matter that could impair adhesion.

### 3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install trim:
  - 1. Panel-to-panel joints: Division bar.
  - 2. Internal and external corners.
  - 3. Exposed edges: J molding.
  - 4. Secure to substrate.
- C. Cut panels to fit at perimeter and around penetrations. Ensure that trim will completely cover cut edges.
- D. Maintain 1/8 to 3/16 inch expansion space at perimeter and around penetrations.
- E. Adhere panels to substrate with adhesive according to manufacturer's recommendations.
- F. Install continuous bead of joint sealer between panels and trim and between trim and adjacent construction.

END OF SECTION

**SECTION 098000**  
**SPECIAL COATINGS**

**PART 1 GENERAL**

1.1 SCOPE

- A. Provide special coatings at exterior and interior faces of concrete tilt walls as indicated in the List of Products.

1.2 SUBMITTALS

- A. Submittals for Review:
  - 1. Samples: Physical samples of coating applied to 6 inch x 6 inch substrate sample. Include on backside: project name, material identification, color, and provision for Architect's approval.

**PART 2 PRODUCTS**

2.1 APPROVED MANUFACTURERS

- A. Contract documents are based on products by Sherwin Williams.
- B. Substitutions: Under provisions of Division 01.

2.2 LIST OF PRODUCTS

For Concrete Tilt Walls:

- First Coat: SW Loxon Primer A24W8300
- Second Coat: SW UltraCrete Medium Texture Masonry Topcoat A44W800
- Note: Coordinate topcoat tinting base as required with specified colors to achieve true color.*
- Third Coat: SW A100 Acrylic Paint
- Fourth Coat: SW A100 Acrylic Paint

For Concrete Unit Masonry:

- First Coat: SW Loxon Primer A24W8300
- Note: Coordinate topcoat tinting base as required with specified colors to achieve true color.*
- Second Coat: SW A100 Acrylic Paint
- Third Coat: SW A100 Acrylic Paint

**PART 3 EXECUTION**

3.1 PRODUCT DELIVERY AND STORAGE

- A. Deliver and store materials undamaged, in original containers, with manufacturer's labels and seals intact.
- B. A room will be designated for storage of coating materials and equipment. Keep room neat and clean, and surrounding surfaces protected against damage.
- C. Material temperature shall be minimum of 35 degrees F to 100 degrees F.

### 3.2 PREPARATION

- A. Allow thirty days after completion of panels or masonry units for curing of concrete and mortar.
- B. Examine substrate to which texture coating is applied. Do not proceed if substrate does not meet manufacturer's recommendations.
- C. Surface to receive system shall be free of defects such as honeycombs, form marks, tie holes, concrete droppings, laitance, dirt, grease, form release agent, efflorescence, etc.
- D. Remove oil, grease, dirt, loose rust and other foreign material.
- E. Fill cracks, voids and holes in excess of 3/8 inch.
- F. Start of application means acceptance of substrate.
- G. Minimum surface temperature of 50 degree F 24 hours before, during and 24 hours after application until cured.
- H. No precipitation for 24 hours preceding or predicted for 24 hours after application.

### 3.3 EXECUTION

- A. Apply product in accordance with manufacturer's recommendations.
- B. Finish coats must be free of pinholes in excess of 1/16 inch.
- C. Protect adjacent surfaces from damage or overspray resulting from work of this trade. If necessary, mask and/or cover adjacent surfaces, masonry, walls, equipment, etc. by suitable means.

### 3.4 CLEANING

- A. Remove splashed, dropped, splattered and spilled materials from other surfaces immediately as recommended by manufacturer.
- B. Recoat or replace those surfaces that cannot be cleaned to the satisfaction of the Architect.

END OF SECTION

## SECTION 099100

### PAINTING

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Section Includes:
  - 1. Texturing of gypsum board.
  - 2. Surface preparation and field application of paints.
- B. Related Sections:
  - 1. Division 01: Administrative, procedural, and temporary work requirements.

##### 1.2 REFERENCES

- A. ASTM International (ASTM) D4442 - Standard Test Method for Direct Moisture Content Measurement of Wood and Wood-Base Materials.
- B. Master Painters Institute (MPI) - Architectural Painting Specification Manual.
- C. Society for Protective Coatings (SSPC) - Painting Manual.

##### 1.3 SUBMITTALS

- A. Submittals for Review:
  - 1. Product Data: Manufacturer's data on materials proposed for use including:
    - a. Product designation and grade.
    - b. Product analysis and performance characteristics.
    - c. Standards compliance.
    - d. Material content.
    - e. Mixing and application procedures.
  - 2. Samples:
    - a. 6 x 6 inch samples of each coating system on representative substrate. Step back successive coats so that all coats remain exposed. Indicate type of material used for each coat.
    - b. 12 x 12 inch texture samples on gypsum board backing.
  - 3. Paint Schedule: Indicate types and locations of each surface, paint materials, and number of coats to be applied.

##### 1.4 QUALITY ASSURANCE

- A. Applicator Qualifications: Minimum 3 years documented experience in work of this Section.
- B. Materials, Preparation, and Workmanship: Conform to MPI Painting Manual.

##### 1.5 DELIVERY, STORAGE AND HANDLING

- A. Container Labels: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage rates, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- B. Paint Materials: Store at ambient temperature from 45 to 90 degrees F in ventilated area, or as required by manufacturer's instructions.

1.6 PROJECT CONDITIONS

- A. Do not apply materials when surface and ambient temperatures or relative humidity are outside ranges required by paint manufacturer.
- B. Maintain ambient and substrate temperatures above manufacturer’s minimum requirements for 24 hours before, during, and after paint application.
- C. Do not apply materials when relative humidity is above 85 percent or when dew point is less than 5 degrees F different than ambient or surface temperature.
- D. Provide lighting level of 30 footcandles at substrate surface.

1.7 MAINTENANCE

- A. Extra Materials: 1 gallon of each color and sheen.

**PART 2 PRODUCTS**

2.1 MANUFACTURERS

- A. Contract documents are based on products by Sherwin Williams.
- B. Acceptable Manufacturers:
  1. Benjamin Moore and Co. ([www.benjaminmoore.com](http://www.benjaminmoore.com))
  2. Devoe Paint Co. ([www.devoepaint.com](http://www.devoepaint.com))
  3. Glidden. ([www.gliddenprofessional.com](http://www.gliddenprofessional.com))
  4. Kelly-Moore Paints. ([www.kellymoore.com](http://www.kellymoore.com))
  5. PPG Architectural Finishes, Inc. ([www.pittsburghpaints.com](http://www.pittsburghpaints.com))
  6. Pratt and Lambert Paints. ([www.prattandlambert.com](http://www.prattandlambert.com))
  7. Sherwin Williams. ([www.sherwin-williams.com](http://www.sherwin-williams.com))
- B. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

- A. Paints:
  1. As scheduled at end of Section, or approved substitute.
  2. Free from all forms of lead and mercury.
- B. Gloss Ratings:

Gloss Designation	Units at 60 Degrees	Units at 85 Degrees
Flat	0 to 5	Maximum 10
Eggshell	10 to 25	10 to 35
Satin	20 to 35	Minimum 35
Semigloss	35 to 70	
Gloss	70 to 85	
High Gloss	Minimum 85	

2.3 ACCESSORIES

- A. Accessory Materials: Paint thinners and other materials required to achieve specified finishes; commercial quality.

- B. Patching Materials: Latex filler.
- C. Fastener Head Cover Materials: Latex filler.

## 2.4 MIXES

- A. Deliver paints pre-mixed and pre-tinted.
- B. Uniformly mix to thoroughly disperse pigments.
- C. Do not thin in excess of manufacturer's recommendations.
- D. Re-mix paint during application; ensure complete dispersion of settled pigment and uniformity of color and gloss.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Test shop applied primer for compatibility with subsequent coatings.
- B. Measure moisture content of surfaces using electronic moisture meter. Do not apply coatings unless moisture content of surfaces are below following maximums:
  - 1. Gypsum board and plaster: 12 percent.
  - 2. Wood: 15 percent, measured to ASTM D4442.

### 3.2 PREPARATION

- A. General:
  - 1. Protect adjacent and underlying surfaces.
  - 2. Remove or mask electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.
  - 3. Correct defects and clean surfaces capable of affecting work of this section.
  - 4. Seal marks that may bleed through surface finishes with waterborne stain blocker.
- B. Impervious Surfaces: Remove mildew by scrubbing with solution of trisodium phosphate and bleach. Rinse with clean water and allow to dry.
- C. Gypsum Board:
  - 1. Fill minor defects with filler compound. Spot prime defects after repair.
  - 2. Apply light orange peel texture in accordance manufacturer's instructions.
- D. Plaster:
  - 1. Fill hairline cracks, small holes, and imperfections with latex patching plaster. Finish smooth and flush with adjacent surfaces.
  - 2. Wash and neutralize high alkali surfaces.
- E. Galvanized Steel: SSPC Method SP1 - Solvent Cleaning.
- F. Aluminum: SSPC Method SP1 - Solvent Cleaning.
- G. Uncoated Ferrous Metals: SSPC Method SP2 - Hand Tool Cleaning or Method SP3 - Power Tool Cleaning.
- H. Shop Primed Ferrous Metals:
  - 1. SSPC Method SP2 - Hand Tool Cleaning or Method SP3 - Power Tool Cleaning.
  - 2. Feather edges to make patches inconspicuous.
  - 3. Prime bare steel surfaces.

- I. Interior Wood:
  1. Wipe off dust and grit.
  2. Seal knots, pitch streaks, and sappy sections with sealer.
  3. Fill nail holes and cracks after primer has dried; sand between coats.
  
- J. Exterior Wood:
  1. Remove dust, grit, and foreign matter.
  2. Seal knots, pitch streaks, and sappy sections.
  
- K. Existing Surfaces:
  1. Remove loose, flaking, powdery, and peeling paints.
  2. Lightly sand glossy painted surfaces.
  3. Fill holes, cracks, depressions and other imperfections with patching compound; sand flush with surface.
  4. Remove oil, grease, and wax by scraping; solvent wash and thoroughly rinse.
  5. Remove rust by wire brushing to expose base metal.

### 3.3 APPLICATION

- A. Apply paints in accordance with manufacturer's instructions and MPI Painting Manual, Custom Grade finish requirements.
- B. Apply primer or first coat closely following surface preparation to prevent recontamination.
- C. Do not apply finishes to surfaces that are not dry.
- D. Apply coatings to minimum dry film thickness recommended by manufacturer.
- E. Apply each coat of paint slightly darker than preceding coat unless specified otherwise.
- F. Apply coatings to uniform appearance without laps, sags, curtains, holidays, and brush marks.
- G. Allow applied coats to dry before next coat is applied.
- H. When required on deep and bright colors apply an additional finish coat to ensure color consistency.
- I. Continue paint finishes behind wall-mounted accessories.
- J. Sand between coats on interior wood and metal surfaces.
- K. Match final coat to approved color samples.
- L. Where clear finishes are specified, tint fillers to match wood. Work fillers into grain before set. Wipe excess from surface.
- M. Prime concealed surfaces of exterior wood and interior wood in contact with masonry or cementitious materials with one coat primer paint.
- N. Mechanical and Electrical Components:
  1. Paint factory primed equipment.
  2. Remove unfinished and primed louvers, grilles, covers, and access panels; paint separately.
  3. Paint exposed and insulated pipes, conduit, boxes, ducts, hangers, brackets, collars, and supports unless factory finished.
  4. Do not paint name tags or identifying markings.
  5. Paint exposed conduit and electrical equipment in finished areas.
  6. Paint duct work behind louvers, grills, and diffusers flat black to minimum of 18 inches or beyond sight line.



- O. Do not Paint:
  1. Surfaces indicated on Drawings or specified to be unpainted or unfinished.
  2. Surfaces with factory applied finish coat or integral finish.
  3. Architectural metals, including brass, bronze, stainless steel, and chrome plating.

3.4 ADJUSTING

- A. Touch up or refinish disfigured surfaces.

3.5 CLEANING

- A. Remove paint from adjacent surfaces.

3.6 PAINT SCHEDULE

- A. Types of paint listed herein are set forth as standard of quality and type of coating required for each type of surface.
  1. Paint exposed surfaces of types listed in Paint Schedule.
  2. Paint other exposed surfaces not specifically listed with not less than two coats of appropriate type of coating.
- B. Prime coat consists of touch up on shop primed and existing surfaces with intact coatings.

SUBSTRATE	MANUFACTURER	PRIMER	TOP COATS
Exterior Surfaces:			
Ferrous and Galvanized Metals	Sherwin Williams	One Coat All Surface Enamel	Two Coats Duration Exterior Latex Satin Coating
Interior Surfaces:			
Gypsum Board, Latex Eggshell Finish	Sherwin Williams	One Coat Zero-VOC ProMar 200 Interior Acrylic Latex Primer	Two Coats Zero-VOC ProMar 200 Interior Acrylic Latex Eg-shell Finish
Exposed Roof Structure	Sherwin Williams	One Coat Kem Bond HS Universal Primer	One Coat Super Save-Lite Dryfall Eg-shell
Ferrous and Galvanized Metals	Sherwin Williams	One Coat All Surface Enamel Latex Primer	Two coats ProMar 200 Interior Acrylic Eg-Shel Enamel
Wood, Opaque, Latex Eg-Shell Finish	Sherwin Williams	One Coat PrepRite Wall and Wood Interior Primer/Undercoater	Two Coats ProMar 200 Interior Latex Eg-Shell Finish
Wood, Transparent Finish	Sherwin Williams	Two coats Wood Classics Interior Stain	Two Coats Wood Classics Polyurethane Varnish, Satin

END OF SECTION