

**SECTION 09110**

**METAL STUD FRAMING**

PART 1 - GENERAL

**1.01 SECTION INCLUDES**

- A. Formed metal stud framing and furring of 20 gage and lighter for non load bearing walls and partitions.
- B. Framing accessories.

**1.02 PRODUCTS INSTALLED BUT NOT FURNISHED UNDER THIS SECTION**

- A. Section 12300/2 - Casework: Blocking and Anchors for casework.
- B. Section 08100 - Steel doors and frames: installation of frame anchors.

**1.03 RELATED SECTIONS**

- A. Section 05400 - Cold-Formed Metal Framing.
- B. Section 05500 - Miscellaneous Metals: Metal fabrications attached to stud framing.
- C. Section 06100 - Wood Blocking and Curbing: Rough wood blocking within stud framing.
- D. Section 07200 - Insulation: Insulation within stud framing.
- E. Section 09220 - Lathing and Plastering.
- F. Section 09250 - Gypsum Wallboard.

**1.04 REFERENCES**

- A. ASTM A525 - General Requirements for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process.
- B. ANSI/ASTM A591 - Steel Sheet, Cold-Rolled, Electrolytic Zinc-Coated.
- C. ASTM C645 - Non-Load (Axial) Bearing Steel Studs, Runners (Track) and Rigid Furring Channels for Screw Application of Gypsum Board.
- D. ASTM C 754 - Installation of Steel Framing Members to Receive Screw-Attached Gypsum Wallboard, Backing Board, or Water-Resistant Backing Board.
- E. FS TT-P-645 - Primer, Paint, Zinc-Chromate, Alkyd Type.

**1.05 SUBMITTALS**

- A. Describe method for securing studs to tracks, splicing, and for blocking, backing and reinforcement to framing connections.
- B. Submit product data describing standard framing member materials and finish, product criteria, load charts, and limitations.
- C. Submit manufacturer's installation instructions.

**1.06 MOCK-UP**

- A. Provide mock-up of a section of wall and furring 6 feet wide by full height including wall and window opening, corner and termination against other materials.
- B. Coordinate construction of mock-up with related Sections.
- C. When accepted, mock-up will demonstrate minimum standard for the Work. Mock-up may remain as part of the Work.

**1.07 PRE-INSTALLATION CONFERENCE**

- A. Convene one week prior to commencing work of this Section.
- B. Discuss construction of mock-up with related Sections.

PART 2 - PRODUCTS

**2.01 STUD FRAMING MATERIALS**

- A. Framing System Components: ASTM C645.
- B. Studs: ASTM A525, galvanized to G60 coating class, non-load bearing rolled steel, channel shaped, punched for utility access.
  - 1. Face width: 1-1/4 inch.
  - 2. Thickness: 25 gage.
  - 3. Thickness at toilet rooms or walls behind wall hung cabinets: 20 gage.
  - 4. Size as noted on drawings.
- C. Runners: Of same material and finish as studs. Ceiling runners with extended deep-legs.
- D. Furring and Bracing Members: Of same material and finish as studs, thickness to suit purpose.
- E. Door and window jambs and heads: 20 gage of size noted on Drawings.
- F. Resilient channels: 25 gage galvanized.

- G. Fasteners: Self-drilling, self-tapping screws. Shallow dome heads or low profile heads.
- H. Metal Backing: 18 gage by 4 inches wide galvanized steel for reinforcement behind all wall mounted items except where detailed as a heavier gage.
- I. Blocking: 18 gage steel channels or studs.
- J. Anchorage Devices: Powder actuated.
- K. Acoustic Sealant: As specified in Section 07900.
- L. Primer: FSTT-P-645, for touch-up of galvanized surfaces.

PART 3 - EXECUTION

**3.01 EXAMINATION**

- A. Verify that conditions are ready to receive work.
- B. Verify field measurements are as shown on Drawings.
- C. Verify that rough-in utilities are in proper location.
- D. Beginning of installation means installer accepts existing conditions.

**3.02 ERECTION**

- A. Align and secure top and bottom runners at 24 inches oc. Place two beads of acoustic sealant between runners and substrate.
- B. Fit runners under and above openings; secure intermediate studs at spacing of wall studs.
- C. Install studs vertically at 16 inches oc. Place two beads of acoustic sealant between studs and adjacent vertical surfaces.
- D. Connect studs to tracks using fastener method.
- E. Stud splicing not permissible.
- F. Construct corners using minimum three studs.
- G. Double studs at wall openings, door and window jambs, and not more than 2 inches each side of openings.
- H. Brace stud framing system and make rigid and stable prior to installation of sheathing. Brace unstayed flange of studs that do not

receive finish on both sides.

- I. Coordinate erection of studs with requirements of door and window frame supports and attachments.
- J. Align stud web openings.
- K. Coordinate installation of bucks, anchors, and blocking with electrical and mechanical work to be placed in or behind stud framing.
- L. Blocking: Secure 18 gage steel channels to studs. Install blocking for support of toilet partitions, wall mounted door stops, cabinetry, history display wall and other items detailed.
- M. Backing: Install backing with 2 screws per stud for wall cabinets, toilet accessories, chalk and tackboards, fire extinguisher cabinets, ceiling perimeter angle, base cabinets, millwork, gurney guards, waterproofing membrane, drapery and cubicle tracks.
- N. Partitions shall typically extend through ceiling to structure above. Maintain clearance under structural building members to avoid deflection transfer to studs. Provide extended leg ceiling runners and lateral bracing for stability.
- O. Coordinate placement of insulation in multiple stud spaces made inaccessible after stud framing erection.

### **3.03 TOLERANCES**

- A. Maximum Variation From True Position: 1/8 inch.
- B. Maximum Variation of any Member from Plane: 1/8 inch.

### **3.04 SCHEDULE**

- A. Interior Partitions (Typical Floors): 3-5/8" inch studs, gypsum board finish both faces, typical.
- B. Exterior Pavilion framing: 3-5/8" and 6" inch studs as indicated all 20 gage framing.
- C. Exterior wall furring: 1" furring channel typical.

**END OF SECTION**

**SECTION 09220**

**LATHING AND PLASTERING**

PART 1 - GENERAL

**1.01 RELATED SECTIONS**

- A. Section 06100 - Carpentry: Wood Blocking and Curbing.
- B. Section 04340 - Concrete Block Masonry: substrate at main building
- C. Section 09110 - Metal Stud Framing: Framing substrate at pavilion.

**1.02 QUALITY ASSURANCE**

- A. Acceptable manufacturers: Furnish metal framing, furring lath and lath and plaster accessories from:
  - 1. Inryco/Milcor
  - 2. United States Gypsum
  - 3. Western Metal Lath
- B. Acceptable Manufacturers: Furnish plastering materials from:
  - 1. United States Gypsum or Gold Bond Building Products.
  - 2. Lahabra or Highland color coat.
- C. Design criteria:
  - 1. Ceiling support system shall limit deflection of finished ceiling to less than 1/360 of span.
  - 2. Allowable tolerance of completed plaster work is one-eighth inch on a ten foot straight edge.
- D. Sample Panels for plastering:
  - 1. Provide sample panels of base coat and finish coat for color and texture for each type of plaster. Obtain Architect's approval before proceeding with the work. Sample size 2'0" x 2'0" for color and texture.
  - 2. Standard of workmanship: Apply base and finish coats to sample panels of lathing prepared above and obtain Architect's approval before proceeding with the work. These panels shall be the standard of workmanship for the balance of the project.
- E. Reference Specifications:
  - 1. Metal Lath/Steel Framing Association
  - 2. California Lathing and Plastering Contractors Association Specifications Guide
  - 3. UBC with Title 24 amendments.

**1.03 REQUIREMENTS OF REGULATORY AGENCIES**

- A. The Uniform Building Code, current adopted edition, supersedes this section in all areas of common jurisdiction.
- B. The California Code of Regulations, Title 24, Part 2, Chapter 47, supersedes this section in all areas of common jurisdiction.

**1.04 SUBMITTALS**

- A. Samples:
  - 1. Two 12 in. lengths of lathing and plastering accessories with labels.
  - 2. Manufacturer's literature with items being used clearly called out.
  - 3. Color samples of finish coat of Portland cement-lime plaster.
- B. Complete list of all materials with manufacturers' literature.
- C. Compliance with ASTM standards. Submit certificate for sand.

**1.05 PRODUCT DELIVERY, STORAGE AND HANDLING**

- A. Deliver materials in original packages, containers, or bundles with manufacturer's label intact.
- B. Protect materials from dampness, store indoors.

**1.06 JOB CONDITIONS**

- A. Existing conditions:
  - 1. Make a detailed inspection of all areas and surfaces to be enclosed or covered by the work of this section. Report any unsatisfactory condition. Do not proceed with the work until the unsatisfactory condition has been corrected.
- B. Environmental:
  - 1. Do not apply interior plaster unless a uniform temperature of not under 40 degrees F has been and continues to be maintained in the building prior to the application of plaster, while plastering is being done and until plaster is dry.
  - 2. Provide ventilation for the proper drying and curing of the plaster.
- C. Protection: Protect finished surfaces installed prior to plastering by covering with plastic sheets and maintain covering until completion of the plastering work.

PART 2 - PRODUCTS

**2.01 CARRYING AND FURRING CHANNELS**

- A. Cold rolled steel, 16 gauge, with factory applied rust resistant paint or galvanized in accordance with paragraph below; GALVANIZING.

**2.02 SCREWABLE FURRING CHANNEL**

- A. Cold formed steel, hat section, 26 gauge minimum, galvanized.

**2.03 METAL LATH AND WIRE FABRIC LATH**

- A. Flat and Self-furring diamond mesh for exterior walls: 3.4 lbs. per sq. yd. expanded from cold rolled steel sheets, coated with rust resistant paint or galvanized in accordance with paragraph below; GALVANIZING.
- B. Flat rib lath diamond mesh for interior walls: 3.4 lbs. per sq. yd. expanded from cold rolled steel sheets, coated with rust resistant paint or galvanized in accordance with paragraph below; GALVANIZING.
- C. Three-eighth inch (3/8") rib lath for ceilings: 3.4 lbs. per sq. yd. diamond mesh expanded from cold rolled steel sheets, coated with rust resistant paint or galvanized in accordance with paragraph below; GALVANIZING.
- D. Woven wire fabric lath (stucco netting): Woven steel wire No. 20 gauge for one inch openings and No. 17 gauge for one and one-half inch openings, fabricated from galvanized wire.
- E. Wire:  
1. Galvanized, annealed steel hanger and tie wire.  
2. Wire backing (String wire), not less than 18 gauge.

**2.04 GALVANIZING**

- A. All lathing and furring materials used in toilet and shower rooms and on the exterior shall be galvanized. This includes but is not limited to exterior soffits and walls that are under cover.

**2.05 FASTENERS**

- A. Nails, staples, screws and wire: Type, size and spacing as shown in the Lathing and Plastering Reference Specifications. Galvanized in accordance with paragraph above; GALVANIZING.

**2.06 METAL ACCESSORIES**

- A. General:  
1. Metal shapes used as grounds shall be size and dimensions to provide for required plaster thickness.

2. Metal flanges, designed to permit complete embedment of accessory in plaster. Provide for alignment and attachment to supports.
- B. Interior Portland Cement Plaster Accessories:
1. Corner bead: USG #1-A or Milcor #1, 2-7/8" wide expanded flanges. Galvanized.
  2. Corner bead: Bullnose, Milcor #10 or Western #10x, 3/4" radius, 1" wide face. Galvanized.
  3. Inside corners: Cornerite, 2" x 2". Galvanized.
  4. Casing beads: USG #66, Western #66, Milcor #66, 3-1/8" wide expanded metal. Galvanized.
  5. Parting screed: Western #3x, Inryco #3, approximately 5" wide. Galvanized.
  6. Base Screed: Western #7, Superior SWD or equal. Galvanized.
  7. Control joints: Western or Keene XJ-15-3 or #30. Galvanized.
  8. Expansion joints: Western #40, Inryco #40.
- C. Exterior Portland Cement Plaster Accessories:
1. Corner bead: Stockton corner aid.
  2. Corner bead: USG 1-A or Western "Stucco-Lok", or equal corner reinforcement, solid zinc.
  3. Inside corners: Cornerite, 2" x 2". Galvanized.
  4. Casing beads: USG #66, Western #66, Milcor #66, 3-1/8" wide expanded metal. Galvanized.
  5. Base screed: Western #7.
  6. Control joints: Western or Keene XJ15-3 or #30. Galvanized.
  7. Expansion joints: Western #40, Inryco #40.

## **2.07 WATERPROOF BACKING**

- A. For interior or exterior applications, Fed. Spec. UU-B-790, Type I, Grade B. Backing shall be attached to lath unless string wire is used.
- B. Portland Cement-Lime Plaster:
1. Type II Portland Cement. Plastic or gun plastic cement is not acceptable.
  2. Finish coat - La Habra or Highland color coat.
- C. Lime: USG Ivory Finish Lime - Autoclaved, or Flintkote Miracle finishing lime.
- D. Aggregate: Sand for Portland Cement-Lime Plaster shall be washed natural sand, low alkali, graded according to Lathing and Plastering reference specifications and ASTM C-144.
- E. Water:
1. Potable and free from impurities that affect setting of plaster.
  2. Keep volume of water used to a minimum.

- F. Bonding Agent:  
1. Larson Weldcrete, Dayton Superior J-41 or approved equal.

**2.08 MIXING**

- A. General:  
1. Proportions and measure material for each batch accurately.  
2. Mix each batch separately with a mechanical mixer that is clean and free of hardened materials.  
3. Do not re-temper or use partially set plaster.

PART 3 - EXECUTION

**3.01 GENERAL REQUIREMENTS**

- A. Wire Tying:  
1. Use a single strand of No. 16 gauge or a double strand of No. 18 gauge wire.  
2. For splices use a double wrap tie.  
3. For horizontal stiffeners to channel brackets use a figure eight tie.  
4. For framing members perpendicular to each other use saddle tie.

**3.02 SUSPENDED CEILINGS**

- A. Hangers:  
1. Steel framed construction - wrap hangers around or clip to supports.  
2. Concrete or steel deck construction - secure hangers to steel rebar.  
3. Wood construction - drill holes three inches above bottom of joists, insert wire hangers in holes and twist hanger around itself three times.
- B. Main Runners and Cross Furring:  
1. Locate a main runner within six inches of parallel walls. Spliced main runners shall be overlapped twelve inches with flanges interlocked and securely tied with two loops of wire. Size of runners and spacing as shown on drawings and/or U.B.C. Chapter 47.  
2. Saddle-tie wire hangers around main runners to prevent turning or twisting.  
3. Saddle-tie the cross furring to the main runners at each crossing. Spliced members shall be lapped eight inches with flanges interlocked. Size of cross furring and spacing as shown on drawings and/or U.B.C. Chapter 47.  
4. Do not continue cross furring across expansion joints.

**3.03 INSTALLATION OF METAL LATH**

- A. Interior and Exterior:

1. Lap metal lath one-half inch at sides and one inch at ends. Stagger end laps from row to row. Lap ends over supports. If paper backed lath is used lap paper to paper and lath to lath.
2. Butt lath into internal corners and reinforce with cornerite.
3. Attach metal lath to vertical supports at six inch intervals. In addition, fasten metal lath to horizontal wood supports with:
  - a. Two strands of No. 18 gauge tie wire to alternate supports at one edge of each sheet of lath attached as per Title 24, Chapter 4705(c)1 and 4706(e)1.
  - b. 9 gauge ring shank hook staple attached per Title 24, Chapter 4705(c)2 and 4707(e)2.
5. Comply with Table No. 47-C Uniform Building Code.
6. Waterproof backing: Install behind all exterior plaster.

### **3.04 INSTALLATION OF WOVEN WIRE FABRIC (STUCCO NETTING)**

- A. Wire backing (string wire): Over open wood framing attach No. 18 gauge wire to vertical surfaces, stretched taut and spaced six inches.
- B. Weather Protection:
  1. Over open stud wood frame construction apply waterproof backing to supports and lap courses of paper over lower courses two inches. Lap vertical joints six inches and on open construction lap at supports.
  2. Over plywood or other solid sheeting apply two layers of waterproof backing.
- C. Installation of Woven Wire Fabric:
  1. Lap all joints at least one mesh and not less than one inch and lap upper courses over lower courses. Lap all ends at supports.
  2. Attach to supports at six inch intervals.
  3. On vertical surfaces, fur lath at least one-quarter inch.
- D. Installation of paper backed lath:
  1. Lap paper to paper and lath to lath.
  2. Attach to framing at 6 inches on center and only at designated places on the sheet so as to allow complete embedment of the lath in the scratch coat.

### **3.05 INSTALLATION OF METAL ACCESSORIES**

- A. General:
  1. Attach metal plastering accessories to supports or to plaster base with wire ties, nails, or other attachments. Fasten at ends and twelve inches along sides.
  2. Bring grounding edge to true lines, plumb, level and straight to provide required depth of plaster and to bring plaster surface to required plane.
- B. Corner Beads:
  1. Install small nose corner beads at all external angles of interior

- plaster surfaces.
2. Install bull nose corner beads where noted on drawings.
  3. Install Stockton corner aid at exterior corners of exterior Portland cement plaster.
- C. Casing Beads:
1. Install casing beads at all exposed edges of interior plastered surfaces including around door frames and window frames.
  2. Install casing beads where plaster abuts dissimilar materials such as door and window frames, masonry and concrete.
  3. Install casing beads between tile surfaces and plaster surfaces.
- D. Control Joints: Install control joints in all Portland Cement Plaster and Portland Cement-Lime Plaster surfaces. Space control joints a maximum of ten feet in any direction.

### **3.06 INSPECTION BEFORE PLASTERING**

- A. Examine all surfaces for correctness to receive plaster. Do not proceed with plastering until conditions are correct and acceptable.

### **3.07 PREPARATION BEFORE PLASTERING**

- A. Clean concrete and masonry surfaces to receive plaster. Remove loose particles, efflorescence, oil, etc.
- B. Masonry surfaces on which suction must be reduced shall be wet down.
- C. Concrete surfaces shall be given a dash bond coat of Portland cement plaster or treated with a liquid bonding agent. Dash bond coats shall have 2 quarts of liquid bonding agent added for each sack of cement.

### **3.08 APPLICATION**

- A. Sequence of operations:
1. Complete all plastering in rooms and spaces prior to installation of acoustical material.
  2. Where wainscot is a material other than plaster, apply finish plaster coat prior to installation of wainscot.
- B. Plaster Thickness:
1. Where fire resistive rating is required, thickness of plaster shall conform to the Uniform Building Code.
  2. Finished thickness of plaster from face of lath, concrete or masonry.
  3. Over metal lath or wire fabric lath: Portland cement-lime plaster 7/8" minimum on exterior.
  4. Masonry walls: 1/2 inch minimum Portland cement-lime plaster.
  5. Concrete walls: 5/8" maximum Portland cement-lime plaster.
  6. Concrete ceilings: 3/8" maximum Portland cement-lime plaster.

- C. Portland Cement-Lime Plaster Base Coats:
1. On metal lath or wire fabric lath:
  2. Apply Scratch coat with sufficient material to form good keys. Embed and fill all spaces of lath and score horizontally.
  3. Apply brown coat to scratch coat, bring out to grounds, straighten to a true surface, float and compact and leave sufficiently rough to assure adequate bond for finish. On exterior vertical surfaces, cold joints in brown coat shall not occur over cold joints in scratch coat.
  4. Under mortar-set ceramic tile apply scratch coat only. Under thin-set ceramic tile apply scratch and brown coats, float to a smooth plumb surface.
  5. Over masonry and concrete: After surface has been prepared to assure bond, apply brown as specified above.
- D. Portland Cement-Lime Plaster Finish Coats:
1. Float Finish: Apply finish plaster to an approximate thickness of one-eighth inch thickness and uniformly float to a true even plane. Use sieve size sand as scheduled.
  2. Textured finish: Apply finish plaster to an approximate thickness of one-eighth inch. Texture to be heavy dash to match existing.
- E. Color Coat: If color coat is not uniform in color, fog spray with colorant concentrate until color is uniform for the entire wall surface.
- F. Curing Portland Cement-Lime Plaster: Protect against uneven and excessive evaporation. Wet surfaces as required to maintain even curing. Allow extra time for curing if atmospheric conditions are hot and dry. Sufficient moisture shall be retained or applied to assure hydration. Minimum period moist curing and minimum interval between coats shall 48 hours between scratch and brown coat. 14 days minimum (30 days optimum)curing after brown coat prior to installing finish coat.

### 3.09 ADJUST AND CLEAN

- A. Patching:
1. New work:
    - a. Point up plaster around trim and other locations.
    - b. Cut out and patch defective and damaged plaster.
    - c. Repair all cracks.
  2. Existing work: Replace or patch all defective, damaged or cracked interior and exterior plaster with new materials and finish to match existing plaster.
  3. Do patching when all work except painting has been completed. Cut out cracks to a width of at least one inch. Fill areas to be patched with base material and finish coat of same material as adjoining plaster. Joints are to be flush and match texture of existing plaster.

B. Cleaning:

1. Clean floors of plaster dropping and debris immediately after each coat has been applied.
2. Remove excess plaster between casing beads and jambs. Remove all plaster from the exposed surface of casing beads, trim, base and adjoining non-plastered surfaces.
3. Upon final completion of plastering in an area, remove rubbish, debris, scaffold and tools and leave area clean of all surface plaster.

**3.10 SCHEDULE**

A. Proportions:

PLAS-1: Portland cement-lime plaster on metal lath.

- a. First coat: Proportion maximum of one volume lime per one volume cement and maximum of 4 volumes sand per combined volumes cement and lime. 3/8" thick.
- b. Second coat: Proportion maximum of one volume lime per one volume cement and maximum of 4 1/2 volumes sand per combined volumes cement and lime. 3/8" thick.
- c. Finish coat: Proportion prepared finish in accordance with: manufacturer's directions. 1/8" thick. Color and finish as directed by Architect.

PLAS-2: Portland cement-lime plaster on masonry or concrete.

- a. Dash bond coat: One part Portland cement and 2 parts sand.
- b. Second coat: Proportion maximum of one volume lime per one volume cement and maximum of 4 1/2 volumes sand per combined volumes cement and lime.
- c. Finish coat: Proportion prepared sand float finish in accordance with manufacturer's directions. Color and finish as directed by Architect.

PLAS-3: Portland cement-lime plaster on woven wire fabric lath.

- a. First coat: Proportion maximum of one volume lime per one volume cement and maximum of 4 volumes sand per combined volumes cement and lime.
- b. Second coat: Proportion maximum of one volume lime per one volume cement and maximum of 4 1/2 volumes sand per combined volumes cement and lime.
- c. Finish coat: Proportion prepared finish in accordance with manufacturer's directions. Color and finish as directed by Architect.

**END OF SECTION**

**SECTION 09250**

**GYPSUM WALLBOARD**

PART 1 - GENERAL

**1.01 SECTION INCLUDES**

- A. Gypsum wallboard typical at all walls and behind tile wainscoting.

**1.02 RELATED SECTIONS**

- A. Section 06100 - Carpentry:  
B. Section 09110 - Metal Stud Framing:  
C. Section 09900 - Painting:

**1.03 QUALITY ASSURANCE**

- A. Acceptable Manufacturers :  
1. Comply with requirements of ASTM-C-36-75 and C442-72.  
2. Manufactured by: DOMTAR, GEORGIA-PACIFIC, GOLD BOND, U.S. GYPSUM or approved equal.
- B. Requirements of Regulatory Agencies : The following codes and standards apply to and form a part of this section, except where modified herein:  
1. American Standard Specifications for Gypsum Wallboard Finishes, A97.1," latest edition, as compiled by the American Standards Association.  
2. "The Uniform Building Code," Chapter 47, latest edition as compiled by the International Conference of Building Officials 24, Part2, Chapter25.
- C. Sample panels :  
1. Wall section: Minimum 6 feet wide by full height, including door and window opening, corner and termination against other material.  
2. Ceiling section: Minimum 64 square feet including light fixture, air register and intersection with wall.
- D. Provide panels to show methods used to accommodate various components of gypsum wallboard system, taping, texturing, and finishing.
- E. Do not proceed with work until sample panels are approved by Architect. Approved samples may become a portion of the work.

**1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING**

- A. Deliver and storage of materials: Deliver all materials to the project site free from damage and defects with the manufacturer's

identification symbols clearly marked on the material. Protect from all damage and store in a manner recommended by the manufacturer.

PART 2 - PRODUCTS

**2.01 MATERIALS**

- A. Gypsum Wallboard :
1. Fire-rated gypsum wallboard: Type "X" 5/8 inch thick, 4 feet wide, with tapered edges.
  2. Fire-rated water resistant gypsum wallboard: 5/8 inch thick, 4 feet wide, with tapered edges.
  3. Mineral fiber sound deadening board: 1/2 inch thick, 4 feet wide.
- B. Nails :
1. 1/2 inch thick wallboard: 5d bugle head.
  2. 5/8 inch thick wallboard: 6d bugle head.
  3. 5/8 inch thick one-hour fire-resistive construction: 6d bugle head or as required to meet fire-rating requirements.
  4. Nailable metal members: 1-1/4 inch Fedder Annular Ring Nail.
- C. Screws:
1. For steel studs: 1 inch long, type "S". Longer for double layer construction.
  2. Wood studs: Type "W". 1-1/8 inch for 1/2 inch wallboard, 1-1/4 inch for 5/8 inch wallboard. Longer for double layer construction. 5/8 inch minimum penetration into studs.
- D. Joint Reinforcement: Perforated tape and plastic filler as furnished or recommended by the manufacturer of the gypsum board used, and complying with all applicable laws, ordinances, rules and regulations having jurisdiction.
- E. Metal accessories as manufactured by U.S. Gypsum :
1. Casing bead and trim where edge of board is exposed to impact: No. 200A channel type.
  2. Casing bead and trim where edge of board is protected from impact by an adjacent material such as door or window frame: No. 200B "L Metal" type.
  3. Corner bead: No. 101 Dur-a-bead.
  4. Carrying Channels: 1-1/2 inch, cold rolled, 16-gauge
  5. Hanger wire: 8-gauge
  6. Tie wire: 18-gauge
- F. Texture Material: USG, Hamilton or approved equal recommended by the manufacturer for the specified texture.

PART 3 - EXECUTION

**3.01 INSTALLATION**

A. General:

1. Apply wallboard by method specified below, in accordance with standard specifications and manufacturer's directions.
2. Apply insulating wallboards with foil back facing stud, joist or furred space.
3. Use individual wallboards of maximum practical lengths.
4. Bring wallboard into contact without forcing into place, with abutting edges and ends neatly fitted.
5. Stagger edge and end joints of all wallboards. Opposite side of partitions, wallboard joints shall occur on other than the same stud.
6. Apply ceiling boards first, then the wallboards. Do not stagger nails on adjoining edges or ends of boards.
7. For all single layer applications of boards: Drive home nails to place the heads slightly below finished surface of boards so as not to break the paper face of the wallboard. Do not use a nail set.

B. Application to Wood Construction:

1. Single layer: Secure to supports by standard nailing method, adhesive nailing method, or with power-driven drywall screws. Method is at the contractors option.
2. Double layer: Secure base layer to supports by standard nailing method or with power driven drywall screws, face layer to base layer with adhesive method, or adhesive nailing method. Method is at the contractors option.

C. Application to metal studs and furring:

1. Single layer: Secure to supports with power-driven drywall screws.
2. Double layer: Secure base layer to supports with power-driven drywall screws, face layer to base layer with adhesives and power driven drywall screws.

D. One-Hour Construction:

1. Apply ceiling boards with long dimension at right angles to supports.
2. Space nails 6 inches on center for ceilings, 7 inches on center for walls.
3. Install enclosures constructed of the specified ceiling board around all light fixtures and speaker enclosures except those bearing UL labels approving them for use in one-hour ceilings.
4. Apply in complete accordance with additional code requirements.

E. Finishing:

1. Backing board: Install with taped joints feathered, nails and screws spotted, 3 coats minimum. Finish surface shall present a true, level plane ready to receive tile or wall paneling.

2. Finish wall or ceiling board:
  - a. Tape and feather all joints, using three application process.
  - b. Fill all nail or screw heads with cement using three application process.
  - c. Sand all taped joints and cement filling to a smooth surface free of ridges or bumps.
  - d. Finish surface shall present a true, level plane ready to receive wall finish.
  - e. Apply a skim coat of joint filler material over the complete wall board surface.
  - f. Apply a fine stippled texture using gypsum wallboard texture material. Texture is to match existing similar to Orange Peel.
3. Metal Trim:
  - a. Apply casing bead at all jamb edges and at all intersections where wallboard abuts other materials.
  - b. Apply corner bead at all external wallboard corners.
4. Workmanship: Use experienced applicators. Do all work in accordance with the best practices of the trade.

**3.02 PROTECTION AND CLEAN-UP**

- A. Protect all surfaces and materials from damage during and after installation. Touch up minor blemishes and defects and repair as necessary.

**END OF SECTION**

**SECTION 09310**

**TILE**

PART 1 - GENERAL

**1.01 SECTION INCLUDES**

- A. Include all materials for setting beds.
- B. Portland cement backer board.

**1.02 RELATED SECTIONS**

- A. Section 09110 - Metal Stud Framing: blocking
- B. Section 09220 - Lathing and Plastering: Waterproof paper, metal lathing, metal casing beads between tile and plaster surfaces.
- C. Section 10800 - Toilet and Bath Accessories: attachment through tile.

**1.03 CODES AND STANDARDS**

- A. Conform to the following American Standard Specifications where applicable:
  - 1. Installation of Ceramic Tile with Water-Resistant Adhesives, ANSI A108.5.
  - 2. Installation of Ceramic Tile with Dry-Set Portland Cement Mortars, ANSI A118.1.
  - 3. Installation of Ceramic Tile in Portland Cement Mortars, ANSI A108.1, A108.2, and A108.3.
- B. Measurements: Base all final measurements upon the field conditions at the time of installation.

**1.04 QUALITY ASSURANCE**

- A. Acceptable manufacturers:
  - 1. DAL-TILE/Olean Ceramic Tiles.
  - 2. Summitville Tile
  - 3. approved equal.
- B. The minimum coefficient of friction for any floor tile shall be 0.6. The coefficient of friction of the specified tile, when greater than 0.6, must be matched by any proposed substitute.

**1.05 SUBMITTALS**

- A. Samples of all types of tile shall be submitted to the Architect for quality and selection of colors; secure Architect's approval on base and trim shapes.

PART 2 - PRODUCTS

**2.01 MATERIALS FOR SETTING BEDS**

- A. Portland Cement: ASTM C-150, Type I.
- B. Lime: ASTM C-206, or C-207, Type S.
- C. Sand: ASTM C-144, damp, clean and graded.
- D. Water: Potable.
- E. Backer board: United States Gypsum Company, DUROCK; James Hardie Building Products, HARDIBACKER; Georgia Pacific Corporation, DENS-SHIELD; Portland Cement board with Glass Mesh reinforcing; or approved equal with at least three years written documentation of successful installations.
  - 1. Note that these materials are different thicknesses. Make allowance for this in layout and setting of plumbing fixtures and other embedded items.

**2.02 GLAZED WALL TILE**

- A. ANSI A137.1
  - 1. Size: Square 4-1/4 inch face, 5/16 inch thick.
  - 2. Glaze: Bright.
  - 3. Edge: Cushion.
  - 4. Grade: Standard.
  - 5. Color: Group 1.
  - 6. Pattern: To match existing

**2.03 CERAMIC MOSAIC TILE**

- A. ANSI 137.1
  - 1. Size: 1 x 1 inch face, 1/4 inch thick.
  - 2. Glaze: Unglazed porcelain ceramic mosaics.
  - 3. Edge: Square.
  - 4. Grade: Standard.
  - 5. Color: As selected from groups 1 through 3.
  - 6. Coefficient of friction greater than 0.6 wet or dry when tested in accordance with ASTM C-1028.
  - 7. Pattern to match existing restrooms.

**2.04 FLOOR TILE**

- B. ANSI 137.1
  - 1. Size: 12 x 12 inch face, 1/4 inch thick.
  - 2. Glaze: Unglazed porcelain ceramic mosaics.
  - 3. Edge: Square.

4. Grade: Standard.
5. Color: As selected from groups 1 through 3.
6. Coefficient of friction greater than 0.6 wet or dry when tested in accordance with ASTM C-1028.
7. Pattern: border as shown on finishes plan.

#### **2.05 TILE BASE**

- A. Use same material as wall tile, nominal size to match walls, cove bottom, bullnose top where installed under plaster walls, square top under tile walls.

#### **2.06 SPECIAL SHAPES**

- A. Use same manufacturer, material, color and finish as wall tile.
  1. Provide as indicated or as required for a complete installation.
  2. Use coved corners for inside, outside corners, and tops of wainscots.
- B. Solid surface material threshold at restrooms shall be the width of the door jamb and limited to ½" height from finish floors on both sides. Color to be selected to coordinate with ceramic mosaic of restrooms. Manufacturer shall be Corian or approved equal.

#### **2.07 GROUT**

- A. Walls: Prepackaged smooth grout to match basic tile color.
- B. Floors: Prepackaged sanded grout to match floor tile color.

### PART 3 - EXECUTION

#### **3.01 PREPARATION**

- A. Measurements: Base all final measurements upon the field conditions at the time of installation.
- B. Layout tile for even cuts at perimeters of walls and floors. Perimeter tiles should be greater in size than 1/2 the tile size. Tile at threshold should be full size with tile layout centered on doorway when no threshold is provided. Lay tile dry to verify that all conditions can be met. Architect may choose to review all dry layouts.
- C. Before tiling, verify substrate of surface to be tiled meets the following tolerances:
  1. Dry-set mortar 1/8" in 8'-0" for walls      1/8" in 10'-0" for floors
  2. Epoxy mortar 1/8" in 8'-0" for walls      1/8" in 10'-0" for floors
  3. Organic Adhes. 1/8" in 8'-0" for walls      1/16" in 3'-0" for floorsReport all unacceptable surfaces prior to start of work and level surface to within tolerance. Leveling cost is include in this section.

**3.02 INSTALLATION - GENERAL**

- A. Corners of all tile are to be flush with each other to within 1/32 inch regardless of tile warpage. Remove tiles that cannot be installed to this tolerance.
- B. Entire floor or wall to be true to plane within 1/8 inch in 10 feet. No significant deviations from plane will be accepted.
- C. Installation on a still plastic brown coat and mortar bed with a bond coat or on a dry brown coat and mortar bed with thinset materials at Contractor option.
- D. Installation of backer board is to be in conformance with the manufacturer's published instructions.

**3.03 INSTALLATION OF FLOOR OR WALL TILE BY THIN-SET METHODS**

- A. Tile preparation:
  - 1. Do not wet tile; however, backing surfaces may be dampened for use with dry-set mortar. Follow manufacturer's published instructions.
  - 2. Fill joints of face-mounted tile with a spacing mix of 1 part cement and 1 part sand before applying.
- B. Application of Dry-Set Mortar:
  - 1. Follow manufacturer's directions and add sand if called for. Do not use mortar after initial set has occurred. During use, mortar may be remixed, but do not add water or fresh materials.
  - 2. Clean base surface thoroughly.
  - 3. Minimum thickness of mortar bed shall be as per manufacturer's published instructions. Float mortar evenly to completely cover an area no greater than can be covered with tile while the mortar is still plastic. Within 10 minutes before application of tile, comb mortar with a notched trowel of the type recommended by the manufacturer of the dry-set mortar.
- C. Application of Water-Resistant Organic Adhesives: Apply adhesives with a trowel of the type recommended by the adhesive manufacturer. Cover the surface completely and evenly with a thin layer of adhesive. Do not allow area covered by one application to exceed the maximum working area recommended by the manufacturer. If the adhesive films over or dries before tiles are applied, scrape it off and apply fresh adhesive.
- D. Installation of Tile:
  - 1. Press tile firmly into mortar or adhesive and beat it to a true surface before initial set occurs. See that full contact is obtained between tile and mortar or adhesive to insure that there are no sizable voids.
  - 2. Before initial set occurs, remove strings from string-set tile and

- wet the faces of face-mounted tile and remove the paper and glue. Avoid using excess water. Adjust any tile that is out of alignment.
3. Adjust joints between sheets of tile to match joints between individual tiles. Remove crowded sheets and reinstall correctly.

### **3.04 INSTALLATION OF MOSAIC FLOOR TILE IN PORTLAND CEMENT MORTAR**

#### **A. Application of Mortar:**

1. Lap metal reinforcing at least one full mesh on top of membrane, slab, or fill. Support the reinforcing so that it will be approximately in the middle of the mortar bed. Do not butt reinforcing against vertical surfaces.
2. Where expansion joints are required, insert spacers or set premolded joint materials before the application of the mortar bed.
3. Apply the mortar bed to the floor or fill, and screed and tamp firmly. The minimum thickness of the mortar bed shall be 3/4 inch; more if details require. Level the mortar bed to the tolerance required for the finished floor.

#### **B. Installation of Tile:**

1. Apply a bond coat, 1/32 inch to 1/16 inch thick, to the plastic mortar bed or to the back of each tile or sheet of tile. When bond coat is applied to tile, lay the sheets of mounted tile on a flat dry surface with the face side down.
2. Beat tile into the mortar to the exact slope or level required within 1 hour after it is placed.
3. Where face-mounted tile is used, wet the paper and remove it within 1 hour after installation of tile. Avoid using excess water. Adjust any tile that is out of alignment.
4. Before the mortar bed is finally and firmly set, brush a dry spacing mixture of 1 part Portland Cement and 1 part finely screened sand into the joints. Then rub the floor gently with a wooden block to work any displaced tile into an even plane. Do not sprinkle water onto the floor; brush on water only if absolutely necessary.

### **3.05 GROUTING, CLEANING, AND CURING CERAMIC TILE:**

#### **A. Preparation for Grouting:**

1. Remove strings or wedges, where used to space tile or tile sheets, before grouting but not until tile has firmly set.
2. Clean tile set in adhesive with solvents recommended by the adhesive manufacturer only; avoid the use of excess solvents. Before grouting, allow time for evaporation of volatiles from adhesives in accordance with the adhesive manufacturer's recommendations.
3. Wet all tile set in Portland Cement Mortar if they have become dry before application of grout. Follow grout manufacturer's directions with respect to the wetting of tile joints for the application of grout to tile by thin-set methods.

- B. Grouting: After tile has sufficiently set, force a maximum of grout into the joints to the full depth of the tile by trowel, squeegee, brush, or finger application. Before grout sets, strike or tool the joints of cushion-edged tile to the depth of the cushion. Fill all joints of square-edged tile flush with the surface of the tile. Fill all gaps or skips. During grouting, clean all excess grout off with clean burlap, other cloths, or sponges. Where white grout has been used, do not permit dark adhesive or cement to show through the grouted joints.

### **3.06 PROTECTION AND CLEAN UP**

- A. Protect all finish masonry and plaster surfaces at edges of wainscots and bases by applying waxed or waterproof paper from top edges of tile at masonry walls, and from one inch below metal casing beads at plastered walls, both up to minimum of one foot above top of tile. Secure and seal edges. At completion of work, cut paper neatly at top of tile at plastered walls and remove exposed paper at masonry and plastered walls.
- B. Sponge and wash tile thoroughly with clear water after the grout has stiffened. Then clean by rubbing with damp cloths or sponges, and polish with clean dry cloth.

**END OF SECTION**

**SECTION 09510**

**ACOUSTICAL CEILINGS**

PART 1 - GENERAL

**1.01 SECTION INCLUDES**

- A. Install ceiling access doors.
- B. Acoustical ceiling system grid.
- C. Acoustical ceiling tile - lay-in.

**1.02 RELATED SECTIONS**

- A. Section 05100 - Structural Steel: Attachment of hanger wires.
- B. Section 09250 - Gypsum Wallboard: Gypsum backing board.

**1.03 WEATHER CONDITIONS**

- A. Acoustical materials must be installed under temperature and humidity conditions closely approximating those, which will exist when the building is occupied. They should not be installed when buildings are damp and cold or dry and hot.

**1.04 QUALITY ASSURANCE**

- A. Codes and standards :
  1. Conform with the requirements of Federal Specification SS-A-118b and the current Acoustical Materials Association Bulletin, "Sound Absorption Coefficients of Architectural Acoustical Materials."
  2. Construct ceiling suspension systems in accordance with the provisions of California Code of Regulations, Title 24, and OSA Interpretation of Regulations 47-4.
  3. Comply with the requirements for direct hung ceilings of ASTM C635-69, ASTM C636-69.
  4. If a substitution is proposed for the specified assembly, it will be the responsibility of the Contractor to secure approval of the proposed assembly, including protection of all ceiling penetrations, such as light fixtures and diffusers, from the local governing jurisdiction.
  5. Provide protection for light fixtures or other ceiling penetrations as required by the UL fire resistive assembly design(s) specified or to provide for ceiling insulation.

**1.05 SUBMITTALS**

- A. Samples: Submit samples of all materials to the Architect for review.

- B. Shop Drawings: Submit shop drawings for suspended ceilings to the Architect for review. Include reflected ceiling plans of all areas to receive suspended acoustical ceilings. Indicate spacing of panel members and supports, show all electrical fixtures, mechanical equipment, access panels, or other features to be incorporated in ceilings and coordinated in the final application. Include details of application of tile at all such fixtures and equipment in the ceilings. Show complete details of suspension including connections to all structural members. Show locations of all splay braces and trapeze offsets.

PART 2 - PRODUCTS

**2.01 ACOUSTICAL MATERIALS**

- A. Ceiling tile: 24 x 24 x 3/4"
1. Armstrong Stratus or approved equal.
  2. Color - oyster factory applied vinyl latex paint.
  3. LR1, .73% minimum.
  4. NRC range, .70.
  5. Flame spread, Class A, 25 or less, UL labeled.
- B. Ceiling tile: 24 x 48 x 5/8 inch.
1. Armstrong Clean Room VL/VL or approved equal.
  2. Vinyl faced membrane.
  3. LR1, .83% minimum.
  4. NRC range, .10.
  5. Non perforated, scrubbable
  6. Flame spread, Class A, 25 or less, UL labeled.

**2.02 METAL SUSPENSION SYSTEM**

- A. Type 1: Existing Grid
1. System: match existing
  2. Use to make alterations and repairs to existing system where shown.
  3. Furnish splices, springs, anchoring clips and other accessories required and designed for this system.
  4. Provide tension springs at each tile around perimeter molding.
- B. Type 2: Exposed Grid
1. System: Donn DX, heavy duty.
  2. Main runners: DX26.
  3. Cross tees: DX422 for 4 feet and DX216 for 2 feet.
  4. Furnish splices, springs, anchoring clips and other accessories required for and designed for this system.
  5. Exposed flanges of perimeter moldings and suspension members shall be factory finished, flat white enamel.
  6. Provide tensions springs at each tile around perimeter molding where the tiles are not a snug fit.

### **2.03 OTHER MATERIALS**

- A. Wood stripping: "Standard" grade kiln dried Douglas fir boards, S4S, size indicated.
- B. Adhesive: Made or recommended by acoustic tile manufacturer.
- C. Nails and Screws: Types and sizes recommended by acoustic manufacturer.
- D. Light duty hanger clips: "Barnacle" clips as manufactured by Barnacle Co., 2419 Mt. Vernon Avenue, Alexandria, VA 22301, 703-548-0880. Install where shown on reflected ceiling plan.

## PART 3 - EXECUTION

### **3.01 INSTALLATION**

- A. General :
  - 1. Plastering and concrete flooring shall be completed and allowed to dry before the installation of acoustical tiles. All windows and doors should be in place and glazed.
  - 2. The heating system should be installed and operating where necessary to maintain proper conditions before, during, and after the acoustical work in progress.
  - 3. All acoustical tile shall be installed by a fully qualified acoustical contractor approved by the manufacturer or the tile.
  - 4. Conform to standard specifications, manufacturer's directions, and approved shop drawings.
  - 5. Finished surfaces level and true, with tolerance of 1/4 inch in 12 feet.
  - 6. Install symmetrically in the room with layout so that tiles are larger than 1/2 size. If this causes conflicts with the drawings or site conditions notify the Project Representative.
- B. Metal Suspension System:
  - 1. Install in accordance with manufacturer's directions and shop drawings, Title 24, chapter 47 and IR 47-4.
  - 2. Cut or offset bottom flange of exposed tee at intersection with wall molding so that the flanges of the molding and the tee are in one plane.
  - 3. Inspection: No lath or gypsum wallboard or their attachments shall be covered or finished until it has been inspected and approved by the project inspector.
  - 4. Hangers:
    - a. Shall be plumb and shall not press against insulation covering ducts or pipes. Hangers shall be spaced a minimum of 6 inches from all horizontal piping or duct work that is not provided with bracing restraints for horizontal forces. If some hangers must be splayed, offset the resulting horizontal force by bracing,

- counter-splaying, or other acceptable means.
- b. Hangers formed from galvanized sheet metal stock shall be suitable for suspending carrying channels or main runners from an existing structure provided that the hangers do not yield, twist, or undergo other objectionable movement.
  - c. Wire hangers for suspending carrying channels or main runners from an existing structure shall be prepared from a minimum of No. 12 gage, galvanized, soft-annealed, mild steel wire.
  - d. Special attachment devices that support the carrying channels or main runners shall be approved to support five times the design load.
5. Ceiling Fixtures:
- a. Fixtures installed in acoustical tile or lay-in panel ceilings shall be mounted in a manner that will not compromise ceiling performance.
  - b. All recessed or drop-in light fixtures and grilles shall be supported directly from the fixture housing to the structure above with a minimum of two 12 gage wires located at diagonally opposite corners. Leveling and positioning of fixtures may be provided by the ceiling grid. Fixture support wires may be slightly loose to allow the fixture to seat in the grid system. Light fixtures must be attached to the grid with an approved device to withstand 100 percent of the fixture weight in any direction.
  - c. Fixtures shall not be supported from main runners or cross runners if the weight of the fixtures causes the total dead load to exceed the deflection capability of the ceiling suspension system.
  - d. Fixtures shall not be installed so that main runners or cross runners will be eccentrically loaded.
  - e. Surface mounted fixtures shall be attached to the main runner with at least two positive clamping devices made of material with a minimum of 14 gage. Rotational spring catches do not comply. A 12 gage suspension wire shall be attached to each clamping device and to the structure above.
6. Lay-in-panels. Metal panels and panels weighing more than 1/2 pound per square foot other than acoustical tile shall be positively attached to the ceiling suspension runners.
7. Vertical Hangers:
- a. Suspension wires shall be not smaller than No. 12 gage spaced at 4 feet on center.
  - b. Each vertical wire shall be attached to the ceiling suspension member and to the support above with a minimum of three turns. Any connection device at the supporting construction shall be capable of carrying not less than 100 pounds.
  - c. Suspension wires shall not hang more than 1 in 6 out-of-plumb unless counter-sloping wires are provided.
  - d. Wires shall not attach to or bend around interfering material or equipment. A trapeze or equivalent device shall be used where obstructions preclude direct suspension. Trapeze suspensions

shall be a minimum of back-to-back 1-1/4 inch cold rolled channels for spans exceeding 48 inches.

8. Lateral Force Bracing:
  - a. Where substantiating design calculations are not provided, horizontal restraints shall be effected by four No. 12 gage wires secured to the main runner within 2 inches of the cross runner intersection and splayed 90 degrees from each other at an angle not exceeding 45 degrees from the plane of the ceiling. These horizontal restraint points shall be placed within 6 feet of each surrounding wall and not over 12 feet on center. Attachment of the restraint wires to the structure above shall be adequate for the load imposed.
  - b. Lateral force bracing members shall be spaced a minimum of 6 inches from all horizontal piping or duct work that is not provided with bracing restraints for horizontal forces. Bracing wires shall be attached to the grid and to the structure in such a manner that they can support a design load of not less than 200 pounds or the actual design load, whichever is greater, with a safety factor of 2.
9. Perimeter Members. Unless a structural part of the approved system, wall angles or channels shall be considered as aesthetic closers and shall have no structural value assessed to themselves or their method of attachment to the walls. Ends of main runners and cross members shall be tied together to prevent their spreading. Tegular tiles shall be kerfed where cut or partial tiles are used to allow level and plumb installation.
10. Lighting Fixtures:
  - a. All lighting fixtures shall be positively attached to the suspended ceiling system. The attachment device shall have a capacity of 100 percent of the lighting fixture weight acting in any direction. (See Sec. 47.1809(g) for hanger wires to the fixture.)
  - b. Lighting fixtures weighing 56 pounds or more shall be supported directly from the structure above by approved hangers. In such cases the slack wires required by 3.01, B, 5 may be omitted.
11. Mechanical Services:
  - a. Ceiling mounted air terminals or services shall be positively attached to the ceiling suspension main runners or to cross runners with the same carrying capacity as the main runners.
  - b. Terminals or services weighing not more than 56 pounds shall have two No. 12 gage hangers connected from the terminal or service to the structure above. These wires may be slack.
  - c. Terminals or services weighing more than 56 pounds shall be supported directly from the structure above by approved hangers.

**END OF SECTION**

**SECTION 09650**

**RESILIENT FLOORING**

PART 1 - GENERAL

**1.01 SECTION INCLUDES**

- A. Resilient flooring is required under all casework.
- B. Reducer or edge strips at carpet and concrete.
- C. Base at resilient flooring.
- D. Demolition of existing resilient flooring.

**1.02 RELATED SECTIONS**

- A. Section 02072 - Minor Demolition for Remodeling.
- B. Section 09680 - Carpets: Carpets and mats.

**1.03 PRODUCT HANDLING**

- A. Deliver materials to project site in manufacturer's original unopened containers with manufacturer's brand name, color, and pattern number clearly marked thereon.
- B. Store materials in original containers, at not less than 70 degrees F. for at least 24 hours before installation, in accordance with manufacturer's recommendations.

**1.04 SUBMITTALS**

- A. Submit samples of the resilient flooring and base for each color and pattern to the Architect for review prior to starting any work.
- B. Submit two copies of the manufacturer's printed instructions for resilient flooring and adhesives.

PART 2 - PRODUCTS

**2.01 MATERIALS**

- A. Homogeneous Sheet Vinyl: Armstrong, Classic Corlon or approved equal: 0.085" thick with .050 wear layer.
- B. Rubber Base: Burke or Robbins 4 inches high, color selected, topset cove type. Preformed outside corners.

- C. Primer, Sealers, Adhesives: Non toxic. Water-resistant type, made or recommended by floor covering manufacturer. Submit list of materials proposed for use; obtain approval before proceeding.
- D. Metal Trim: Types to suit conditions, as indicated or approved, aluminized aluminum.
- E. Vinyl Trim: Reducer strip at concrete, Johnsonite CB series; at carpet, Johnsonite CE and CDB series.

### PART 3 - EXECUTION

#### **3.01 INSTALLATION**

- A. Preparation of surfaces:
  - 1. Remove grease, dirt, paint, wax and other substances from sub-floors. Inspect floors for holes, cracks, and smoothness. Fill any holes, cracks, or surface irregularities as required to properly condition the floor to receive flooring. Do not proceed with flooring until such preparation work has been completed.
  - 2. Maintain 70 degrees F. minimum temperature in rooms for 24 hours before and during time of laying flooring and for 48 hours after laying.
- B. Details of installation:
  - 1. Do not start work until painting work has been completed.
  - 2. Lay flooring in accordance with most recent printed instructions of the manufacturer.
  - 3. Cut flooring to fit accurately at joining with other material.
  - 4. Install aluminum edging strips where edge of flooring is exposed, and where tile abuts ceramic tile. Fasten strips to floor with screws spaced 12 inches apart; use expansion shields or fiber plugs for securing screws in concrete.
  - 5. Install vinyl edging strips where edge of flooring is exposed, and where tile abuts ceramic tile. Fasten strips to floor with manufacturer's recommended adhesive.
  - 6. Set resilient base straight and true in adhesive. Corners shall be preformed unless job formed are necessary or where directed by the Architect for job forming to eliminate joints at end walls or returns. Use full lengths except at corners.
  - 7. Furnish and install resilient base for all areas to receive resilient flooring and coved base is not shown.
  - 8. Omit resilient topset base from all walls behind casework. Apply bases to the cabinets after they are furnished and installed.
  - 9. Upon completion, leave floors and base smooth, and free from buckles, cracks, and projecting edges.
- C. Workmanship: Use only experienced workmen.

**3.02 PROTECTION AND CLEAN UP**

- A. Protect all resilient flooring and base from adjacent trades. Prohibit traffic for first 48 hours after installation.
- B. Remove excess adhesive from floor, base and wall surfaces without damaging other trades.
- C. Scrub floors clean before turning over to owner. Seal and wax floor and base surfaces in accordance with manufacturer's instructions.

**3.03 SPARE MATERIALS**

- A. Deliver to owner one carton of each color tile, 200 square feet of full width rolled goods of each color and 10 full length pieces of each color base.

**END OF SECTION**

**SECTION 09680**

**CARPETING**

PART 1 - GENERAL

**1.01 SECTION INCLUDES**

- A. Carpeting.
- B. Carpeting glue down method.
- C. Base finish.
- D. Carpeting under all movable casework.
- E. Accessories.

**1.03 RELATED SECTIONS**

- A. Section 09650 - Resilient Flooring: resilient base.
- B. Section 06400 - Architectural Woodwork: Wood base.

**1.04 REFERENCES**

- A. ANSI/ASTM E648 - Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source.
- B. ASTM E84 - Surface Burning Characteristics of Building Materials.
  - 1. FS L-C-1369 - Cushion, Carpet and Rug, Bonded Urethane.
  - 2. FS ZZ-C-811 - Cushion (Underlay); Carpet and Rug,
  - 3. FS ZZ-C-00811 - Cushion, Carpet and Rug, Cellular
  - 4. FS DDD-C-95 - Carpets and Rugs, Wool, Nylon, Acrylic,
  - 5. FS DDD-C-0095 - Carpet and Rugs, Wool, Nylon, Acrylic,
  - 6. FS DDD-C-1023 - Cushion, Carpet and Rug (Hair Felt)
  - 7. FS DDD-C-1559 - Carpet, Loop, Low Pile Height, High

**1.05 SUBMITTALS**

- A. Samples :
  - 1. Submit sample pieces approximately 8-1/2 x 11 inches of each type of carpet illustrating color and pattern to the Architect for review.
  - 2. Submit samples of trim strips.
  - 3. Architect will select colors from the manufacturer's colors. Submit a minimum of 15 colors in a range of colors similar to the specified brand and style for selection.
- B. Indicate seaming plan, method of joining seams, direction of nap of carpet. Conform with the criteria in the first sub-paragraph (Seaming

and layout considerations) of the installation paragraph.

- C. Provide product data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.
- D. Submit manufacturer's installation instructions.

**1.06 OPERATION AND MAINTENANCE DATA**

- A. Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning.

**1.07 QUALITY ASSURANCE**

- A. Manufacturer:
  - 1. Company specializing in manufacture of similar carpet with three years minimum experience.
  - 2. The manufacturer's recommended methods of installation, when reviewed by the Architect, shall be the basis for acceptance or rejection of actual methods of installation use in this Work.
- B. Installer:
  - 1. Company with three years minimum documented experience and approved by the manufacturer if manufacturer's warranty is dependent on approval of the installer.
  - 2. For cutting, laying and trimming of carpeting, use only thoroughly trained and experienced carpet installers who are completely familiar with the materials specified and the manufacturer's recommended methods of installation.
- C. All carpet shall be subject to dissection by a recognized testing laboratory approved by Architect and/or Government to determine if quality specifications are met. The cost of dissection shall be at the Contractor's expense.

**1.08 REGULATORY REQUIREMENTS**

- A. Conform to California Code of Regulations, Title 24 and other applicable codes for carpet flammability requirements if in excess of specified requirements. Bring conflict to the attention of the Architect in writing.
- B. Conform to ANSI/ASTM E648.

**1.09 ENVIRONMENTAL REQUIREMENTS**

- A. Store materials for one day prior to installation in area of installation to achieve temperature stability.
- B. For glue down carpet maintain minimum 70°F ambient temperature three

days prior to, during, and 24 hours after installation of materials.

**1.10 EXTRA MATERIALS**

- A. Provide an extra 2% of carpeting of each color specified, minimum 100 s.f.. Wrap in brown paper, label with project name and carpet color and style, and deliver to the Government's warehouse.

PART 2 - PRODUCTS

**2.01 CARPETING TYPE I**

- A. Performer 28, Lockback.
- B. Carpet: FS [DDD-C-95;] [DDD-C-0095;] [DDD-C-1559;] Type 1.2 Tufted Carpet: Conforming to the following criteria:

Yarn Construction	3 Ply
Pile Fiber	100% Antron Lumena solution dyed Nylon
Static Control Fiber	Integral with the Pile fiber.
Pile Height, tufted	0.156 inch, 0.140 finished.
Gage	1/8 inch.
Rows per inch	11.8
Pile Weight	28.0 ounces per square yard.
Max. Electrostatic Charge	2.5 Kv.
Flammability	Critical Radiant Flux (CRF) Exceeds 0.60 watts per square centimeter, ASTM E-648
Smoke Density	Less than 450, NFPA-258 in NBS smoke density chamber.
Tuft Bind	20 pounds
Wear Guarantee	10 years wear to be less than 10% of pile weight.
Limited Performance Guarantee	5 years
Colorfast Warranty	10 years for exposure to sunlight indoors. 5 years against atmospheric contaminants.
Color	kilotex Roll Width 12 feet as selected

**2.02 CARPETING TYPE II**

- A. Mowawk, Woodwind or approved equal.
- B. Tufted Carpet:

Conforming to the following criteria:

Yarn Construction	3 Ply
Pile Fiber	100% Antron Lumena solution dyed Nylon
Static Control Fiber	Integral with the Pile fiber.
Pile Height, tufted	0.218 inch, 0.188 finished.
Gage	1/8 inch.
Rows per inch	9.6
Pile Weight	28.0 ounces per square yard.
Max. Electrostatic Charge	2.5 Kv.
Flammability	Exceeds 0.45 watts per square centimeter, ASTM E-648
Smoke Density	Less than 450, NFPA-258 in NBS smoke density chamber.
Tuft Bind	20 pounds
Wear Guarantee	10 years wear to be less than 10% of pile weight.
Limited Performance Guarantee	5 years
Colorfast Warranty	10 years for exposure to sunlight indoors. 5 years against atmospheric contaminants.
Color [and Design]	kilotex Roll Width 12 feet as selected

### 2.03 ACCESSORIES

- A. Sub-Floor Filler: White pre-mixed latex or type recommended by carpet manufacturer.
- B. Primers and Adhesives for glue down carpet: Waterproof; of types recommended by carpet manufacturer. Adhesive must be non toxic.
- C. Carpet trim strips: Provide wherever carpeting abuts other types of floors or floor covering. Provide at top of carpeted base. Johnsonite or approved equal. Color as selected to harmonize with carpet color.

## PART 3 - EXECUTION

### 3.01 EXAMINATION

- A. Verify that substrate surfaces are smooth and flat with maximum variation of 1/8 inch in 10 feet and are ready to receive work.
- B. Verify concrete floors are dry to a maximum moisture content of 7 percent or as recommended by the adhesive manufacturer; and exhibit

negative alkalinity, carbonization, and dusting.

- C. Beginning of installation means acceptance of existing substrate and site conditions.

### **3.02 PREPARATION**

- A. Remove grease, dirt, paint, wax and other substances from sub-floors.
- B. Remove sub-floor ridges and bumps. Fill low spots, cracks, joints, holes, and other defects with sub-floor filler.
- C. Apply, trowel, and float filler to leave smooth, flat, hard surface.
- D. Prohibit traffic until filler is cured.
- E. Vacuum floor surfaces.

### **3.03 INSTALLATION OF GLUE DOWN CARPET**

- A. Seaming and layout considerations.
  - 1. Hold cross seams to an absolute minimum.
  - 2. Line up all carpet so that all lines of carpet match as woven, width and length.
  - 3. Lay carpet on floors with run of pile in same direction as anticipated traffic.
  - 4. Locate seams in area of least traffic.
  - 5. Fill strip: Not less than 9 inches in width and at least 36 inches in length.
  - 6. Do not change run of pile in any room where carpet is continuous through a wall opening into another room. Locate change of color or pattern between rooms under door centerline.
- B. Remove grease, dirt, paint, wax and other substances from sub-floors.
- C. Apply carpet and adhesive in accordance with manufacturers' instructions.
- D. Lay out rolls of carpet.
- E. Verify carpet match before cutting to ensure minimal variation between dye lots.
- F. Double cut carpet, to allow intended seam and pattern match. Make cuts straight, true, and unfrayed.
- G. Fit seams straight, not crowded or peaked, free of gaps.
- H. Cut and fit carpet around interruptions.
- I. Fit carpet tight to intersection with vertical surfaces without gaps.

- J. For carpeted base:
  - 1. Extend carpet as base finish up vertical surfaces to form base.
  - 2. Terminate top of carpet with special lipped base gripper strip.
  - 3. Install 3/4 inch fillet strip where carpet is coved to form base.
- K. Install carpet continuously to stair treads, full width. Install in one piece. Adhere over entire surface. Fit accurately and securely, tight to treads and risers.
- L. Install approved edging strips where edge of carpet is exposed.
- M. Leave the finished installation free from scraps, carpet ripples, scallops and puckers.

**3.04 CLEANING**

- A. Remove excess adhesive from floor, base, and wall surfaces without damage.
- B. Clean and vacuum carpet surfaces.
- C. Remove spots and smears at once with cleaners recommended by the manufacturer. Leave carpeting in a clean, vacuumed condition, acceptable to the Architect.
- D. Remove all rubbish, wrapping paper, and selvages from the job site. Leave all excess pieces of usable carpet with the Government for future repairs.

**3.05 PROTECTION**

- A. Prohibit traffic from carpet areas for 24 hours after installation.
- B. Cover carpet in all traffic areas until the day before Government takes occupancy.

**END OF SECTION**

**SECTION 09900**

**PAINTING**

PART 1 - GENERAL

**1.01 SECTION INCLUDES**

- A. The work includes but is not limited to painting the following:
1. All exterior architectural, structural, mechanical, (plumbing, heating, ventilating, air conditioning, etc.), and electrical work, including pipes, ducts, louvers, conduit, and related items.
  2. All interior architectural, structural, mechanical, (plumbing, heating, ventilating, air conditioning), and electrical work exposed to view, including pipes, ducts, registers, grilles, conduit, and related items.
  3. Touch-up painting of damaged or defective shop-priming and of factory-finished items.
  4. Priming and back-priming of carpentry and millwork. Back-prime paneling, decking and T&G to receive stain with similar finish material. Finishing of casework and architectural woodwork.
  5. Priming of all sheet metal and flashing not mopped into the roofing assembly. This includes, but is not limited to, gutters, downspouts, gravel stops, copings, counter-flashing, metal shingles and sill pans.
  6. All equipment and accessories on the roof, whether factory painted or not.
  7. Preparation of new and existing walls for wall covering.
- B. There will be multiple colors selected for different rooms and for different walls within the same room. There will be multiple colors selected for the exterior of the building and for each of its elements. The paint systems designated by the PNT-## only indicate the paint system and do not in any way designate color.
- C. Do not paint the following items unless specifically directed to do so:
1. Handles, stems, and bonnet caps of valves.
  2. Equipment serial numbers, identification plates, tags, or markings.
  3. Aluminum window and door frames.
  4. Plated finish hardware.
  5. Fire rating label on doors.
  6. Factory-finished casework.

**1.02 RELATED SECTIONS**

- A. Section 05100 - Structural Steel: Shop painting of structural metals.
- B. Section 05500 - Miscellaneous Metal: Shop painting of miscellaneous metals.
- C. Factory applied finishes except factory-finished painted grilles, registers, louvers, and electrical panel boards which shall be

repainted on the job as directed by the Architect.

### 1.03 DEFINITIONS

- A. Sheens:
- |                |                   |
|----------------|-------------------|
| 1. Flat:       | 0-9%.             |
| 2. Low sheen:  | 10-25%.           |
| 3. Eggshell:   | 26-40%.           |
| 4. Semi-gloss: | 41-69%.           |
| 5. Gloss:      | 70-89%.           |
| 6. High Gloss: | greater than 90%. |
- B. PNT-# or PNT-##: Paint system consisting of preparation, primer, intermediate and finish coats. Does not define color.

### 1.04 SUBMITTALS

- A. Submit for approval a list of all materials proposed for use and color deck for brand of paint submitted within 35 days of award of the Contract.
- B. Before any work is done, the Architect will furnish the Contractor with a set of color cards and a schedule showing where the various colors shall be applied.
- C. Submit two (2) sample 8-1/2 x 11 on firm material for each finish and color to the Architect for approval of sheen, color and texture. Submit samples of wood finishes on wood of identical species and texture as used on the project. If not approved, revise and re-submit until approved.

### 1.05 PRODUCT DELIVERY

- A. Deliver all materials free from damage in their original containers with labels intact and seals unbroken.
- B. Store all paint materials and equipment in a room or rooms designated for that purpose by mutual agreement between the Contractor and the Architect. Protect the floor and wall surfaces of such rooms against damage or defacement. Floor protection shall consist of two layers of Orange Label Sisalkraft, with joints between sheets lapped 6 inches and layers laid at right angles to each other. Upon completion of painting operations, leave such rooms clean and in a condition equal to that specified for its original use.
- C. Remove all soiled rags and waste from the premises at the end of each day's work.

**1.06 JOB CONDITIONS**

- A. Comply with all local, state and federal air quality mandates and lead content laws currently in effect at the project site.
- B. Do no work under conditions that are not suitable for the production of good results.
- C. Do not apply organic coating when the temperature is below 50 deg.s F.
- D. Do not apply exterior paint in damp or rainy weather or when it appears that damp or rainy weather conditions may exist during the paint manufacturer's estimated drying time.
- E. Maintain interior areas at a temperature of not less than 70 degrees F. while paint is being applied.
- F. Claims concerning unsuitability of any material specified (or the contractors inability to satisfactorily produce the work with it) will not be entertained unless such claim is made in writing to the Architect before the material is ordered and the work is started
- G. A moisture meter must be used to verify suitability of substrate.

PART 2 - PRODUCTS

**2.01 GENERAL MATERIAL REQUIREMENTS**

- A. Paints and coatings used in the work except oils, thinners, and driers, will be of the type and brands herein specified under "Painting System" or an equal product approved by the Architect.
- B. Use oils, thinners, and driers of highest quality only as approved by the manufacturer of the paints being used.
- C. Containers shall bear the manufacturer's label, type of paint, color of paint, batch number, and instructions for reducing.
- D. Use ready-mixed paint except when job mixing or job tinting has been approved by the Architect.
- E. Do not reduce paint or induce faster drying by the addition of any product designed for such a purpose, except as recommended by the manufacturer of the paint being applied.

**2.02 MANUFACTURERS**

- A. This specification is based upon the products of the following manufacturers:

<u>Manufacturer</u>	<u>Symbol</u>
Ameritone Paint Corporation	AM
Benjamin Moore Paints	BM
Dunn-Edwards	DE
Decratrend	DT
Frazee Paint Corporation	FR
Minwax Company	MI
Monochem	MO
Okon Inc, distributed by Dunn-Edwards	OK
Olympic Stain Products Co.	OS
Watco	WA

- B. Equivalent products by other manufacturers will be accepted. Submit a list of proposed products cross referenced to the specified products and supported by manufacturer's literature. The following manufacturers are acceptable upon review by the Architect of the list of products:

Ameritone Paint Corporation  
Benjamin Moore Paints  
Sinclair

- C. Regardless of specified paint number, the paints used on this project shall meet the current volatile organic compounds (VOC) limitations established by State of California Air Resources Board (CARB).

#### **2.03 PRODUCTS - EXTERIOR WOOD PRIMERS**

- A. Note that not all paints listed here are necessarily scheduled for use.
- B. Exterior primer for wood:
1. AM-- #1252 Primer
  2. BM-- Moore's Latex Exterior Primer
  3. DE-- E-Z PRIME W 708
  4. DT-- 706 AQUAPRIME
  5. FR-- #263 DURAPRIME
  6. Or approved equal

#### **2.04 PRODUCTS - EXTERIOR MASONRY PRIMERS**

- A. Note that not all paints listed here are necessarily scheduled for use.
- B. Heavy Duty clear matte waterproofing:
1. Thompsons Water Seal Heavy Duty Type 201
  2. Chemstop Heavy Duty masonry waterproofing
  3. DT-- HPC 7041
  4. FR-- AQUASEAL Heavy Duty
  5. MO-- Aquaseal
  6. OK-- W2
  7. Or approved equal. Silicones are not acceptable.

- C. Clear, matte waterproofing:
1. Thompsons Water Seal, type 101
  2. Chemstop masonry waterproofing
  3. DT-- HPC 7041
  4. FR-- AQUASEAL Regular
  5. MO-- Aquaseal
  6. OK-- W1
  7. Or approved equal. Silicones are not acceptable.
- D. Exterior primer for concrete:
1. AM-- WOO W/1 pint/gallon #146
  2. BM-- Moorgard Latex House Paint
  3. DE-- EFF-STOP W 709
  4. DT-- 717 HYDRASEAL
  5. FR-- #266 EPOKOTE
  6. Approved equal
- E. Exterior primer for cement plaster:
1. DE-- EVERSIELD W 701
  2. DT-- 717 HYDRASEAL
  3. FR-- #202 DURATEC
  4. Approved equal
- F. Block filler:
1. AM-- W2147 Block Filler
  2. BM-- Moorcraft Block Filler
  3. DE-- BLOCFIL W 304 for medium and W 305 for fine texture
  4. DT-- HPC 7030 Block Fill for medium and 7031 for fine
  5. FR-- #262 ACRYLIC BLOCK FILLER
  6. Approved equal

#### 2.05 PRODUCTS - EXTERIOR METAL PRIMERS

- A. Note that not all paints listed here are necessarily scheduled for use.
- B. Galvanized metal primer:
1. Wash primer as required by manufacturer.
  2. DT-- 61-505 Vinyl Wash Primer
  3. AM-- #54 Red Oxide Primer
  4. BM-- Galvanized Metal Primer #155
  5. DE-- GALV-ALUM QD 43-7
  6. DT-- 61-107 DECGRIP
  7. FR-- #661 METAL PRIME
  8. Approved equal
- C. Ferrous metal primer for severe service:
1. DT-- Amerlock 400
  2. Sealube Company, Z.R.C.
  3. RO-- Cold Galvanizing Compound #2185
  4. Approved equal

- D. Ferrous metal primer:
  - 1. DeRusto Damp Proof Red Primer
  - 2. BM-- Iron Clad Retardo Rust Inhibitive Paint
  - 3. DE-- BLOC-RUST 43-4
  - 4. DT-- 61-702 DECRARUST Red Oxide Primer
  - 5. FR-- #664 RUST STOP PRIMER
  - 6. Approved equal
  
- E. Exterior metal undercoat:
  - 1. DE-- COMPO #42-1
  - 2. DT-- 42 DECRAPRIME
  - 3. FR-- #381 SUPERBOND SYNTHETIC UNDERCOAT
  - 4. Approved equal
  
- F. Aluminum primer:
  - 1. Wash primer for anodized aluminum only:
    - a. AM-- Vinyl Wash Primer #53
    - b. DE-- Not required
    - c. DT-- 61-505 Vinyl Wash Primer
    - d. FR-- Not required
  - 2. AM-- Zinc Chromate Primer #51
  - 3. BM-- Zinc Chromate Primer
  - 4. DE-- GALV-ALUM QD 43-7
  - 5. DT-- 61-501 DECRARUST Zinc-Chromate Primer
  - 6. FR-- #661 METAL PRIME
  - 7. Approved equal

## **2.06 PRODUCTS - EXTERIOR FINISHES**

- A. Note that not all paints listed here are necessarily scheduled for use.
  
- B. Exterior flat paint
  - 1. AM--WOO
  - 2. BM-- Moorgard Latex House Paint
  - 3. DE-- EVERSIELD W 701
  - 4. DT-- 712 DURACRYL
  - 5. FR-- #202 DURATEC
  - 6. Approved equal
  
- C. Exterior low sheen paint:
  - 1. DE-- ENDURACRYL W 705
  - 2. DT-- 725 DECRA-CLAD
  - 3. FR-- #126 MIRRO GLIDE ACRYLIC ENAMEL (Low gloss)
  - 4. Approved equal
  
- D. Exterior Semi-gloss paint
  - 1. AM-- W2500 Acrylic House Paint
  - 2. BM-- Moorglo House and Trim Paint
  - 3. DE-- PERMASHEEN W 901
  - 4. DT-- 76 ACRY-TRIM

5. FR-- #221 ACRI-LITE
  6. Approved equal
- E. Exterior gloss paint
1. AM-- W9900 Alkyd Like High Gloss
  2. BM-- Moore's House Paint
  3. DE-- PERMAGLOSS W 960
  4. FR-- #143 MIRRO GLIDE ACRYLIC ENAMEL (Gloss)
  5. Approved equal
- F. Semi-transparent stain
1. BM-- Moorwood Semi-transparent Stain
  2. DT-- 99 CAL RUSTIC semi-transparent oil stain
  3. FR-- #288 MADERA semi-transparent stain
  4. OK-- WEATHER PRO WP 3 semi-transparent stain
  5. OS-- Semi-transparent stain
  6. Approved equal
- G. Opaque stain
1. BM-- Moorwood Latex Stain
  2. DE-- ACRI-HUES Stain W 703
  3. DT-- 79 CAL RUSTIC Solid color acrylic stain
  4. FR-- #286 MADERA Solid Color Stain
  5. OS-- Olympic Solid Color Latex Stain
  6. Approved equal
- H. Exterior varnish
1. AM-- Marine Spar-Tec Varnish #106
  2. BM-- Impervo Spar Varnish #440
  3. DE-- SPAR GLOSS V 101
  4. DT-- 890-050 DECRA-SPAR
  5. FR-- #942 MARINE SPAR VARNISH
  6. Approved equal

**2.07 PRODUCTS - INTERIOR WOOD PRIMERS**

- A. Note that not all paints listed here are necessarily scheduled for use.
- B. Wood and hardboard primer
1. AM-- W2168 Latex Enamel Underbody
  2. BM-- Regal Wall Satin
  3. DE-- SUPER U-365 E 22-1
  4. DT-- 706 AQUAPRIME
  5. FR-- #367 FRAFLO
  6. Approved equal

**2.08 PRODUCTS - INTERIOR PLASTER AND DRYWALL PRIMERS**

- A. Note that not all paints listed here are necessarily scheduled for use.

- B. Concrete, plaster, and drywall primer:
1. AM-- W100 Sealer
  2. BM-- Moore's Latex Quick Dry Prime Seal
  3. DE-- VINYLASTIC W101
  4. DT-- 702 SPEEDEZE
  5. FR-- #065 ACRY-PRIME
  6. Approved equal

- C. Concrete masonry primer (block filler):
1. AM-- W2147 Block Filler
  2. BM-- Moorcraft Block Filler
  3. DE-- BLOCFIL W 305
  4. DT-- HPC 7031 Block Fill
  5. FR-- #262 ACRYLIC BLOCK FILLER
  6. Approved equal

- D. Preparation for wall covering:
1. DE-- ALKYLSEAL, pigmented sealer E 28-1.
  2. FR-- #065 ACRY-PRIME-ACRYLIC UNDERCOATER
  3. Approved equal

## 2.09 PRODUCTS - INTERIOR STAINS AND CLEARS

- A. Note that not all paints listed here are necessarily scheduled for use.

- B. Semi-transparent stain
1. BM-- Moorwood Semi-transparent Stain
  2. DE-- STAINSEAL V 108 stain/finish
  3. DT-- 909 DECRALACQ Waterborne Semi-transparent stain
  4. FR-- #288 MADERA semi-transparent stain
  5. OS-- Semi-transparent stain
  6. Approved equal

- C. Lacquer based system
1. Lacquer stain
    - a. DE-- DECOLAQ LQ 120
    - b. DT-- 909 DECRALACQ
    - c. FR-- #786-7 Lacquer wood stain
    - d. Approved equal
  2. Lacquer sanding sealer
    - a. DE-- CA DECOLAQ E-LQ 101
    - b. DT-- 504 DECRALACQ or 72 DECRALACQ
    - c. FR-- #762 LACQUER SANDING SEALER
    - d. Approved equal
  3. Lacquer
    - a. DE-- CA DECOLAC E-LQ 105(flat), 104(semi-gloss), 103(gloss)
    - b. DT-- DECRALACQ 503(flat), 502(semi-gloss), 501(gloss)
    - c. FR-- LACQUER, #702(flat), #724(satin), #742 (gloss)
    - d. Approved equal

- D. Varnish based system
1. Stain
    - a. DE-- STAINSEAL V 108
    - b. DT-- 909 DECRALACQ
    - c. FR-- #685 WOOD STAIN
    - d. Approved equal
  2. Varnish sanding sealer
    - a. DE-- SYNSEAL V 106A
    - b. DT-- Not required
    - c. FR-- Not required
    - d. Approved equal
  3. Varnish
    - a. DE-- SYNFLAT V 198, SYNSATIN V 199, SYNGLOSS V197 as selected by the Architect.
    - b. DT-- 894-xxx DECRA-THANE, gloss as selected by the Architect
    - c. FR-- VARNISH, #901(flat), #921(satin), #941(gloss) as selected by the Architect.
    - d. Approved equal
- E. Polyurethane based system
1. Stain
    - a. DE-- STAINSEAL V 108
    - b. DT-- 909 DECRALACQ
    - c. FR-- #685 WOOD STAIN
    - d. Approved equal
  2. Polyurethane
    - a. DE-- DECOTHANE gloss IP 627, semi-gloss IP 628
    - b. DT-- 894-xxx DECRA-THANE, gloss as selected by the Architect
    - c. FR-- URETHANE gloss #944, satin #924
    - d. Approved equal
  3. Danish Oil Finish
    - a. FR-- C1609 DANISH OIL FINISH
    - b. MI-- Antique oil finish
    - c. WA-- Danish oil finish
    - d. Approved equal

## 2.10 PRODUCTS - INTERIOR FINISHES

- A. Note that not all paints listed here are necessarily scheduled for use.
- B. Interior flat paint
1. AM-- Y400 Vinyl Bond
  2. BM-- Regal Wall Satin
  3. DE-- DECOVEL W 401
  4. DT-- 71 POLYTONE
  5. FR-- #002 MAJESTIC
  6. Approved equal

- C. Interior low sheen
  - 1. DE-- SUPREMA W 411
  - 2. DT-- 720 DECRAGLO
  - 3. FR-- #126 MIRRO GLIDE ACRYLIC ENAMEL (Low sheen)
  - 4. Approved equal
  
- D. Interior eggshell paint
  - 1. AM-- W9200 Acrylic Eggshell
  - 2. BM-- Regal Aquavelvet
  - 3. DE-- DECOSHEEN W 440
  - 4. DT-- 720 DECRAGLO
  - 5. FR-- 022 LO-GLO
  - 6. Approved equal
  
- E. Interior semi-gloss paint
  - 1. AM-- W2200 Acrylic Semi Gloss
  - 2. BM-- Regal Aguaglo
  - 3. DE-- DECOGLO W 450
  - 4. DT-- 757 PACESETTER
  - 5. FR-- #021 SATIN GLIDE
  - 6. Approved equal
  
- F. Interior gloss paint
  - 1. AM-- W9900 Alkyd-Like High Gloss
  - 2. BM-- Moore's House Paint
  - 3. DE-- DECOGLOSS W 460
  - 4. DT-- 756 PACESETTER
  - 5. FR-- #143 MIRRO GLIDE (Gloss)
  - 6. Approved equal

PART 3 - EXECUTION

**3.01 INSPECTION**

- A. Examine surfaces scheduled to receive paint and finishes for conditions that will adversely affect execution, permanence, or quality of work and which cannot be put into acceptable condition through preparatory work as described below. Contractor shall notify Architect in writing of any defects or conditions, which will prevent a satisfactory installation.
  
- B. Do not proceed with surface preparation or application until conditions are suitable.
  
- C. Do not apply initial coating until moisture content of surface is within manufacturer's tolerances.
  
- D. Beginning work constitutes acceptance of surfaces.

### 3.02 PREPARATION OF NEW WORK

#### A. General:

1. Do not begin any part of the painting work until surfaces to be painted have been prepared by the trade furnishing same as called for under other sections of these specifications. Carefully examine all surfaces to be painted, and promptly notify the Architect in writing of any conditions which would be detrimental to a satisfactory paint job, the correction of which would fall outside of the scope of this trade.
2. Properly prepare all surfaces, in accordance with the best practice of the trade and the paint manufacturer's recommendations prior to the application of any paint.
3. Before painting, clean surfaces free of loose dirt and dust.
4. All spaces shall be broom cleaned prior to starting any work.
5. Allowable moisture content and surfaces shall be as specified by the paint manufacturer. Test with a moisture meter.

#### B. Concrete, Concrete Block and Stucco:

1. Remove all grease, dust, bond-breaking materials, efflorescence, and other foreign matter as required to assure adhesion of the specified coating system.
2. Where painted surfaces meet earth, trench earth away to expose wall surface. Clean and paint. Replace earth.
3. Do not begin painting such surfaces until all cracks have been properly filled by the trade constructing same.

#### C. Plaster and Drywall: Fill all holes and cracks with spackle flush with adjoining surfaces. Paint or sealer shall not be applied to plaster that is to receive enamel when the moisture content exceeds 7% (seven percent) as determined by a moisture testing device specifically designed for testing. Plaster to receive vinyls shall have a moisture content as specified by the manufacturer of the vinyl being used. Moisture meter to be provided and maintained by the contractor.

#### D. Gypsum Wallboard: Fill all minor irregularities with spackling compound and sand to a smooth, level surface. Exercise care to avoid raising nap of paper.

#### E. Wood:

1. Wood to be painted: Sand smooth and vacuum clean. Wash sap spots and knots with mineral spirits. When dry, touch-up spots and knots with an approved sealer. Fill nail holes, cracks, and other voids with putty, of color to match that of finish, after primer is applied and dry. Bring putty flush with adjoining surfaces.
2. Wood to be clear finished: Sand smooth, vacuum clean, and leave free of marks or discoloration. Fill nail holes and other voids after primer is dry, using a transparent filler compatible with the finishing system specified and tinted to camouflage repairs.

- F. Zinc-Coated Metal:
  - 1. When prime coats other than those specified herein are used: Clean free of contaminants and grease by washing with mineral spirits or lacquer thinner. Surfaces shall be given an acid etch and be allowed to dry according to manufacturer's directions. Dust off residues before priming.
  - 2. When prime coats as specified herein are used: Clean free of grease and other foreign matter.
- G. Aluminum: Clean free of all contaminants and protective coatings by washing with trisodium phosphate or lacquer thinner.
- H. Ferrous Metals: Clean free of all rust, mill scale, grease and debris by sandblasting or wire brushing. After erection, spot blast or wire brush all welds to remove all welding residues. Abrasions in original priming shall be sanded smooth and immediately re-primed with one coat of the original rust inhibitive primer.

### 3.03 PREPARATION OF OLD WORK

- A. Ferrous and galvanized Metals:
  - 1. If existing finish is sound, and shows only normal chalking, sand lightly and dust.
  - 2. Wherever existing finish is badly checked, cracked, alligatored, peeling, or in generally poor condition, completely remove existing finish by liquid remover or burning, as conditions dictate. Do not sandblast galvanized surfaces.
- B. Concrete, cement plaster, and masonry:
  - 1. If existing finish is sound but chalky, use a surface conditioner. Manufacturer's representative to inspect surface for recommended specification.
- C. If existing finish is heavily chalked, blistered, alligatored, cracked, loose, or scaling, sandblast clean.
  - 1. Regardless of treatment, fill all minor cracks.
- D. Loose or defective concrete or stucco to be replaced at Architect's instructions by others or by the painting contractor as directed.
- E. Reinforcing metal:
  - 1. Where superficial rusting of reinforcing metal appears, remove to reveal bars, clean recess out down to exposed metal.
  - 2. Clean metal and immediately prime, one coat with Rust Inhibitive Primer.
  - 3. When primer is dry, coat primed surface with finish specified.
  - 4. Fill void, using appropriate patching compound.
  - 5. Texture surface to match adjoining cement or stucco.
- F. Cracks 1/4 inch or more in width: Clean out to an inverted "V" and pressure fill with a slight bead with elastomeric patching material. Blend texture to match adjacent surface.

- G. Smaller cracks, down to hairline: Fill with elastomeric patching material. Blend texture to match adjacent surface.
- H. Puttying of Steel or Wood Sash:
1. Remove loose or shrunk putty or putty which has cracked open. Thoroughly clean rabbet, and prime with specified metal or wood primer.
  2. When primer is dry, re-putty.
- I. Painted Wood:
1. If existing finish is sound, free of defects, and shows normal chalking, sand lightly.
  2. Wherever existing finish is badly checked, cracked, alligatored, peeling, or in generally poor condition, completely remove existing finish by liquid remover or burning, as conditions dictate.
  3. Sand area from which paint has been removed to sound wood.
- J. Woodwork now varnished and to be re-stained or clear-finished.
1. If existing finish is sound, wash with a mild detergent, rinse, and sand dry, to assure adhesion or specified coatings.
  2. If existing finish is defective, degraded or has excessive buildup and would interfere with the proper functioning of the specified coating system, existing finish to be removed, to bare wood, by use of Varnish Remover, power sanding or other suitable means approved by the Architect.
  3. After removal, touch-up discolored areas with stain to assure uniformity of final appearance.
- K. Caulking and sealant:
1. Remove loose existing caulking or sealant and clean recesses.
  2. Prime recesses with one coat of manufacturer's recommended primer.
  3. After priming is dry, install new sealant.
- L. Interior Wood and Metal, Now Painted:
1. If existing paint is sound, wash with detergent and fill holes, sand smooth, and clean. Touch-up bare spots.
  2. If existing finish is checked, cracked, loose or alligatored, strip to bare wood; fill holes; sand lightly.
- M. Interior Plaster:
1. Wash all glossy, greasy, or grimy paint surfaces with a mild alkali and rinse thoroughly.
  2. Remove all loose, blistered, or otherwise defective paint, smooth and feather edges by sanding.
  3. Plaster on which existing paint is loose, peeling, shows poor adhesion, checking, or is otherwise unsuitable for re-painting is to be stripped to bare plaster.
  4. Cut out and fill all plaster cracks with plaster patching compound.
  5. Spot prime all plaster patches.

### 3.04 APPLICATION

#### A. General:

1. Number of coats specified is minimum. Additional coats and preparation shall be provided at no additional cost so as to completely hide base materials, produce uniform color, and provide an acceptable finished surface.
2. Spread each coat of paint evenly without runs or sags. Spread all materials by brush, roller, or airless spray, unless otherwise specified herein or unless written approval is granted by the Architect for other types of application. If roller application is to be used, use a fine textured roller as approved by the Architect. A stipple finish will not be acceptable.
3. Apply all materials in accordance with the manufacturer's directions. Rate of application shall not exceed that recommended by the paint manufacturer for the surface involved.
4. When priming or undercoats are part of the system, tint to the approximate, but not exact, shade of final coat. Touch up suction spots in plaster or cement after first coat application. Tint first of two (2) finish coats so that it is clearly different from second finish coat. Use white primers for accent colors.
5. Use fine sandpaper between coats on paint and clear finish applied to wood or metal to produce even, smooth finish.
6. Coats shall be thoroughly dry before applying succeeding coats. Manufacturer's minimum and maximum setting times shall be followed.
7. Finish door tops, bottoms, edges, same as balance of doors after they are fitted. Refinish if doors are refitted.
8. Finish all hinges that are furnished "primed for painting" the same as the door frames to which they will be attached.
9. Paint wood rabbets to receive glass one coat of an approved flat black paint.
10. Paint the putty for all metal and wood sashes with the same paint to be used for the sash, or to match the construction or as selected by the Architect.
11. Leave all parts of moldings and ornaments clean and true to details. Leave corners and depressions free of excessive paint build up.
12. Edges of paint between color changes or differing materials are to be clean, sharp and true to line. Use masking materials if necessary.
13. Paint all wood or steel framing to be exposed behind vent screens and other perforated metal surfaces and behind louvers a color to be selected by the Architect.
14. Paint all insulation and hardware cloth behind perforated hardboard, spaced wood strips or other acoustical treatments for walls, ceilings, or areas, flat black or as scheduled or indicated.
15. Paint all grilles, registers, and electric panels as directed by the Architect.
16. If there are defects in the final coat refinish the entire wall or surface to make repair.

- B. Do not paint the following items:
1. Handles, stems, and bonnet caps of valves.
  2. Equipment serial numbers, identification plates, tags, or markings.
  3. Anodized aluminum window, doors and frames.
  4. Plated finish hardware.
  5. Fire rating labels on doors and frames.
  6. Factory-finished casework.

**3.05 PROTECTION AND CLEAN-UP**

- A. Protect work at all times. Protect adjacent work and materials by suitable covering or other method during work progress.
- B. Remove pre-finished, plated or plastic hardware from doors, windows, frames and cabinets. Remove electrical wall plates, light fixtures, thermostat covers, smoke and fire sensor covers, fire sprinkler escutcheons and other similar items prior to painting. Label and bag or box to avoid losing screws and parts. Reinstall after painting.
- C. Take necessary precautions to reduce fire hazards to a minimum, and prevent fire throughout all painting operations.
- D. Upon completion of work, remove paint and varnish spots from floors, glass, or other surfaces. Touch up and restore finish where damaged.

**3.06 PAINT SYSTEMS - GENERAL**

- A. The following paint systems includes the number of coats required on the various surfaces, and the brand symbols followed by the kinds of paint required. The manufacturers indicated by the brand symbols are listed under "Manufacturers" herein.
- B. Wherever finish coats are called for on the drawing and/or herein by their hyphenated sub-specification number, all prime and other preceding coats specified herein under the specification number shall be included and applied as a part of the work under the Contract.
- C. All coatings in these systems are in addition to those specified elsewhere in this section.
- D. Back prime interior and exterior frames and trim before installation. Back prime wood paneling and exterior wood siding (Plywood panels, board on board, fascias, T&G material, etc. with one coat of clear Firzite or Woodlife. Back-prime materials to be stained with stain including edges of T&G material.
- E. Paint all shelving: System PNT-62. Multiple colors as selected by the Architect.
- F. Drawer interiors: System PNT-71 or PNT-72 without stain and with dull finish.

- G. Preparation for wall covering to be two coats of INTERIOR PLASTER AND DRYWALL PRIMER for wallcovering.

### 3.07 PAINT SYSTEMS - EXTERIOR

#### SYSTEM PNT-1

Surface: Concrete masonry  
Finish: Clear, matte waterproofing  
First Coat: Heavy duty clear matte waterproofing  
Second Coat: Same as first coat  
Notes: 1. Use low pressure airless spray (15 psi maximum) only and apply a fog coat before applying flood coat to run down 12" minimum.  
2. Demonstrate correct application procedure on a small portion of wall to the Architect's satisfaction.

#### SYSTEM PNT-2

Surface: Concrete, cement plaster.  
Finish: Clear, matte waterproofing  
First coat: Clear, matte waterproofing  
Second coat: Same as first coat if required by manufacturer's instructions as approved.  
Notes:  
1. Use low pressure airless spray only (15 psi maximum) and apply a fog coat before applying flood coat to run down 12" minimum.  
2. Demonstrate correct application procedure on a small portion of wall to the Architect's satisfaction.

#### SYSTEM PNT-3

Surface: Concrete, cement plaster.  
Finish: Flat paint  
First coat: Exterior primer for concrete and cement plaster  
Second coat: Exterior flat paint

#### SYSTEM PNT-4

Surface: Concrete  
Finish: Semi-gloss paint  
First coat: Exterior primer for concrete  
Second coat: Exterior semi-gloss paint  
Third coat: Same as second coat

#### SYSTEM PNT-5

Surface: Concrete masonry  
Finish: Flat paint  
First coat: Block filler  
Second coat: Exterior flat paint  
Note: Block filler must be brushed into the wall.

#### SYSTEM PNT-6

Surface: Concrete masonry  
Finish: Semi-gloss paint  
First coat: Block Filler  
Second coat: Exterior semi-gloss paint  
Third coat: Same as second coat  
Note: Block filler must be brushed into the wall.

**SYSTEM PNT-7**

Surface: Cement plaster  
Finish: Flat  
First coat: Exterior primer for cement plaster  
Second coat: Exterior flat paint

**SYSTEM PNT-8**

Surface: Cement plaster  
Finish: Low sheen  
First coat: Exterior primer for cement plaster  
Second coat: Exterior low sheen paint

**SYSTEM PNT-9**

Surface: Cement plaster  
Finish: Semi-gloss  
First coat: Exterior primer for cement plaster  
Second coat: Exterior semi-gloss paint  
Third coat: Same as second coat

**SYSTEM PNT-10**

Surface: Wood other than Redwood or Cedar  
Finish: Flat paint  
First coat: Exterior primer for wood  
Second coat: Exterior flat paint

**SYSTEM PNT-11**

Surface: Wood other than Redwood or Cedar  
Finish: Semigloss paint  
First coat: Exterior primer for wood  
Second coat: Exterior semi-gloss paint  
Third coat: Same as second coat

**SYSTEM PNT-12**

Surface: Redwood, Cedar or other woods prone to bleeding.  
Finish: Flat paint  
First coat: Exterior primer for redwood and cedar  
Second coat: Exterior primer for redwood and cedar  
Third coat: Exterior flat paint  
Fourth coat: Same as third coat  
Notes: Spot prime all knots and sap streaks. After first coat spot seal bleed through with manufacturer's recommended sealer.

**SYSTEM PNT-13**

Surface: Redwood, Cedar or other woods prone to bleeding  
Finish: Semi-Gloss Paint  
First coat: Exterior primer for redwood and cedar  
Second coat: Exterior primer for redwood and cedar  
Third coat: Exterior semi-gloss paint  
Fourth coat: Same as third coat  
Notes: Spot prime all knots and streaks. After first coat spot seal bleed through with manufacturer's recommended sealer.

**SYSTEM PNT-14**

Surface: Wood  
Finish: Semi-Transparent stain  
First coat: Semi-Transparent stain  
Second coat: Same as first coat

**SYSTEM PNT-15**

Surface: Wood  
Finish: Opaque stain, matte  
First coat: Opaque stain  
Second Coat: Same as first coat

**SYSTEM PNT-16**

Surface: Wood stained and varnished  
Finish: High Gloss Varnish  
First coat: Semi-transparent stain  
Second coat: Exterior varnish  
Third coat: Same as second coat  
Fourth coat: Same as third coat

**SYSTEM PNT-20**

Surface: Galvanized Steel  
Finish: Flat Paint  
First coat: Ferrous metal primer for severe service  
First coat: Galvanized metal primer  
Second coat: Exterior metal undercoat  
Third coat: Exterior flat paint

Notes:

1. All surface rust is to be removed by grinding or approved equal.
2. Acid etch prior to first coat if required by manufacturer's instructions as approved.

**SYSTEM PNT-21**

Surface: Galvanized Steel  
Finish: Semi-gloss paint  
First coat: Ferrous metal primer for severe service  
First coat: Galvanized metal primer  
Second coat: Exterior metal undercoat  
Third coat: Exterior semi-gloss paint

Notes:

1. All surface rust is to be removed by grinding or approved equal.
2. Acid etch prior to first coat if required by manufacturer's instructions as approved.

**SYSTEM PNT-22**

Surface: Galvanized Steel  
Finish: Gloss paint  
First coat: Ferrous metal primer for severe service  
First coat: Galvanized metal primer  
Second coat: Exterior metal undercoat  
Third coat: Exterior gloss paint

Notes:

1. All surface rust is to be removed by grinding or approved equal.
2. Acid etch prior to first coat per mfr's instructions as approved.

**SYSTEM PNT-23**

Surface: Aluminum  
Finish: Flat Paint  
First coat: Aluminum primer  
Second coat: Exterior metal undercoat  
Third coat: Exterior flat paint

**SYSTEM PNT-24**

Surface: Aluminum  
Finish: Semi-Gloss Paint  
First coat: Aluminum primer  
Second coat: Exterior metal undercoat  
Third coat: Exterior semi-gloss paint

**SYSTEM PNT-25**

Surface: Aluminum  
Finish: Gloss paint  
First coat: Aluminum primer  
Second coat: Exterior gloss paint  
Third coat: Same as second coat  
Note: All surface rust is to be commercial sandblasted or approved equal.

**SYSTEM PNT-26**

Surface: Ferrous metals  
Finish: Flat Paint  
First coat: Ferrous metal primer  
Second coat: Exterior metal undercoat  
Third coat: Exterior flat paint

**SYSTEM PNT-27**

Surface: Ferrous metals  
Finish: Semi Gloss Paint  
First coat: Ferrous metal primer  
Second coat: Exterior metal undercoat  
Third coat: Exterior semi-gloss paint

**SYSTEM PNT-28**

Surface: Ferrous metals  
Finish: Gloss paint  
First coat: Ferrous metal primer  
Second coat: Exterior gloss paint  
Third coat: Same as second coat.  
Note: All surface rust is to be commercial sandblasted or approved equal.

### 3.08 PAINTING SYSTEMS - INTERIOR

#### SYSTEM PNT-50

Surface: Concrete, concrete masonry  
Finish: Clear, matte waterproofing  
First coat: Clear, matte waterproofing

#### SYSTEM PNT-51

Surface: Concrete, plaster, gypsum board, concrete masonry  
Finish: Flat paint  
First coat: High production finish

#### SYSTEM PNT-52

Surface: Concrete, plaster, gypsum board  
Finish: Flat paint  
First coat: Concrete, plaster, and drywall primer:  
Second coat: Interior flat paint

#### SYSTEM PNT-53

Surface: Concrete, plaster, gypsum board.  
Finish: Eggshell Paint  
First coat: Concrete, plaster, and drywall primer:  
Second coat: Interior eggshell paint  
Third coat: Same as second coat

#### SYSTEM PNT-54

Surface: Concrete, plaster, gypsum board.  
Finish: Semi-Gloss Paint  
First coat: Concrete, plaster, and drywall primer:  
Second coat: Interior semi-gloss paint  
Third coat: Same as second coat

#### SYSTEM PNT-55

Surface: Concrete, plaster, gypsum board, canvas ducts.  
Finish: Gloss  
First coat: Concrete, plaster, and drywall primer:  
Second coat: Interior gloss paint  
Third coat: Same as second coat

#### SYSTEM PNT-56

Surface: Concrete masonry  
Finish: Flat Paint  
First coat: Concrete masonry primer  
Second coat: Interior flat paint  
Third coat: Same as second coat

#### SYSTEM PNT-57

Surface: Concrete masonry  
Finish: Eggshell Paint  
First coat: Concrete masonry primer  
Second coat: Interior eggshell paint  
Third coat: Same as second coat

**SYSTEM PNT-58**

Surface: Concrete masonry  
Finish: Semi-gloss paint  
First coat: Concrete masonry primer  
Second coat: Interior semi-gloss paint  
Third coat: Same as second coat

**SYSTEM PNT-59**

Surface: Concrete masonry  
Finish: Gloss  
First coat: Concrete masonry primer  
Second coat: Interior gloss paint  
Third coat: Same as second coat

**SYSTEM PNT-60**

Surface: Wood, tempered hardboard, resin bonded particle board  
Finish: Flat Paint  
First coat: Interior wood primer  
Second coat: Interior flat paint

**SYSTEM PNT-61**

Surface: Wood, tempered hardboard, resin bonded particle board  
Finish: Eggshell Paint  
First coat: Interior wood primer  
Second coat: Interior eggshell paint  
Third coat: Same as second coat.

**SYSTEM PNT-62**

Surface: Wood, tempered hardboard, resin bonded particle board  
Finish: Semi-gloss paint  
First coat: Interior wood primer  
Second coat: Interior semi-gloss paint  
Third coat: Same as second coat.

**SYSTEM PNT-63**

Surface: Wood, tempered hardboard, resin bonded particle board  
Finish: Gloss  
First coat: Interior wood primer  
Second coat: Interior gloss paint  
Third coat: Same as second coat.

**SYSTEM PNT-70**

Surface: Softwood including Redwood and Cedar  
Finish: Semi-Transparent Stain  
First coat: Interior semi-transparent stain

**SYSTEM PNT-71**

Surface: Hardwoods and Softwoods  
Finish: Stained and lacquered  
Filler: As required to control grain. Submit samples of finish  
First coat: Lacquer stain  
Second coat: Lacquer sanding sealer  
Third coat: Lacquer, gloss as directed by the Architect  
4<sup>th</sup> & 5<sup>th</sup> coat: Same as third coat

**SYSTEM PNT-72**

Surface: Hardwoods and Softwoods  
Finish: Stained and varnished  
Filler: As required to control grain. Submit samples of finish  
First coat: Varnish stain  
Second coat: Varnish sanding sealer  
Third coat: Varnish, gloss as selected by the Architect

**SYSTEM PNT-73**

Surface: Hardwood  
Finish: "Danish" Oil Finish  
1<sup>st</sup> & 2<sup>nd</sup> coat: Danish oil finish per manufacturers directions.

**SYSTEM PNT-74**

Surface: Hardwood  
Finish: Stained and coated with polyurethane  
First coat: Polyurethane stain  
Second coat: Polyurethane  
Third coat: Polyurethane, gloss as directed by the Architect

**SYSTEM PNT-80**

Surface: Ferrous Metals  
Finish: Eggshell Paint  
First coat: Exterior galvanized metal primer  
Second coat: Wood and hardboard primer  
Third coat: Interior eggshell paint

**SYSTEM PNT-81**

Surface: Ferrous Metals  
Finish: Semi Gloss Paint  
First coat: Exterior galvanized metal primer  
Second coat: Wood and hardboard primer  
Third coat: Interior semi-gloss paint

**SYSTEM PNT-82**

Surface: Ferrous Metals  
Finish: Gloss Paint  
First coat: Exterior galvanized metal primer  
Second coat: Wood and hardboard primer  
Third coat: Interior gloss paint

**SYSTEM PNT-83**

Surface: Galvanized Metal  
Finish: Semi-gloss paint  
First coat: Exterior galvanized metal primer  
Second coat: Wood and hardboard primer  
Third coat: Interior semi-gloss paint

**SYSTEM PNT-84**

Surface: Galvanized Metal  
Finish: Gloss Paint  
First coat: Exterior galvanized metal primer  
Second coat: Wood and hardboard primer  
Third coat: Interior gloss paint

**3.07 SCHEDULE OF PAINT SYSTEMS TO BE USED**

Exterior color notes:

Note A Match adjacent wall or roof color. If there is a conflict notify the architect.

Note B Architect will select several colors. Architect may select a color or colors to match existing finishes.

Note C Match color of equipment or surface to which it is attached. If there is a conflict notify the Architect.

Note D Gutters may be a different color from collector heads, downspouts or wall. Colors to match existing. Inside of gutter to be same color as exterior of gutter.

EXTERIOR BUILDING ELEMENT	SUBSTRATE MATERIAL	PAINT SYSTEM	PAINT COLOR
Coping	Galvanized steel	PNT-20 flat	note A
Skylight frames	Aluminum	PNT-23 flat	note A
Plumbing vents	Steel	PNT-26 flat	note A
Air conditioners	Prefinished steel	PNT-27 semi-gloss	note A
Air handlers	Prefinished steel	PNT-27 semi-gloss	note A
Exhaust fans	Prefinished steel	PNT-27 semi-gloss	note A
Flue	Stainless steel	PNT-23 flat	note A
Disconnect switches	Prefinished steel	PNT-27 semi-gloss	note C
Conduit	Steel	PNT-27 semi-gloss	note C
Ductwork	Galvanized steel	PNT-20 flat	note A
Gutters	Galvanized steel	PNT-20 flat	note D
Downspouts	Galvanized steel	PNT-20 flat	note D
Fascia board	Wood	PNT-15 opaque stain	note B
Underside roof deck	Wood	PNT-15 opaque stain	note B
Soffit	Plaster	PNT-7 flat	note B
Exterior wall	Plaster	PNT-7 flat	note B
Exterior wall	Concrete	PNT-3 flat	note B
Exterior wall	CMU	PNT-5 flat	note B
Columns	Plaster	PNT-7 flat	note B
Door frames	Galvanized steel	PNT-21 semi-gloss	note B
Doors	Galvanized steel	PNT-21 semi-gloss	note B
Handrails	Galvanized steel	PNT-21 semi-gloss	note B

INTERIOR BUILDING ELEMENT	SUBSTRATE MATERIAL	PAINT SYSTEM	PAINT COLOR
Ceilings UON	Gypsum Wallboard	PNT-53 eggshell	note 1
Room walls UON	Gypsum Wallboard	PNT-53 eggshell	note 1
Toilet room walls	Gypsum wallboard	PNT-54 semi-gloss	note 1
Toilet room ceilings	Gypsum wallboard	PNT-54 semi-gloss	white
Corridor walls UON	Gypsum wallboard	PNT-54 semi-gloss	white
Janitor closets	Gypsum wallboard	PNT-54 semi-gloss	white
Conduit as exposed	Steel	PNT-80 eggshell	note 3
Ductwork as exposed	Galvanized steel	PNT-83 flat	note 2
Exp'd roof deck/bms	Steel	PNT-80 eggshell	black
Soffit	Gypsum wallboard	PNT-53 eggshell	note 1
Exp'd. clg. Soffit	Gypsum wall board	PNT-52 flat	black
Wainscot	Wood	PNT-62 semi-gloss	note 4
Wainscot	Wood	PNT-72 stain	note 4
Window trim	Wood	PNT-72 stain	note 5
Frames	Galvanized steel	PNT-83 semi-gloss	note 5
Frames	Steel	PNT-81 semi-gloss	note 5
Doors	Steel	PNT-81 semi-gloss	note 5
Doors	Wood	PNT-62 semi-gloss	note 5
Baseboards	Wood	PNT-62 semi-gloss	note 4
Baseboards	Wood	PNT-72 stain	note 4

Interior color notes:

- Note 1 The architect will select multiple colors for each room to create accent walls; within a room the change in **wall colors** will occur where walls meet or where walls meet with ceilings. Different rooms will each be different color schemes.
- Note 2 **Ducts** will be painted flat black where exposed to view. Grills or registers will be painted a different color from the duct.
- Note 3 Paint same color as the wall or ceiling to which it is attached unless directed otherwise by the architect.
- Note 4 The architect will select multiple colors for each room to create accent walls; within a room with a **wainscot** the change in wainscot colors will occur where walls meet. The wood base and wainscots where they occur will be a different color from the wall above. Different rooms will each be different color schemes.
- Note 5 The architect will select multiple colors for each room to create accent walls; within a room the **windows trim, doors and frames** will each be different colors as selected by the architect to harmonize or contrast with the wall color and each other. Different rooms will each be different color schemes.

**END OF SECTION**

**SECTION 09950**

**WALL COVERING**

PART 1 - GENERAL

**1.01 SECTION INCLUDES**

- A. Where covering is scheduled, provide around entire perimeter of space, including freestanding columns, pilasters and other projections, unless noted otherwise.
- B. Covering not required behind permanently built-in casework, chalkboards, and equipment.

**1.02 RELATED SECTIONS**

- A. Section 09250 - Gypsum Wallboard.
- B. Section 09900 - Painting: wall preparation for wall covering.

**1.03 REFERENCES**

- A. Federal Specification CCC-W-408A.
- B. Standard Test Method for Surface Burning Characteristics of Building Materials: ASTM E84.

**1.04 SUBMITTALS**

- A. Submit sample pieces approximately 8-1/2 x 11 inches of each type of wall covering to the Architect for approval
- B. Color of wall covering materials shall be selected by the Architect from the manufacturer's standard colors.

**1.05 PRODUCT DELIVERY, STORAGE, AND HANDLING**

- A. Delivery and storage of materials:
  - 1. Deliver all materials free from damage in original packages bearing manufacturer's label.
  - 2. Store all materials in such a manner as to protect them from corrosion, vandalism and/or damage in any form.

**1.06 JOB CONDITIONS**

- A. Temperature and Ventilation:
  - 1. Temperature in work spaces: Not lower than 70 degrees F. for 48 hours prior to, during, and for 48 hours after installation.

PART 2 - PRODUCTS

**2.01 MATERIALS**

- A. Vinyl coated fabric: CCC-W-408A type II materials. ASTM E84, Class A materials, flame spread  $\leq$  15, smoke developed  $\leq$  20.
  - 1. B.F. Goodrich, KOROSEAL, "Linden"
  - 2. General Tire, GENON, "Cairn"
  - 3. Lanark, "Taslan"
  - 4. or approved equal.
- B. Roll corkboard: Namsco or equal 7/32 inch thick, 52 inch wide roll form.
- C. Primers, sealers, adhesives: Water-resistant type, made or recommended by wall covering manufacturer.
- D. Metal Trim: Aluminited aluminum, profile indicated or selected.

PART 3 - EXECUTION

**3.01 PREPARATION**

- A. Measurements: Measure final working dimensions in the field prior to installation.
- B. Preparation of surfaces:
  - 1. Remove existing wall covering and paint film completely.
  - 2. Be sure that surfaces are clean, hard, dry, and smooth, and in fit condition for application of covering.
  - 3. Make test as Architect directs to determine dryness of plaster.
  - 4. Bring surfaces to uniform level by sanding down high spots and filling low spots with spackle.
  - 5. Prime surfaces in accordance with covering manufacturer's directions.
  - 6. Allow primer to dry thoroughly before proceeding.

**3.02 APPLICATION**

- A. Application of roll corkboard:
  - 1. Obtain Architect's approval of plywood, gypsum board, or plaster surfaces before application.
  - 2. Apply adhesive to wall area. Never apply adhesive to back of roll corkboard.
  - 3. Spread adhesive with a fine notched trowel, covering approximately 120 square feet per gallon.
  - 4. Apply corkboard in maximum size sheets.
  - 5. Roll thoroughly to assure contact and remove bubbles.
  - 6. Never force corkboard into place.
  - 7. Sand joints as required to obtain a smooth surface.

- B. Application of vinyl coated fabric.:
1. Install material in accordance with manufacturer's directions.
  2. Exercise special care to insure complete adhesion at joints, edges and corners.
  3. Cement to backing with seams carefully butted and practically invisible.
  4. No seams within 6 inches of external or internal corners.
  5. Apply in a manner similar to wallpaper, matching material for grain and color, with proper allowance for shrinkage.
  6. Work out wrinkles and air pockets completely.
  7. Where wall fabric is applied over roll corkboard, stagger joints a minimum of 12 inches from corkboard joints.
- C. Metal Trim:
1. Install in accordance with manufacturer's directions.
  2. Provide wherever edges of covering are exposed, and elsewhere as indicated on the drawings.

**3.03 PROTECTION AND CLEAN-UPS**

- A. Remove adhesive from surfaces during application.
- B. Replace defective and improperly applied material.
- C. Leave surfaces clean, whole, and free from defects at time of final acceptance.

**END OF SECTION**

**SECTION 09986**

**PREFINISHED WALL PANELS**

PART I - GENERAL

**1.01 SECTION INCLUDES**

- A. Where wall paneling is scheduled, provide around entire perimeter of space, including freestanding columns, pilasters and other projections, unless noted otherwise.
- B. Paneling not required behind permanently built-in casework and equipment already installed at the time of the installation of the paneling.

**1.02 RELATED SECTIONS**

- A. Section 09110 - Metal std framing: blocking / support system.

**1.03 REFERENCES**

- A. Standard Test Method for Surface Burning Characteristics of Building Materials: ASTM E84.

**1.04 SUBMITTALS**

- A. Submit sample pieces approximately 4 x 6 inches of each type and color of wall paneling to the Architect for approval.
- B. Submit complete manufacturer's instructions.
- C. Color of wall paneling materials shall be selected by the Architect from the manufacturer's standard colors.

**1.05 PRODUCT DELIVERY, STORAGE, AND HANDLING**

- A. Delivery and storage of materials:
  - 1. Deliver all materials free from damage in original packages bearing manufacturer's label.
  - 2. Store all materials in such a manner as to protect them from corrosion, vandalism and/or damage in any form.

**1.06 JOB CONDITIONS**

- A. Temperature and Ventilation:
  - 1. Temperature in work spaces: Not lower than 70 degrees F. for 48 hours prior to, during, and for 48 hours after installation.
  - 2. Panels must acclimate for 24 hours prior to installation.

**1.07 QUALITY ASSURANCE**

- A. Manufacturer to have not less than five years experience in the production of specified products.

- B. UL listed label for Class I flame spread of 20 or less and smoke developed rating of 400 or less.

PART II - PRODUCTS

**2.01 MATERIALS**

- A. Wall panels - Type I: Class A, flame spread  $\leq 20$ , smoke dev'd  $\leq 200$ .
  - 1. Kemlite Fire-X Glasbord.
  - 2. Marlite Class A FRP panels.
  - 3. Approved equal as determined by the Architect.
- B. Wall panels - Type II: Class A, UL and ULC classified.
  - 1. IPC - Sanparrel rigid vinyl sheet .060" surface thick.
  - 2. C/S Group - .060" Acrovyn high impact sheeting.
  - 3. Approved equal as determined by the Architect.
- C. Primers, sealers, adhesives: Water-resistant type, made or recommended by wall panel manufacturer. Comply with applicable APCD requirements.
- D. Moldings and Trim: Manufacturer's standard plastic trim pieces and moldings at:
  - 1. Inside and outside corners.
  - 2. Meeting panel edges.
  - 3. Top edge chair rail.
  - 4. Floor/base intersection.

PART III - EXECUTION

**3.01 PREPARATION**

- A. Measurements: Measure final working dimensions in the field prior to installation. Layout wall panels so that joints are symmetrical along any particular wall and so end panels are greater than 1/2 panel wide. Verify that panel joints will not line up with substrate joints.
- B. Verify that temperature and humidity meet manufacturer's requirements. Acclimate panels for manufacturer's published time.
- C. Preparation of surfaces:
  - 1. Remove any existing wall covering and paint film completely.
  - 2. Be sure that surfaces are clean, hard, dry, and smooth, and in fit condition for application of covering.
  - 3. Make test as manufacturer directs to determine dryness of plaster or concrete.
  - 4. Bring surfaces to uniform level by sanding down high spots and filling low spots with spackle.
  - 5. Prime surfaces in accordance with covering manufacturer's directions.
  - 6. Allow primer to dry thoroughly before proceeding.

**3.02 APPLICATION**

- A. Install in accordance with the published instructions by the adhesive only method. No surface fasteners are to be used.
- B. Each and every joint is to be sealed to completely exclude water and dirt.
- C. Clean surfaces of panels as installation progresses.

**3.03 PROTECTION AND CLEAN-UPS**

- A. Remove adhesive from surfaces during application.
- B. Replace defective and improperly applied material.
- C. Install temporary guards to protect material during installation of equipment and until final acceptance.
- D. Leave surfaces clean, whole, and free from defects at time of final acceptance.

**END OF SECTION**

