

SECTION 09111
METAL STUD FRAMING SYSTEM

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Top and bottom runners, studs, internal bracing, and blocking.

1.02 REFERENCES

- A. ASTM C645 - Non-Loadbearing Steel Studs, Runners, and Rigid Furring Channels.
- B. ASTM C754 - Installation of Steel Framing Members to Receive Screw-Attached Gypsum Wallboard, Backing Board, or Water-Resistant Backing Board.
- C. GA 203 - Installation of Screw-type Steel Framing Members to Receive Gypsum Board.

1.03 QUALITY ASSURANCE

- A. Perform the work in accordance with GA 203 and ASTM C754.
- B. Maintain one copy of each document on site.

1.04 SUBMITTALS

- A. Submit shop drawings under provisions of Section 01300.
- B. Indicate by plan and elevation, stud framing, openings, bracing and blocking, and reinforcement.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Southeastern Stud & Components, Inc.
- B. ClarkDietrich
- C. Unimast Incorporated.
- D. Substitutions: Under provisions of Section 01600 and Instruction to Bidders.

2.02 MATERIALS

- A. Studs: Interior, Non-Load bearing rolled steel, galvanized, channel shaped, 1-5/8, 2-1/2, 3-5/8, 4, and 6 inches wide, 20 gage, punched for utility access.
- B. Studs: **Exterior, REFER TO SECTION 05400- COLD -FORMED METAL FRAMING.**
- C. Runners: Of same material and finish as studs, bent leg retainer notched at 2 inch centers to receive studs, with provision for crimp locking to stud.

- D. Furring, Headers, Sills, and Bracing Members: Of same material and finish as studs, thickness to suit purpose.
- E. Fasteners: GA 203.
- F. Wood Blocking: Construction grade softwood fire retardant moisture resistant treated.
- G. Provide stud manufacturer's metal tracks, stud shoes, clips, wire ties, stiffeners, and other accessories and attachment devices as required for complete installation.
- H. Finish: Galvanize in accordance with ASTM A525, G90 or heavier coating.
- I. Provide studs which accept snap-in channel bridging only.

2.03 FIRE-RATED ASSEMBLIES

- A. Where steel studs are components of fire-rated wall, partition or column protection assemblies, provide steel studs and accessories complying with the requirements of UL "Fire Resistance Index" for the UL design numbers corresponding with construction assemblies shown.

2.04 STUD TYPES

- A. Provide the following types of steel studs in sizes indicated on the Drawings, for application indicated, as shown or specified:
 - 1. For metal lath applications, provide punched-type steel studs.
 - 2. For gypsum drywall applications, provide screw-type steel studs.

2.05 HAT CHANNELS

- A. Provide channels fabricated from 24 gage sheet metal roll-formed to hat-shaped sections, 7/8 inches deep, 2-9/16 inches wide, with knurled attachment face 1-1/4 inches wide.
- B. Finish: Galvanize in accordance with ASTM A525, G90 or heavier coating.

PART 3 - EXECUTION

3.01 ERECTION

- A. Manufacturer's Instructions: Unless otherwise shown or specified, install steel studs and accessories in accordance with stud manufacturer's printed instructions.
- B. Secure top and bottom runners at 24 inches oc. Align to configuration required.
- C. Install studs vertically at 16 inches oc and not more than 2 inches from abutting construction, each side of opening, and at corners.
- D. Fit runners under and above openings; secure intermediate studs at spacing of wall studs.
- E. Brace stud framing system and make rigid.
- F. Coordinate erection of studs with installation of service utilities, including but not limited to ductwork, piping, electrical conduit trays, etc. Align stud web openings.
- G. Coordinate installation of bucks, anchors, blocking, electrical, and mechanical work to be placed in, behind, or through stud framing.

- H. Coordinate erection of stud system with requirements of door and window frame supports or attachments.
- I. Isolation of Partitions from Structure: Where partitions abut ceiling or deck construction or vertical structure elements, provide slip or cushion-type joint between partition and structure as recommended by stud manufacturer to prevent transfer of structural loads or movements to partitions.
- J. Place studs, cut to nominal height, vertically into and resting upon floor runner track. Top of studs to be inserted in to top runner track. Studs to remain friction fit until Board is screw attached. Studs immediately adjacent to openings may be crimp attached or screwed to runner track.
- K. Provide additional studs to support inside corners at partitions, intersections and corners, and to support outside corners, terminations of partitions, both sides of control joint (if any) and adjacent to all openings.
- L. Where special conditions requiring extra stiff partition systems are indicated on Drawings or required, provide additional studs, in sizes indicated.
- M. Provide framed openings for installation of recessed, semi recessed, or penetration of items. Provide additional Horizontal and vertical blocking members where necessary, to receive attachments for shelves, cabinets, garment hooks and other surface mounted items including toilet compartments, toilet room accessories, electrical and telephone panels and boards, etc., and reinforcement at fixture hangers.
- N. Stud splicing is not permissible.
- O. Maintain clearance under structural building members to avoid deflection transfer to non-load bearing studs.
- P. **Six inch studs or chase wall shall be used where necessary to conceal pipes, to receive fire extinguisher cabinets, electrical panels, etc. These walls shall run from inside corner to inside corner of the room.**

3.02 DOOR FRAMES

- A. Where doors and cased openings are shown or scheduled, provide two 16 gage studs at each jamb and one additional 20 gage stud not more than six inches from jamb studs. Fasten jamb studs to metal frames with anchor clips using two self-tapping screws or bolts per clip. Where wood frames are shown, fasten jamb studs to rough framing with screws.
- B. Anchor strut studs to floor and ceiling runners with 3/8 inch type "S" at each flange intersection.
- C. Install heads formed from track, miter cut and bend 90 at each end to abut against strut studs.
- D. Anchor door frames with 3/8 inch Type S-12 screws driven through header and strut studs into frame anchor clips.
- E. For heavy oversize doors, install horizontal reinforcing channels in pairs at each side of door jamb and positioned 8 inches from head and floor and at mid-height.
- F. Securely tie these aligning channels to inside of stud chord at each intersection.
- G. Fill door frames solid with mixture of concrete and sand.

3.03 CEILING ERECTION

- A. Space 9 gage hanger wires 48 inch o.c. along carrying channels and within 6 inches of ends of carrying channel runs.
- B. In concrete, anchor hangers by attachment to reinforcing steel, by loops embedded at least 2 inches or by approved inserts.
- C. For steel construction, wrap hanger around or through beams or joints.
- D. Install 1-1/2 inches carrying channels 48 inches o.c. - 24 inches for fire rated construction and within 6 inches of walls.
- E. Position channels for proper ceiling height, level and secure with hanger wire saddle tied along channel.
- F. Provide 1 inch clearance between runners and abutting walls and partitions.
- G. At channel splices, interlock flange overlap ends 12 inches and secure each end with double strand 16 gage tie wire.
- H. At light troffers or any openings that interrupt the carrying or furring channels, install additional cross reinforcing to restore lateral stability of grillage.

3.04 TOLERANCES

- A. Install members to provide surface plane with maximum variation of 1/8 inch in 10 feet in any direction.

END OF SECTION

SECTION 09206
METAL FURRING AND LATHING

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Wall and furred space framing.
- B. Metal lathing for wet plaster finish.

1.02 RELATED WORK

- A. Section 05100 - Miscellaneous Structural Steel
- B. Section 09220 - Cement Plaster.

1.03 REFERENCES

- A. ANSI/ASTM aC841 - Installation of Interior Lathing and Furring.
- B. ANSI/ASTM C847 - Metal Lath.
- C. FS QQ-L-101 - Lath, Metal, and other Metal Plaster Bases.
- D. ML/SFA Metal Lath/Steel Framing Association - Specifications for Metal Lathing and Furring.

1.04 SYSTEM DESCRIPTION

- A. Fabricate vertical wall and furred space framing to limit finish surface to 1/180 deflection under lateral point load of 100 lbs.
- B. Fabricate horizontal ceiling and soffit framing to limit finish surface to 1/360 deflection under superimposed dead loads and wind uplift.

1.05 QUALITY ASSURANCE

- A. Perform work in accordance with ANSI/ASTM C84 and ML/SFA - Specifications for Metal Lathing and Furring.

1.06 SUBMITTALS

- A. Submit product data under provisions of Section 01300.
- B. Provide product data on furring and lathing components, structural characteristics, material limitations and finish.

1.07 COORDINATION

- A. Coordination work of this Section with installation of hollow metal frames.
- B. Coordinate the installation of bucks, anchors, blocking, and electrical and mechanical work which is to be placed in or behind framing, furring, and lathing.

PART 2 - PRODUCTS

2.01 FRAMING MATERIALS

- A. Furring Channels: Formed steel; minimum 25 gage thick, 3/8 inch deep ax 3/4 inch high; length as required.
- B. Main Ceiling Channels: Formed steel; minimum 18 gage thick, 3/4 inch deep x 1-1/2 inch high; length as required.
- C. Hangers: Galvanized steel, of size and type to suit application, to rigidly support ceiling components in place, with maximum deflection as indicated, 8 gage wire minimum.
- D. Lateral Bracing: Formed steel; minimum 16 gage thick; size and length as required.
- E. Casing Bead: Formed sheet steel; minimum 25 gage thick; thickness governed by plaster thickness; maximum possible lengths; expanded metal with square edges.
- F. Control and Expansion Joint Accessories: Formed sheet steel; minimum 25 gage thick; accordian profile, 2 inch expanded metal flanges each side.
- G. Anchorage and Fastening Device: Approved devices of type and size to suit application; to rigidly secure ceiling furring members in place.

2.02 LATHING MATERIALS AND ACCESSORIES

- A. Metal Lath: ANSI/ASTM C847; FS QQ-L-101; flat diamond self-furring mesh or flat rib, 3/8 inch high. Lath to be 3.4 lb.
- B. Corner Mesh: Formed sheet steel; minimum 26 gage thick; perforated flanges shaped to permit complete embedding in plaster; minimum 2 inch size.
- C. Strip Mesh: Expanded metal lath, minimum 26 gage thick; 2 inch wide x 24 inch long.
- D. Anchorages: Tie wire, nails, screws and other metal supports, of type and size to suit application; to rigidly secure lathing materials in place.
- E. Control Joints

2.03 FINISHES

- A. Framing Materials: Galvanized
- B. Hangers, Anchors, and Fastening Devices: Galvanized
- C. Lath Materials: Galvanized

PART 3 - EXECUTION

3.01 INSPECTION

- A. Verify that surfaces conditions are ready to receive work.
- B. Beginning of installation means acceptance of existing surfaces and substrate.
- C. In cold weather maintain the building temperature at a temperature range of 55 degrees F to 60 degree F. Caution should be taken to avoid higher temperatures which promote rapid drying conditions and are detrimental to plaster. Maintain air circulation at a minimum level for twenty-four hours prior to, during and after finishing until surface is dry.

3.02 CEILING AND SOFFIT FRAMING

- A. Install furring to height indicated. Erect after above ceiling work is complete. Coordinate the location of hangers with other work.
- B. Install ceiling furring independent of walls, columns, and above ceiling work. Securely anchor hangers to structural members or embed in structural slab. Space hangers to achieve deflection limits indicated.
- C. Space main carrying channels at maximum 48 inch centers; not more than 6 inches from wall surfaces. Lap splice securely.
- D. Securely fix carrying channels to hangers to prevent turning or twisting and to transmit full load to hangers.
- E. Place furring channels perpendicular to carrying channels, not more than 2 inches from perimeter walls, and rigidly secure. Lap splice securely. Space furring channels at not more than 16 inches o.c. Saddle tie channels to runners with 16 gage tie wire.
- F. Reinforce openings in suspension system which interrupt main carrying channels or furring channels with lateral channel bracing. Extend bracing minimum 24 inches past each opening.
- G. Laterally brace suspension system.
- H. Erect resilient channels at maximum inches on center. Rigidly secure in place.
- I. Establish contraction, control, and expansion joints with back to back casing beads set 1/4 inch. Set both beads over 6 inch wide strip of polyethylene sheet for air seal continuity.
- J. Where indicated on drawings, attach USG control joints with dry wall screws or Bostitch 9/16 inch "G" staples or equal, spaced not over six inch apart in each flange. Splice ends together with 16 gage tie wire inserted into openings in the key-lock sections. remove protective tape after plastering.
- K. Interior Walls and Partitions: Space control joints maximum of 30 feet apart; control joints occur over door frames at each jamb.
- L. Exterior Soffits of Gypsum Plaster: Space control joints not exceeding 25 feet in either direction. Break lath and channel behind control joints. All other specifications listed above

are applicable.

- M. Exterior Walls, Soffits and Canopies of Portland Cement Stucco: Space control joints not exceeding 10 feet in either direction. Where there is an intersection of vertical and horizontal joints, use continuous horizontal joint and butt the vertical joint. Caulk splices and intersections exposed to the elements with a silicone rubber caulking cement. In soffits and canopies, break lath and channel behind control joints.

3.03 LATHING MATERIALS

- A. Apply on ply of 30 lb. Felt underlayment over substrate; weather lap edges 4 inches minimum. Fasten in place.
- B. Apply metal lath taut, with long dimension perpendicular to supports.
- C. Lap ends minimum one inch. Secure end laps with tie wire where they occur between supports.
- D. Lap sides of diamond mesh lath minimum 1-1/2 inches. Nest outside ribs or rib lath together.
- E. Attach metal lath to metal supports using tie wire at maximum 6 inches on center.
- F. Attach metal lath to concrete using appropriate metal fasteners at maximum 12 inches each way on center.

3.04 TOLERANCES

- A. Maximum Variation from True Lines and Levels: 1/8 inch in 10 feet.
- B. Maximum Variation from True Position: 1/8 inch.

3.05 INTERSECTING SURFACES

- A. Provide accessory mouldings and trim of type indicated at intersections of plastered surfaces with other materials and at intersections of walls and ceilings as shown on Drawings and as required to complete plaster work.
- B. Reinforce internal angles formed by metal lath by Cornerite wire tied over the abutting lath.
- C. Finish plaster surfaces which intersect exposed masonry or metal construction with casing bead.
- D. Wherever plaster comes in contact with steel, steel surface shall be given one coat of exterior grade varnish.

END OF SECTION

Section 09220
CEMENT PLASTER

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Portland cement plaster system on galvanized lath.

1.02 SYSTEM DESCRIPTION

- A. Fabricate vertical elements to limit finish surface to 1/180 deflection under lateral point load of 100 lbs.
- B. Fabricate horizontal elements to limit finish surface to 1/360 deflection under superimposed dead loads and wind lift loads.

1.03 QUALITY ASSURANCE

- A. Apply cement plaster in accordance with ASTM C926 and PCA Plaster Stucco Manual.

1.04 SUBMITTALS

- A. Submit product data under provisions of Section 01300.
- B. Provide product data on plaster materials, characteristics and limitations of products specified.
- C. Submit manufacturer's installation instructions under provisions of Section 01300.

1.05 ENVIRONMENTAL REQUIREMENTS

- A. Do not apply plaster when substrate or ambient air temperature is less than 50 degrees F nor more than 80 degrees F.
- B. Maintain minimum ambient temperature of 50 degrees F during and after installation of plaster.

1.06 REFERENCES

- A. American Society for Testing and Materials
 - 1 ASTM C150 - Standard Specification for Portland Cement.
 - 2 ASTM C206 - Standard Specification for Finishing Hydrant Line.
 - 3 ASTM C897 - Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters.
 - 4 ASTM C926 - Standard Specification for Application of Portland Cement-Based Plaster.
 - 5 ASTM C932 - Standard Specification for Surface-Applied Bonding Agents for Exterior Plastering.
 - 6 ASTM C933 - Standard Specification for Welded Wire Lath.
 - 7 ASTM C979 - Standard Specification for Pigments for Integrally Colored Concrete.
 - 8 ASTM C1002 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Plaster Bases.
 - 9 ASTM C1032 - Standard Specification for Woven Wire Plaster Base.
 - 10 ASTM C1063 - Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster.

- 11 ASTM C1116 - Standard Specification for Fiber-Reinforced Concrete and Shotcrete.
- 12 ASTM C1328 - Standard Specification for Plastic(Stucco) Cement.
- 13 ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.

PART 2 - PRODUCTS

2.01 PLASTER BASE COAT MATERIALS (Scratch and Brown Coats)

- A. Cement: ASTM C150, Normal - Type 1 Portland Cement.
- B. Lime: ANSI/ASTM C206, Type S; C207, type S.
- C. Aggregate Sand: In accordance with ANSI/ASTM C897 and PCA Plaster Manual.
- D. Water: Clean, fresh, potable and free of mineral or organic matter which can affect plaster.
- E. Bonding Agent: ASTM C932 type recommended for bonding plaster to concrete or concrete masonry.
- F. Fibers: ½" nominal length glass fibers meeting requirements of ASTM C1116.

2.02 PLASTER FINISH COAT MATERIALS

- A. Aggregate Textured 100% Acrylic-based Finish by DPR Finish by Dryvit, Master Wall, Inc., Sto Finish Systems or approved equals.
- B. Finish shall be trowel applied at no less than 1/16" thickness or thicker depending on texture to be selected by Architect: Quartzputz, Sandblast or Sandpebble.
- C. Acrylic Plaster finish shall meet the following:
 - Moisture Resistance per ASTM D2247: no deleterious effects after 14 day exposure
 - Salt Spray Resistance per ASTM B117: no deleterious effects after 300 hours
 - Accelerated Weathering per ASTM G155: no deleterious effects after 5000 hours
 - Mildew Resistance per Mil STD 810B: passes
 - Flame Spread per ASTM E84: less than 25 (Class 1)
- D. **Color as selected by Architect.**
- E. Finish coating to be mixed and applied per manufacturer's recommendations.
- F. Cement, Lime and Water shall meet same standards as those for Base Coat above.

2.05 FURRING AND LATHING

- A. See Section 09206

2.06 CEMENT PLASTER MIXES

- A. Mix and proportion cement plaster in accordance with ANSI/ASTM C926 manufacturer's instructions: Fiber Reinforcement: Add glass fibers to base coats at a rate of 94# per sack of cement.
- B. Mix materials dry, to uniform color and consistency, before adding water.

- C. Protect mixtures from frost, contamination and excessive evaporation.
- D. Do not retemper mixes after initial set has occurred.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Verify that surfaces and site conditions are ready to receive work.
- B. Grounds and Blocking: Verify items within walls for other Sections of work have been installed.
- C. Mechanical and Electrical: Verify services within walls have been tested and approved.
- D. Beginning of installation means acceptance of existing conditions.
- E. Refer also to section 09602 for furring and lath installation. Plastering shall not start until last is flat, secured to substrate and joint and surface perimeter accessories are in place.

3.02 PREPARATION

- A. Protect surfaces near the work of this Section from damage or disfiguration.
- B. Where existing plaster surfaces are to receive new finish coat, thoroughly clean, deoxidize then coat with a bonding agent recommended by the manufacturer.
- C. Where concrete surfaces are to receive plaster, clean with acid solutions solvents or detergents and thoroughly rinse before installing plaster.

3.03 CONTROL AND EXPANSION JOINTS

- A. Locate exterior control joints every 12 feet in each direction unless indicated on reflected ceiling plan otherwise and at each change in direction. Contact Architect for pattern if not shown on drawings.
- B. Establish control and expansion joints with specified joint device.
- C. Coordinate joint placement with existing joints and other related work. (Section 09206)
- D. Refer to 09206 for casing beads and metal control joints.
- E. Refer to manufacturer's recommendations for joints with sealants: provide a color prime applied over base coat in the joint.

3.04 PLASTERING

- A. Apply plaster in accordance with ASTM C926 manufacturer's instructions.
- B. Apply scratch coat to a nominal thickness of 3/8 inch, brown coat to a nominal thickness of 3/8 inch, and a finish coat to a nominal thickness of 1/8 inch over metal lathed self-furring reinforcement? (Typical for exterior applications).
- C. Apply brown coat to a nominal thickness of 3/8" and a finish coat to a nominal thickness of 1/8"

over masonry interior surfaces. *Not anticipated in this project.*

- D. Moisture scratch and brown coats. Apply brown coat immediately following initial set of scratch coat.
- E. After curing, dampen base coat prior to applying finish coat.
- F. Apply finish coat to a fine sand float texture (or options texture to be selected) with selected color.
- G. Avoid excessive working of surface. Delay troweling as long as possible to avoid drawing excess fines to surface. Not less than 24 hours between each application.
- H. Moist cure finish coat for minimum period of 48 hours.

3.05 TOLERANCES

- A. Maximum Variation from True Flatness: 1/8 inch in 10 feet.

3.06 REPAIR

- A Remove damaged or defective plaster by cutting and replace with specified materials to match adjacent plaster.
- B Fog coat non-uniform or discolored plaster with finish coat surface.
- C Where gypsum plaster is repaired use a bonding agent equal to plaster weld, by Larson Products. Where Portland Cement Plaster is repaired, use a product equal to weldcrete by Larson Products or equal.

END OF SECTION

SECTION 09260
GYPSUM BOARD SYSTEMS

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Metal channel ceiling framing.
- B. Gypsum board.
- C. Taped and sanded joint treatment.
- D. Asphalt Felts only as indicated on Drawings.

1.02 REFERENCES

- A. ANSI/ASTM C36 - Gypsum Wallboard.
- B. ANSI/ASTM C79 - Gypsum Sheathing Board.
- C. ANSI/ASTM C442 - Gypsum Backing Board.
- D. ANSI/ASTM C475 - Joint Treatment Materials for Gypsum Wallboard Construction.
- E. ANSI/ASTM C514 - Nails for the Application of Gypsum Wallboard.
- F. ANSI/ASTM C630 - Water Resistant Gypsum Backing Board.
- G. ANSI/ASTM C645 - Non-Load Axial Bearing Steel Studs, Runners Track, and Rigid Furring Channels for Screw Application of Gypsum Board.
- H. ANSI/ASTM C646 - Steel Drill Screws for the Application of Gypsum Sheet Material to Light Gage Steel Studs.
- I. ANSI/ASTM C754 - Installation of Framing Members to Receive Screw Attached Gypsum Wallboard, Backing Board, or Water Resistant Backing Board.
- J. GA-201 - Gypsum Board for Walls and Ceilings.
- K. GA-216 - Recommended Specifications for the Application and Finishing of Gypsum Board.

1.03 SYSTEM DESCRIPTION

- A. Acoustic Attenuation for Identified Interior Partitions: 45-51 STC in accordance with ANSI/ASTM E90.

1.04 SUBMITTALS

- A. Submit shop drawings and product data under provisions of Section 01300.
- B. Indicate on shop drawings, special details associated with fireproofing and acoustic seals.
- C. Submit manufacturer's installation instructions under provisions of Section 01300.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. United States Gypsum Co.
- B. National Gypsum Co.
- C. Georgia-Pacific
- D. Substitutions: Under provision of Section 01600 and Instructions to Bidders.

2.02 GYPSUM BOARD MATERIALS

- A. Fire Rated Gypsum Board: ANSI/ASTM C36; fire resistive, and moisture resistant type, UL rated; 5/8 inch thick, maximum permissible length; ends square cut, tapered edges. All board to be mold and mildew resistant.
- B. Moisture Resistant Gypsum Board: ANSI/ASTM C630; 5/8 inch thick, maximum permissible length; ends square cut, tapered edges. (Fire Rated Gypsum Board). This shall be used at all toilet rooms, mens rooms, womens rooms, housekeeping rooms, and/or as indicated on Drawings. All board to be mold and mildew resistant.
- C. Exterior Sheathing Board: 5/8" exterior sheathing approved for **application with exterior wall system**. (Seal all joints continuous). Substrates shall be manufactured by one of the following:
 - 1.) Dens-Glass Gold by G-P Gypsum.
 - 2.) 5/8" Fiberrock Sheathing by USG.
 - 3.) Substitutions: per Section 01600 and Instructions to Bidders

2.03 ACCESSORIES

- A. Corner Beads: Metal
- B. Edge Trim: GA 201 and GA 216
- C. Joint Materials: ANSI/ASTM C475; GA 201 and GA 216; reinforcing tape, joint compound, adhesive, water, and fasteners.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Verify that site conditions are ready to receive work and opening dimensions are as indicated on shop drawings and instructed by the manufacturer.
- B. Beginning of installation means acceptance of existing surfaces and substrate.

3.02 GYPSUM BOARD INSTALLATION

- A. Install gypsum board in accordance with GA 201 and GA 216 manufacturer's instructions.
- B. Erect single layer standard gypsum board in most economical direction, with ends and edges occurring over firm bearing.

- C. Erect single layer fire rated gypsum board vertically, with edges and ends occurring over firm bearing.
- D. Use screws when fastening gypsum board to metal furring or framing.
- E. Double Layer Applications: Use gypsum backing board for first layer, placed perpendicular to framing or furring members. Use fire rated gypsum backing board for fire rated partitions. Place second layer perpendicular to first layer. Offset joints of second layer from joints of first layer.
- F. Treat cut edges and holes in moisture resistant gypsum board and exterior gypsum ceiling board with sealant.
- G. Place **control joints** consistent with lines of building spaces as specified unless shown otherwise on Drawings. Place control joints on both sides of all window heads and door heads extending to deck or top of wall. Place control joints on **interior partitions and ceilings at a maximum spacing of 30 feet and as recommended by latest edition of USG Construction Handbook.**
- H. Place corner beads at external corners as indicated. Use longest practical length. Place edge trim where gypsum board butts dissimilar materials as indicated.

3.03 JOINT TREATMENT

- A. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
- B. Feather coats onto adjoining surfaces so that camber is maximum 1/32 inch.
- C. Taping, filling, and sanding is not required at surfaces behind adhesive applied ceramic tile.
- D. Taping, filling, and sanding shall be required for existing surfaces which may be damaged due to the removal of existing VWC or construction activities.
- E. Install acoustical sealant on all partitions in strict accordance with manufacturer's printed instructions and recommendations. (NOT TO BE USED with PVC.)
- F. **All of the above shall be done to meet the - Level 4 - recommended specifications of the AWCI** included in GA 214-90: All joints and interior angles shall have tape embedded in joint compound and three separate coats of joint compound applied over all joints, angles, fastener heads and accessories..

3.04 TOLERANCES

- A. Maximum Variation from True Flatness: 1/8 inch in 10 feet in any direction.

END OF SECTION

SECTION 09305
TILE SETTING MATERIALS AND ACCESSORIES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Edge-protection and transition profiles for floors.
- B. Finishing and edge-protection profiles for walls and countertops.
- C. Movement joint and cove-shaped profiles.
- D. Modular screed system.
- E. Uncoupling membrane.
- F. Waterproofing Membrane.
- G. Floor drain, with integrated bonding flange.
- H. Shower waterproofing: prefabricated substrates, waterproofing membrane, floor drain with integrated bonding flange, and sealant.
- I. Drainage membranes.
- J. Setting materials: adhesives, mortars, grouts, and sealants.
- K. This section applies to all patient & public toilet rooms.

1.2 REFERENCES

- A. CSA B79-08: Floor, Area, and Shower Drains, and Cleanouts for Residential Construction.
- B. IAPMO IGC 195: Interim Guide Criteria for Floor Drain with Integrated Bonding Flange.
- C. Tile Council of North America (TCNA) Handbook for Ceramic Tile Installation.
- D. Terrazzo, Tile and Marble Association of Canada (TTMAC) Specification Guide 09300 Tile Installation Manual.
- E. American National Standard Specifications for the installation of ceramic tile A108 / A118 / A136.1.

1.3 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) long, representing actual product, color, and finish.

- D. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing the work of this section with minimum five years experience.
- B. Source Limitations for Setting Materials and Accessories: Obtain product of a uniform quality for each application condition from a single manufacturer.
- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
 - 3. Refinish mock-up area as required to produce acceptable work.
- D. Preinstallation Conference: Conduct conference at the Project site.
 - 1. Convene one week prior to commencing work of this section.
 - 2. Require attendance of installation material manufacturer, tile supplier, tile installer and installers of related work. Review installation procedures and coordination required with related work.
 - 3. Meeting agenda includes but is not limited to:
 - a. Surface preparation.
 - b. Tile and installation material compatibility.
 - c. Edge protection, transition and pre-fabricated movement joint profiles.
 - d. Waterproofing techniques.
 - e. Crack isolation techniques.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Protect materials from exposure to moisture. Do not deliver until after wet work is complete and dry.
- C. Store materials in a dry, warm, ventilated weathertight location.

1.6 PROJECT CONDITIONS

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

1.7 COORDINATION

- A. Coordinate Work with other operations and installation of floor finish materials to avoid damage to installed materials.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Schluter Systems, L.P., 194 Pleasant Ridge Road, Plattsburgh, NY 12901-5841. ASD. Tel: (800) 472-4588. Fax (800) 477-9783. E-mail: specassist@schluter.com. Web: www.schluter.com.
- B. Acceptable Manufacturer: Schluter Systems (Canada) Inc., 21100 Chemin Ste-Marie, Ste-

Anne-de-Bellevue, QC H9X 3Y8. Tel: (800) 667-8746. Fax (514) 336-2410. E-mail: specassist@schluter.com. Web: www.schluter.ca.

- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 EDGE-PROTECTION AND TRANSITION PROFILES FOR FLOORS

- A. Schluter-DECO
 - 1. Description: profile with 1/4 inch (6 mm) wide visible surface and integrated trapezoid-perforated anchoring leg.

2.3 FINISHING AND EDGE-PROTECTION PROFILES FOR WALLS AND COUNTERTOPS

- A. Schluter-JOLLY
 - 1. Description: L-shaped profile with 1/8 inch (3.2 mm) wide top section vertical wall section that together form the visible surface, integrated trapezoid-perforated anchoring leg, and integrated grout joint spacer.
 - 2. Anchoring Leg:
 - a. Provide with straight anchoring leg.
 - 3. Material and Finish:
 - a. MC - Chrome-plated Solid Brass.
 - 1) Height as required to coordinate with tile selection and setting system selected.
- B. Schluter-QUADEC
 - 1. Description: profile with square visible surface, integrated trapezoid-perforated anchoring leg, and integrated grout joint spacer.
 - 2. Corners:
 - a. Provide with matching inside corners.
 - b. Provide with matching outside corners.
 - c. Provide with internal connectors.
 - 3. Material and Finish:
 - a. E - Stainless Steel Type 304 = V2A.
 - 1) Height as required to coordinate with tile selection and setting system selected.

2.4 MOVEMENT JOINTS AND COVE-SHAPED PROFILES

- A. Schluter DILEX-AHK
 - 1. Description: anodized aluminum profile with integrated trapezoid-perforated anchoring leg, connected at a 90-degree angled by a cove-shaped section with 3/8" radius that forms the visible surface.
 - 2. Corners:
 - a. Provide with matching inside and outside corners.
 - b. Provide with matching end caps.
 - c. Provide with matching connectors.
 - 3. Material and Finish
 - a. As selected by Architect from manufacturer's selection.
 - 4. Height: as required.

2.5 UNCOUPLING MEMBRANE

- A. Schluter-DITRA
 - 1. Description: 1/8 inch (3 mm) thick, orange, high-density polyethylene membrane with a grid structure of 1/2 inch by 1/2 inch (12 mm by 12 mm) square cavities, each cut back in a dovetail configuration, and a polypropylene anchoring fleece laminated to its

underside. Conforms to definition for uncoupling membranes in the Tile Council of North America Handbook for Ceramic Tile Installation and is listed by cUPC to meet or exceed the requirements of the "American national standard specifications for load bearing, bonded, waterproof membranes for thin-set ceramic tile and dimension stone installation A118.10 and is listed by cUPC, and is evaluated by ICC-ES (see Report No. ESR-2467).

2. Waterproofing seaming membrane:
 - a. Provide **KERDI BAND** Seams and Corners material **0.004 inch (4 mil)** thick, orange polyethylene membrane, with polypropylene fleece laminated on both sides.

B. Schluter-DITRA-XL

1. Description: **5/16 inch (7 mm) thick**, orange, high-density polyethylene membrane with a grid structure of 1/2 inch by 1/2 inch (12 mm by 12 mm) square cavities, each cut back in a dovetail configuration, and a polypropylene anchoring fleece laminated to its underside. Conforms to definition for uncoupling membranes in the Tile Council of North America Handbook for Ceramic Tile Installation and listed by cUPC to meet or exceed the requirements of the "American national standard specifications for load bearing, bonded, waterproof membranes for thin-set ceramic tile and dimension stone installation A118.10 and is listed by cUPC, and is evaluated by ICC-ES (see Report No. ESR-2467).
2. Waterproofing seaming membrane:
 - a. Provide KERDI BAND Seams and Corners material 0.004 inch (0.1 mm) thick, orange polyethylene membrane, with polypropylene fleece laminated on both sides.

2.6 WATERPROOFING MEMBRANE

A. Schluter-KERDI

1. Description: **0.008 inch (8 mil) thick**, orange polyethylene membrane, with polypropylene fleece laminated on both sides, which is listed by cUPC to meet or exceed requirements of the "American national standard specifications for load bearing, bonded, waterproof membranes for thin-set ceramic tile and dimension stone installation A118.10 and is listed by cUPC, and is evaluated by ICC-ES (see Report No. ESR-2467).
2. Corners and seals:
 - a. Provide matching preformed inside corners.
 - b. Provide matching preformed outside corners.
 - c. Provide matching preformed pipe seals.
 - d. Provide matching preformed mixing valve seals.

2.7 FLOOR DRAIN WITH INTEGRATED BONDING FLANGE

A. Schluter-KERDI-LINE DRAIN, Brushed Stainless Steel:

1. Description:
 - a. Linear (trench type) floor drain consisting of a formed stainless steel channel body and grate assembly that can be seamlessly adjusted to tile or stone covering thickness from 1/8 inch (3 mm) to 1 inch (25 mm). The channel body features a 2-1/4 inch (57 mm) wide trough, a 2 inch (50 mm) no-hub outlet and a 7/8 inch (22 mm) wide bonding flange laminated with a collar made of the Schluter-KERDI waterproofing membrane. Drain type as referenced in methods B422 and B422 STONE in the Tile Council of North America Handbook for Ceramic, Glass, and Stone Tile Installation. **NOTE: The position of the non-hub outlet is typically required at the center position, but there will be instances where an offset outlet position will be required to avoid obstructions with structural framing, etc. Contractor shall coordinate**

drain outlet position in the field as required to avoid obstructions.

2. Channel Body Material:
 - a. Stainless Steel 304 (1.4301 = V2A).
3. Grate Frame Height:
 - a. Height as required.
4. Grate Design:
 - a. EB – Closed Solid Brushed Stainless Steel Type 304=V2A.

2.8 WATERPROOF BUILDING PANEL FOR CERAMIC AND STONE TILE

- A. Schluter-KERDI-BOARD
 1. Description: Rigid extruded polystyrene foam building element panel, with reinforcement material and polypropylene fleece webbing laminated on both sides for thin-set ceramic tile and dimension stone Installations.
 2. Panel Thickness:
 - a. Thickness: 5/8".

2.9 DRAINAGE MEMBRANES

- A. Schluter-TROBA-PLUS
 1. Description: orange polyethylene sheet with 5/16 inch (8 mm) high, truncated cone-shaped studs, covered with a polypropylene water-permeable filter fabric.

2.10 SETTING MATERIALS

- A. Schluter-**ALL- SET Mortar**.
 1. Description: specialized sag-resistant modified thin-set mortar specifically formulated for use with Schluter membranes and boards. Schluter-SET is suitable for use with ceramic, porcelain, and stone tile, including large and heavy tile, in conjunction with Schluter-Systems' uncoupling and waterproofing membranes. Meets the requirements of ANSI A118.4T, A118.11 and A118.15T.
 2. Color: White or Grey as selected by Architect.

2.11 ACCESSORIES

- A. Furnish and install all accessories as required for a complete and ready to use installation.
- B. In addition to specific requirements outlined in this section furnish and install other items that are indicated on drawings such as inside/outside corner trims and floor cove trims.
- C. See Sections 06650 and 09311 for threshold requirements.

PART 3 EXECUTION

3.1 EXAMINATION

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

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's printed instructions and recommendations.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

SECTION 09311
CERAMIC TILE FLOOR AND WALL FINISH
(PORCELAIN TILE)

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Ceramic tile floor with cementitious & epoxy grouted joints.
- B. Solid Surface thresholds in wall openings.
- C. Ceramic tile walls.
- D. Coordination and installation of materials specified in **Section 09305**.

1.02 QUALITY ASSURANCE

- A. Conform to ANSI - American National Standard Specifications for the Installation of Ceramic Tile.
- B. Conform to ANSI - Recommended Standard Specifications for Ceramic Tile - Tile Council of America 137.1.

1.03 SUBMITTALS

- A. Submit shop drawings and product data under provisions of Section 01300.
- B. Indicate tile layout, patterns, color arrangement, perimeter conditions, junctions with dissimilar materials, thresholds, and setting details.
- C. Submit product data, specifications, and instruction for using adhesives and grouts.
- D. Submit manufacturer's certification under provisions of Section 01400 that tile materials supplied conform to TCA 137.1.

1.04 MAINTENANCE DATA

- A. Submit maintenance data under provisions of Section 01700.
- B. Include cleaning methods, cleaning solutions recommended, stain removal methods, and polishes and waxes recommended.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions

PART 2 -PRODUCTS

2.01 ACCEPTABLE TILE MANUFACTURERS

- A. American Olean
- B. Dal-Tile

- C. Substitutions: See Instructions to Bidders and Section 01600 - Substitutions

2.02 FLOOR TILE MATERIALS

- A. Ceramic Mosaic Floor Tile: TCA 137.1; 0 to 0.5 percent water absorption;
 - a. **SEE INTERIOR FINISH SCHEDULE & FINISH PLAN.**
 - b. Substitutions: per Article 4.3 of Instructions to Bidders and Section 01600.
- B. Thresholds:
Solid Polymer Fabrications (Corian) Color as selected by Architect bevelled one side, radiused edges from bevel to vertical face. **(RE: Section 06650)** Size by full width of wall or frame opening- Threshold to be one continuous piece with **NO JOINTS. Submit samples for approval.**

2.03 CERAMIC WALL TILE MATERIALS

- A. Ceramic Mosaic Wall Tile Align with Floor Joints:
TCA 137.1; 0.5 to 3.0 percent water absorption, 6" x 6" x 1/4" size; square edge, glazed finish, color to be selected.
- B. Base at Wall Tile: TCA 137.1; 0.5 to 3.0 percent water absorption;
 - 1. Approved Manufacturer's:
 - a. **SEE INTERIOR FINISH SCHEDULE & FINISH PLAN.**
 - b. Substitutions: per Article 4.3 of Instructions to Bidders and Section 01600.
- C. Base at Painted Walls: Same as B in sanitary cove shape.
- D. Mosaic Trim Shapes: Provide all required trim shapes as follows:
 - 1. Rounded external corners (3/4 inch radius).
 - 2. Trim shapes at head jambs and sill of openings.
 - 3. Internal corners-field-buttet square, except use square corner, combination angle and stretcher type cap.
 - 4. Bullnose caps as required.

2.04 SETTING MATERIALS - CERAMIC TILE

- A. Epoxy Grout - ANSI A118.3
- B. Dry - Set or Latex - Portland cement mortar bond coat.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Install ceramic floor and base in accordance with Tile Council of America, Inc. Specification F114-96 Cement Mortar, Epoxy or Furan Grout. Tile Set by Method F111 for Heavy Performance. Showers shall be similar to B415-96 with epoxy grout.
- C. Install ceramic wall tile and base in accordance with Tile Council of America, Inc., Specification W223-88 Organic Adhesive. Install Grout in accordance with ANSI 108.10; Install tile in accordance with ANSI A108.4.
- D. Verify pattern is uninterrupted through openings.
- E. Align all floor tile joints with wall tile joints.

- F. Provide thresholds at wall or frame openings to other building areas not receiving ceramic tile floor finish.
- G. Cut and fit tile tight to protrusions and vertical interruptions. Form corners and bases neatly.
- H. Work tile joints uniform in width, subject to variance in tolerance allowed in tile size. Joints: Watertight, without voids, cracks, excess mortar, or grout.
- I. Sound tile after setting. Replace hollow sounding units.
- J. Keep expansion/contraction control joints free of mortar or grout.
- K. Allow tile to set for a minimum of 48 hours prior to grouting.

3.02 PROTECTION

- A. Prohibit traffic from floor finish for 48 hours after installation.

END OF SECTION

SECTION 09511
SUSPENDED ACOUSTICAL CEILINGS

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Suspended metal grid ceiling system.
- B. Acoustical tile.
- C. Vinyl Faced Gypsum Units.
- D. Non-fire rated assembly.
- E. Perimeter trim.

1.02 RELATED WORK

- A. Wet-Pipe Sprinkler Systems: Sprinkler heads in ceiling system.
- B. Air Outlets and Inlets: Air diffusion devices in ceiling system.
- C. Building Lighting: Light fixtures in ceiling system.

1.03 REFERENCES

- A. ASTM C635 - Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings.
- B. ASTM C636 - Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels.

1.04 SUBMITTALS

- A. Submit shop drawings and product data under provisions of Section 01300.
- B. Provide product data on metal grid system components, and acoustic units.
- C. Submit samples under provisions of Section 01300.
- D. Submit two samples full size 24 x 24 inch in size, illustrating material and finish of acoustic units.
- E. Submit two samples each, 12 inches long, of suspension system main runner, cross runner and edge trim.

1.05 ENVIRONMENTAL REQUIREMENTS

- A. Maintain uniform temperature of minimum 60 degrees F, and humidity of 20 to 40 percent prior to, during, and after installation.

1.06 SEQUENCING/SCHEDULING

- A. Do not install acoustical ceilings until building is enclosed, sufficient heat is provided, dust generating activities have terminated, and overhead work is completed, tested, and approved.
- B. Schedule installation of acoustic units after interior wet work is dry.

1.07 EXTRA STOCK

- A. Provide extra quantity of acoustic units under provisions of Section 01700.
- B. Provide cartons of extra tile, panels, and metal pans to Owner.

PART 2 - PRODUCTS

2.01 ALL MANUFACTURERS - CEILING GRIDS

- A. Chicago Metallic Corp.
- B. Armstrong World Industries, Inc.
- C. USG Interiors, Inc.
- D. Substitutions: Under provisions of Section 01600 and Instruction to Bidders.

2.02 SUSPENSION SYSTEM MATERIALS

- A. Grid: ASTM C635, intermediate duty, non-fire rated exposed T; components die cut and interlocking.
- B. Accessories: Stabilizer bars, clips, edge and moldings required for suspended grid system. Provide hold down clips where indicated on Drawings.
- C. Grid Materials: Commercial quality hot dipped galvanized steel.
- D. Grid Finish: Aluminum cap with standard white finish.
- E. Support Channels and Hangers: Hot dipped galvanized steel; size and type to suit application, to rigidly secure acoustic ceiling system including integral mechanical and electrical components with maximum deflection of 1/360.

2.03 ACCEPTABLE MANUFACTURERS - ACOUSTIC UNITS

- A. **SEE INTERIOR FINISH SCHEDULE & FINISH PLAN.**
- B. Substitutions: See Instructions to Bidders and Section 01600 Material and Equipment: Substitutions.

2.04 ACOUSTIC UNIT MATERIALS-

- A. Acoustic Panels: Conforming to the following:
 - 1. Size: 24 x 24 inches
 - 2. Thickness: 5/8 inches
 - 3. Composition: Mineral
 - 4. Light Reflectance: 83 percent
 - 5. NRC Average: .55
 - 6. CAC (Ceiling Attenuation Class) : minimum 33.
 - 7. Flame Spread 0-25 ASTM E84
 - 8. Edge: Square
 - 9. Surface Color: White
 - 10. Surface Finish: Perforated Non Directional Pattern
 - 11. Sag Resistant.

2.07 MAINTENANCE STOCK

- A. Furnish full size units matching the units installed packaged with protective covering for storage, and identified with appropriate labels. Furnish **one percent** of the amount installed.

2.08 VINYL FACED GYPSUM BOARD PANEL-

- A. Type: Provide panels which are approved for kitchen use by USDA.
- B. Pattern: Panel characteristics as follows:
 - 1. Color/Light Reflectance Coefficient: White/LR 0.80.
 - 2. Edge Detail: Square
 - 3. Size: 24 inches by 24 inches by 1/2 inch.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Verify that existing conditions are ready to receive work.
- B. Verify that layout of hangers will not interfere with other work.
- C. Beginning of installation means acceptance of existing conditions.

3.02 INSTALLATION

- A. Install system in accordance with ASTM C636 manufacturer's instructions and as supplemented in this Section.
- B. Install system capable of supporting imposed loads to a deflection of 1/360 maximum.
- C. Install after major above ceiling work is complete. Coordinate the location of hangers with other work.
- D. Supply hangers or inserts for installation to Section with instructions for their correct placement. If metal deck is not supplied with hanger tabs, coordinate the installation of hanger clips during steel deck erection. Provide additional hangers and inserts as required.
- E. Hang system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.
- F. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.
- G. **Center system on room axis leaving equal border units according to reflected plan. Do not use less-than-half width units at borders. Where layouts will not allow less-than-half units, use 2 x 4 feet units and cut units as required.**
- H. Do not eccentrically load system, or produce rotation of runners.
- I. Install edge molding at intersection of ceiling and vertical surfaces, using longest practical lengths. Miter corners. provide edge moldings at junctions with other interruptions. Field rabbett tile edge. Where round obstructions occur, provide preformed closers to match edge molding.
- J. Form expansion joints as detailed. Form to accommodate plus or minus one inch movement. Maintain visual closure.
- K. Fit acoustic units in place, free from damaged edges or other defects detrimental to appearance and function.
- L. Install acoustic units level, in uniform plane, and free from twist, warp and dents.
- M. Install hold-down clips to retain panels tight to grid system where shown on plans.

N. Furnish four hangers, one at each corner of each light fixture.

3.03 TOLERANCES

A. Variation from Flat and Level Surface: 1/8 inch in 10 feet.

B. Variation from Plumb of Grid Members Caused by Eccentric Loads: Two degrees maximum.

C. Laser - level all ceilings.

END OF SECTION

SECTION 09650
RESILIENT FLOORING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 -Specification sections, apply to work of this Section.
- B. Grinding and floating existing uneven slabs to receive finished flooring with no more than 1/8" in 10' out of level. Grinding of this slab and infill may be required to provide the necessary level finish. *There will be no extra processed for either patching or grinding of topping or for floor floating to level existing or new floors.*
- C. Where new flooring is called for in existing areas, the existing finish floor shall be removed down to concrete slab prior to application.

1.02 DESCRIPTION OF WORK

- A. Extent of resilient flooring and accessories is shown on Drawings and in schedules.

1.03 QUALITY ASSURANCE

- A. Manufacturer: Provide each type of resilient flooring and accessories as produced by a single manufacturer, including recommended primers, adhesives, and sealants.
- B. No materials shall contain asbestos.

1.04 SUBMITTALS

- A. Submit shop drawings and product data under provision of Section 01300.
- B. Product Data: Submit two copies of manufacturer's technical data and installation instructions for each type of resilient flooring and accessory.
- C. Samples: Submit three sets of samples of each type, color, and finish of resilient flooring and accessory required, indicating full range of color and pattern variation. Provide full-size tile units, 12 inches square samples of sheet flooring, and 6 inches long samples of accessories.
- D. Maintenance Instructions: Submit two copies of manufacturer's recommended maintenance practices for each type of resilient flooring and accessory required.

1.05 JOB CONDITIONS:

- A. Maintain minimum temperature of 65 degrees F in spaces to receive resilient flooring for at least 40 hours prior to installation, during installation, and for not less than 48 hours after installation. Subsequently, maintain minimum temperature of 55 degrees F in areas where work is completed.
- B. Install resilient flooring and accessories after other finishing operations, including painting, have been completed. Moisture content of concrete slabs and environmental conditions must be within limits recommended by manufacturer of products being installed.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS - VINYL FLOOR AND BASE- **(RE:SEE INTERIOR FINISH SCHEDULE & FINISH PLAN.)**

- A. Vinyl Tile - (As required to match existing due to demolition and new areas as scheduled.) Contractor shall supply all necessary materials other than the tile for a complete installation.
 - 1. **SEE INTERIOR FINISH SCHEDULE & FINISH PLAN.**
 - 2. Color - As selected by Architect.
- B. Sheet Vinyl Flooring & Base -
 - 1. **SEE INTERIOR FINISH SCHEDULE & FINISH PLAN.**
 - 2. Seams: **Heat Welded. (Weld color coordinated with flooring.)**
 - 3. Base: **6" Cove Base (with metal "Flash Cove"reinforced back-up plate) welded integral with floor.**
 - 4. Provide in multiple colors and patterns as selected by Architect.
- C. Resilient Base - (As required to match existing due to demolition and new areas as scheduled.) Contractor shall supply all necessary materials other than the tile for a complete installation.
 - 1. **SEE INTERIOR FINISH SCHEDULE & FINISH PLAN.**
 - 2. **Finish /Color as selected by Architect.**
 - 3. Lengths : Seamless , 120 foot rolls. (Use pre formed outside corners.)
- D. Luxury Vinyl Tile - Contractor shall supply all necessary materials other than the tile for a complete installation.
 - 1. **SEE INTERIOR FINISH SCHEDULE & FINISH PLAN..**

2.02 MATERIALS

- A. Colors and Patterns: As shown or scheduled.
- B. Vinyl Tile:
 - 1. In addition to that required for installation, provide for Owner's use one carton of each color and pattern used. (Four cartons)
- C. Adhesives: Waterproof, stabilized type as recommended by flooring manufacturer to suit material and substrate conditions.
- D. Concrete Slab Primer: Non-staining type as recommended by flooring manufacturer.
- E. Leveling Compound if required to level slab.
 - 1. Mapai Novaplan or M20
 - 2. Dura-Cap or Level-Right Plus by Maxxon Corporation

2.03 MAINTENANCE STOCK

- A. At time of completing the installation, deliver stock of maintenance material to the Owner. Furnish full size units matching the units installed, packaged with protective covering for storage, and identified with appropriate labels. Furnish an amount equal to 1 percent of each type tile installed.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Installer must examine areas and conditions under which resilient flooring and accessories are to be installed and must notify Contractor in writing of conditions detrimental to proper and timely completion of work. Do not proceed with work until unsatisfactory conditions have been corrected in manner acceptable to Installer.
- B. Where new flooring is called for in existing areas, the existing finish floor shall be removed down to concrete slab prior to application.
- C. Clear away debris and scrape up cementitious deposits from surfaces to receive carpeting; vacuum clean immediately before installation. Check concrete surfaces to ensure no "dusting" through installed carpet; apply sealer where required to prevent dusting.
- D. Sequence flooring with other work so as to minimize possibility of damage and soiling of carpet during remainder of construction period

3.02 PREPARATION

- A. Broom Clean or vacuum surfaces to be covered, and inspect subfloor. Start of flooring installation indicates acceptance of subfloor conditions and full responsibility for completed work.
- B. Use leveling compound as recommended by flooring manufacturer for filling small cracks and depressions in subfloors. Contractor shall be required to provide all leveling as may be required due to the removal of existing finish floor materials. If the removal process removes existing leveling compounds, contractor shall replace accordingly or as may be required for proper, level installation.
- C. Perform moisture tests on concrete slabs to determine that concrete surfaces are sufficiently cured and ready to receive flooring. **Test shall be documented in writing and approved by Manufacturer's Representative prior to flooring installation. This contractor is responsible for applying a penetrating moisture blocker if required to accommodate flooring specifications for moisture content. If not used the credit for this moisture blocker will be returned to the owner. Product shall be compatible with concrete, it's admixtures and the floor tile adhesive.**
- D. Apply concrete slab primer, if recommended by flooring manufacturer prior to application of adhesive. Apply in compliance with manufacturer's directions.
- E. Correct alignment of partitions as required for proper transition from floor to base.
- F. Substrates must be dry, clean, smooth, and free from paint, varnish, wax, oils, solvents and other foreign matter.

In renovation or remodel work, remove any existing adhesive residue* so that 100% of the overall area of the original substrate is exposed.

Allow all flooring materials and adhesives to condition to the room temperature a minimum of 48 hours before starting the installation.

The area to receive resilient flooring should be maintained at a minimum of 65° F (18° C) and a maximum of 100° F (38° C) for 48 hours before, during and for 48 hours after completion.

3.03 INSTALLATION

- A. General: Place flooring with adhesive cement in strict compliance with manufacturer's recommendations. Butt tightly to vertical surfaces, thresholds, nosings, and edgings. Scribe around obstructions to produce neat joints, laid tight, even, and straight. Extend flooring into toe spaces, door reveals, and into closets and similar openings.
- B. Tile Floors:
 - 1. Lay tile from center marks established with principal walls, discounting minor offsets, so that tile at opposite edges of room are of equal width. Adjust as necessary to avoid use of cut widths less than 1/2 tile at room perimeters. Lay tile square to room axis, unless otherwise shown.
 - 2. Match tiles for color and pattern by using tile from cartons in same sequence as manufactured and packaged. Cut tile neatly around all fixtures. Broken, cracked, chipped, or deformed tiles are not acceptable.
 - 3. Lay tile in "checkerboard" fashion with grain reversed in adjacent tiles. Where existing floors require new tile because of work under this contract, remove existing tile to nearest full unit and begin installation of new, which shall match existing.
- C. Apply resilient base to walls, columns, pilasters, casework and other permanent fixtures in rooms or areas where base is required. Install base in lengths as long as practicable, with preformed corner units, or fabricated from base materials with mitered or coped inside corners. Tightly bond base to backing throughout length of each piece, with continuous contact at horizontal and vertical surfaces.
- D. Place resilient edge strips tightly butted to flooring and secure with adhesive. Install edging strips at edges of flooring which would otherwise be exposed.
- E. Place transition edge strips tightly butted to flooring and secure with adhesive. Install edging strips at edges of flooring which would otherwise be exposed. All flooring transitions shall be centered under the door in the closed position.

3.04 SHEET VINYL FLOORS

- A.. Lay and weld in strict accordance to manufacturer's printed instructions and recommendations.

3.05 FITTING

Unroll material and lay flat to allow the roll curl to relax before fitting. The lines on the back of Timberline, Translations, Perspectives, Safeguard, Safeguard Design and Safeguard Hydro represent trademark edges.

Material must be adhered within 4 hours of cutting and fitting.

Before installing the material, plan the layout so seams fall at least 6" away from subfloor/underlayment joints. Do not install over expansion joints.

When installing over an existing resilient floor, plan the layout so the new seams do not coincide with seams or joints of the existing installation.

Recommended fitting procedures include freehand knifing, straight scribing or pattern scribing

3.06 CLEANING AND PROTECTION

- A. Remove any excess adhesive or other surface blemishes, using neutral type cleaners as recommended by flooring manufacturer. Protect installed flooring with heavy Kraft paper or other covering.
 - 1. Finishing: After completion of project and just prior to final inspection of work, thoroughly clean floors and accessories. Apply polish and buff with type of polish, number of coats, and buffing procedures in compliance with flooring manufacturer's instructions.

END OF SECTION

SECTION 09680
CARPETING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 - 16 Specification sections apply to work of this Section.

1.02 DESCRIPTION OF WORK:

- A. The extent of carpeting is indicated on the Drawings, and by Specifications, and is defined to include carpet and accessories.

1.03 QUALITY ASSURANCE

- A. Manufacturer: Firm (carpet mill) whose published product literature clearly indicates compliance with requirements of this Section.
- B. General Standard: "Carpet Specifier's Handbook" by the Carpet and Rug Institute; comply with recommendations which can be reasonably applied to types of carpeting work required.
- C. Maintenance Materials: Deliver specified overrun (if any) and usable scraps of carpet to Owner's designated storage space, properly packaged (paper wrapped) and identified. Usable scraps are defined to include roll ends of less than 9'-0" length, and pieces or more than 3 sq ft area and more than 8 inches wide. Dispose of smaller pieces.

1.04 SUBMITTALS

- A. Samples, Carpeting: Submit 18 x 17 inch samples of each carpet required, and 6 inches lengths of exposed edge stripping, and other accessories.
- B. Shop Drawings: Submit plans of all areas to receive carpet, showing location of seams and accessories and direction of roll under provisions of Section 01300.

1.05 PRODUCT DELIVERY AND STORAGE

- A. Deliver carpeting materials in protective wrapping, and store inside, protected from weather, moisture and soiling.

PART 2 - PRODUCTS

2.01 CARPET ACCESSORIES

- A. Carpet Edge Guard, nonmetallic: Extruded or molded vinyl or rubber carpet edge guard of size and profile indicated; colors selected by Architect/Engineer from among standard colors available within the industry (any manufacturer).
- B. Installation Adhesive: Water-resistant type as recommended by carpet or cushion manufacturer, and which complies with flammability requirements for installed carpet.

- C. Seaming Cement: Hot-melt seaming adhesive or similar product recommended by carpet manufacturer, for taping seams and buttering cut edges at backing to form secure seams and prevent pile loss at seams.
- D. Miscellaneous Materials: As recommended by manufacturers of carpet, cushions and other carpeting products; and selected by installer to meet project circumstance and requirements.
- E. Maintenance Materials: Carpeting - deliver usable scraps of carpets to Owner's designated storage space, properly packaged and identified. Usable scraps are defined to include roll ends of less than 9'-0" length, and pieces of more than 3 sq ft of area and more than 8 inches wide. Dispose of smaller pieces.

2.02 MATERIAL

- A. **SEE INTERIOR FINISH SCHEDULE & FINISH PLAN..**

PART 3 - EXECUTION

3.01 PRE-INSTALLATION REQUIREMENTS

- A. Installer must examine substrates for moisture content and other conditions under which carpeting is to be installed, and notify Contractor in writing of conditions detrimental to proper completion of the work. Do not proceed until unsatisfactory conditions have been corrected.
- B. Clear away debris and scrape up cementitious deposits from surfaces to receive carpeting; vacuum clean immediately before installation. Check concrete surfaces to ensure no "dusting" through installed carpet; apply sealer where required to prevent dusting.
- C. Sequence carpeting with other work so as to minimize possibility of damage and soiling of carpet during remainder of construction period.

3.02 INSTALLATION

- A. General: Comply with manufacturer's instructions and recommendations for seam locations and direction of carpet; maintain uniformity of direction and lay of pile. At doors, center seams under doors; do not place seams in traffic direction at doorways. No tee seams will be allowed unless absolutely necessary.
 - 1. Extend carpet under open-bottomed obstructions and under removable flanges and furnishings, and into alcoves and closets of each space.
 - 2. Provide cut-outs where required, and bind cut edges properly where not concealed by protective edge guards or overlapping flanges.
 - 3. Install carpet edge guard where edge of carpet is exposed; anchor guards to substrate.
 - 4. Expansion Joints: Do not bridge building expansion joints with continuous carpeting, provide for movement.
- B. Glue-Down Installation:
 - 1. Fit sections of carpet into each space prior to application of adhesive. Trim edges and butter cuts with seaming cement.
 - 2. Apply adhesive uniformly to substrate in accordance with manufacturer's instructions. Butt carpet edges tightly together to form seams without gaps. Roll lightly to eliminate air pockets and ensure uniform bond. Remove adhesive promptly from face of carpet.

3.03 CLEANING AND PROTECTION

- A. Remove debris, sorting pieces to be saved from scraps to be disposed of.

- B. Vacuum carpet using commercial machine with face-beater element. Remove spots and replace carpet where spots cannot be removed.
- C. Advise Contractor of protection methods and materials needed to ensure that carpeting will be without deterioration or damage at time of substantial completion.

END OF SECTION

SECTION 09900
PAINTS AND COATINGS

1PART GENERAL

1.1 SUMMARY

- A. Section includes surface preparation and field application of paints, stains, varnishes, and other coatings.
- B. The work includes painting and finishing of interior and exterior exposed items and surfaces throughout project, except as otherwise indicated.
- C. **SEE INTERIOR FINISH SCHEDULE & FINISH PLAN.**

1.2 DESCRIPTION OF WORK

- A. The work includes painting and finishing of interior and exterior exposed items and surfaces throughout project, except as otherwise indicated.
- B. Surface preparation, priming and coats of paint specified are in addition to shop-priming and surface treatment specified under other sections of work.
- C. The work includes field painting of covered pipes and ducts (including color coding), and of hangers, including field cleaning and touch up, exposed steel and iron work, and primed metal surfaces of equipment installed under mechanical and electrical work, except as otherwise indicated.
- D. "Paint" as used herein means all coating systems materials, including primers, emulsions, enamels, stains, sealers and fillers, and other applied materials whether used as prime, intermediate or finish coats.
- E. Shop Priming: Unless otherwise specified, shop priming of ferrous metal items is included under various sections for structural steel, miscellaneous metal, hollow metal work, and similar items. Also, for factory-built mechanical and electrical equipment and accessories.
- F. Pre-Finished Items: Unless otherwise indicated, do not include painting when factory-finishing or installer finishing is specified for such items as (but not limited to) metal toilet enclosures, acoustic materials, finished mechanical and electrical equipment including light fixtures, switchgear and distribution cabinets, doors and equipment.
- G. Concealed Surfaces: Unless otherwise indicated, painting is not required on surfaces such as walls or ceilings in concealed areas and generally inaccessible areas, furred areas, pipe spaces, and duct shafts.
- H. Finished Metal Surfaces: Metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze and similar finished materials will not require finish painting, unless otherwise indicated.
- I. Operating Parts and Labels: Moving parts of operating units, mechanical and electrical parts, such as valve and damper operators, linkages, sinkages, sensing devices, motor and fan shafts will not require finish painting, unless otherwise indicated.
- J. Do not paint over any code-required labels, such as Underwriters' Laboratories" and Factory Mutual, or any equipment identification, performance rating, name, or nomenclature plates.

- K. **Marking of Fire and or Smoke Rated Partitions:** Mark all Fire or Smoke Rated partitions with the appropriate wording such as "1 HOUR FIRE PARTITION". Letters shall be 3 inches high and all upper case. All letters shall be painted in RED. Wording shall be spaced on each wall sections at a minimum of 10 feet on center horizontally located above finished ceilings. (Verify in field with architect.)

1.3 REFERENCES

- A. ASTM International:
1. ASTM D16 - Standard Terminology Relating to Paint, Varnish, Lacquer, and Related Products.
 2. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials.
 3. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- B. National Fire Protection Association:
4. NFPA 255 - Standard Method of Test of Surface Burning Characteristics of Building Materials.
- D. Painting and Decorating Contractors of America:
1. PDCA - Architectural Painting Specification Manual.
- E. SSPC: The Society for Protective Coatings:
1. SSPC - Steel Structures Painting Manual.
- F. Underwriters Laboratories Inc.:
1. UL 723 - Tests for Surface Burning Characteristics of Building Materials.

1.2 DEFINITIONS

- A. Conform to ASTM D16 for interpretation of terms used in this section.

1.3 SUBMITTALS

- A. Section 01300 - Submittal Procedures:
- B. Product Data: Submit data on finishing products.
- C. Samples:
1. Submit two paper chip samples, 2x3 inch in size illustrating range of colors and textures available for each surface finishing product scheduled.
 2. Submit two painted samples, illustrating selected colors and textures for each color and system selected with specified coats cascaded. Submit on tempered hardboard, 12x 12 inch in size.
- D. Manufacturer's Installation Instructions: Submit special surface preparation procedures and substrate conditions requiring special attention.

1.4 CLOSEOUT SUBMITTALS

- A. Section 01700 - Execution Requirements: Closeout procedures.
- B. Operation and Maintenance Data: Submit data on cleaning, touch-up, and repair of painted and coated surfaces.

1.5 QUALITY ASSURANCE

- A. Surface Burning Characteristics:
 - 1. Fire Retardant Finishes: Maximum 25/450 flame spread/smoke developed index when tested in accordance with ASTM E84 NFPA 255 UL 723.

1.6 MOCKUP

- A. Section 01400 - Quality Requirements: Mock-up requirements.
- B. Construct mockup panel, 10 feet long by 8 feet high, illustrating coating color, texture, and finish.
- C. Construct door and frame assembly illustrating paint and/or stain and varnish coating color, texture, and finish.
- D. Locate where directed by Architect/Engineer.
- E. Incorporate accepted mockup as part of Work.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Section 01600 - Product Requirements: Product storage and handling requirements.
- B. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- C. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- D. Paint Materials: Store at minimum ambient temperature of 45 degrees F and maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.8 ENVIRONMENTAL REQUIREMENTS

- A. Section 01600 - Product Requirements.
- B. Do not apply materials when surface and ambient temperatures are outside temperature ranges required by paint product manufacturer.
- C. Do not apply exterior coatings during rain or snow when relative humidity is outside humidity ranges, or moisture content of surfaces exceed those required by paint product manufacturer.
- D. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.
- E. Minimum Application Temperature for Varnish Finishes: 65 degrees F for interior or exterior, unless required otherwise by manufacturer's instructions.
- F. Provide lighting level of 80 ft candle measured mid-height at substrate surface.

1.9 SEQUENCING

- A. Section 01005 - Administrative Provisions- Work sequence.
- B. Sequence application to the following:
 - 1. Do not apply finish coats until paintable sealant is applied.
 - 2. Back prime wood trim before installation of trim.

1.10 WARRANTY

- A. Section 01700 - Execution Requirements: Product warranties and product bonds.
- B. Furnish five year manufacturer warranty for paints and coatings.

1.11 EXTRA MATERIALS

- A. Section 01700 - Execution Requirements: Spare parts and maintenance products.
- B. Supply 1 gallons of each color, type, and surface texture; store where directed.
- C. Label each container with color, type, texture, room locations, and in addition to manufacturer's label.

2PART PRODUCTS

2.1 PAINTS AND COATINGS

- A. Manufacturers: Paint Transparent Finishes Stain Primer Sealers Block Filler Field Catalyzed Coatings.
 - 1. Benjamin Moore & Co.
 - 2. ICI
 - 3. Sherwin Williams
 - 4. Coronado
 - 5. Devoe
- B. Manufacturers: Paint System over Concrete (Columns, Beams, etc).
 - 1. Tnemec
 - 2. Substitutions : As provided by Instrucitons to Bidders and/or Section 01600.

2.2 COMPONENTS

- A. Coatings: Ready mixed, except field catalyzed coatings. Prepare coatings:
 - 1. To soft paste consistency, capable of being readily and uniformly dispersed to homogeneous coating.
 - 2. For good flow and brushing properties.
 - 3. Capable of drying or curing free of streaks or sags.
- B. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve finishes specified; commercial quality.
- C. Patching Materials: Latex filler.
- D. Fastener Head Cover Materials: Latex filler.

3PART EXECUTION

3.1 EXAMINATION

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Verify surfaces substrate conditions are ready to receive Work as instructed by product manufacturer.
- C. Examine surfaces scheduled to be finished prior to commencement of work. Report conditions capable of affecting proper application.

- D. Test shop applied primer for compatibility with subsequent cover materials.
- E. Measure moisture content of surfaces using electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 - 1. Plaster and Gypsum Wallboard: 12 percent.
 - 2. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.
 - 3. Interior Wood: 15 percent, measured in accordance with ASTM D4442.
 - 4. Exterior Wood: 15 percent, measured in accordance with ASTM D4442.
 - 5. Concrete Floors: 8 percent.

3.2 PREPARATION

- A. Surface Appurtenances: Remove or mask electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.
- B. Surfaces: Correct defects and clean surfaces capable of affecting work of this section. Remove or repair existing coatings exhibiting surface defects.
- C. Marks: Seal with shellac those which may bleed through surface finishes.
- D. Impervious Surfaces: Remove mildew by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- E. Aluminum Surfaces Scheduled for Paint Finish: Remove surface contamination by steam or high pressure water. Remove oxidation with acid etch and solvent washing. Apply etching primer immediately following cleaning.
- F. Asphalt, Creosote, or Bituminous Surfaces Scheduled for Paint Finish: Remove foreign particles to permit adhesion of finishing materials. Apply latex based compatible sealer or primer.
- G. Insulated Coverings: Remove dirt, grease, and oil from canvas and cotton.
- H. Concrete Floors: Remove contamination, acid etch, and rinse floors with clear water. Verify required acid-alkali balance is achieved. Allow to dry.
- I. Copper Surfaces Scheduled for Paint Finish: Remove contamination by steam, high pressure water, or solvent washing. Apply vinyl etch primer immediately following cleaning.
- J. Copper Surfaces Scheduled for Natural Oxidized Finish: Remove contamination by applying oxidizing solution of copper acetate and ammonium chloride in acetic acid. Rub on repeatedly for required effect. Once attained, rinse surfaces with clear water and allow to dry.
- K. Gypsum Board Surfaces: Fill minor defects with filler compound. Spot prime defects after repair.
- L. Galvanized Surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.
- M. Concrete and Unit Masonry Surfaces Scheduled to Receive Paint Finish: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.

- N. Plaster Surfaces: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.
- O. Uncoated Steel and Iron Surfaces: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by hand power tool wire brushing or sandblasting; clean by washing with solvent. Apply treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Spot prime paint after repairs.
- P. Shop Primed Steel Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Prime metal items including shop primed items.
- Q. Interior Wood Items Scheduled to Receive Paint Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats.
- R. Interior Wood Items Scheduled to Receive Transparent Finish: Wipe off dust and grit prior to sealing, seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after sealer has dried; sand lightly between coats.
- S. Exterior Wood Scheduled to Receive Paint Finish: Remove dust, grit, and foreign matter. Seal knots, pitch streaks, and sappy sections. Fill nail holes with tinted exterior paintable caulking compound after prime coat has been applied.
- T. Exterior Wood Scheduled to Receive Transparent Finish: Remove dust, grit, and foreign matter; seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes with tinted exterior caulking compound after sealer has been applied.
- U. Glue-Laminated Beams: Prior to finishing, wash surfaces with solvent, remove grease and dirt.
- V. Wood Doors Scheduled for Painting: Seal wood door top and bottom edge surfaces with clear sealer. tinted primer.
- W. Metal Doors Scheduled for Painting: Prime metal door top and bottom edge surfaces.

3.3 APPLICATION

- A. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- B. Apply each coat to uniform appearance. Apply each coat of paint slightly darker than preceding coat unless specified otherwise.
- C. Sand wood and metal surfaces lightly between coats to achieve required finish.
- D. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
- E. Where clear finishes are required, tint fillers to match wood. Work fillers into grain before set. Wipe excess from surface.
- F. Prime concealed surfaces of interior and exterior woodwork with primer paint.
- G. Prime concealed surfaces of interior wood surfaces scheduled to receive stain or varnish finish with gloss varnish reduced 25 percent with thinner.

- H. Finishing Mechanical And Electrical Equipment:
1. Refer to Divisions 15000 and 16000 for schedule of color coding and identification banding of equipment, duct work, piping, and conduit – *required for exposed ductwork, piping and conduit only per value engineering revisions.*
 2. Paint shop primed equipment. Paint shop finished items occurring at interior areas.
 3. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.
 4. Prime and paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, and except where items are shop finished.
 5. Paint interior surfaces of air ducts and convector and baseboard heating cabinets visible through grilles and louvers with one coat of flat black paint to visible surfaces. Paint dampers exposed behind louvers, grilles, and convector and baseboard cabinets to match face panels.
 6. Paint exposed conduit and electrical equipment occurring in finished areas.
 7. Paint both sides and edges of plywood backboards for electrical and telephone equipment before installing equipment.
 8. Color code equipment, piping, conduit, and exposed duct work in accordance with requirements indicated. color schedule. Color band and identify with flow arrows, names, and numbering.
 9. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.4 FIELD QUALITY CONTROL

- A. Section 01400 - Quality Requirements 01700 - Execution Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Inspect and test questionable coated areas in accordance with.

3.5 CLEANING

- A. Section 01700 - Execution Requirements: Final cleaning.
- B. Collect waste material which may constitute fire hazard, place in closed metal containers, and remove daily from site.

3.6 SCHEDULE - SHOP PRIMED ITEMS FOR SITE FINISHING

- A. Metal Fabrications (Section 05500): Exposed surfaces of stair framing, lintels, bollards, etc.
- B. Metal Stairs (Section 05510): Exposed surfaces of stringers, exposed vertical risers.

3.7 SCHEDULE - EXTERIOR SURFACES

- A. Pavement Markings:
1. Two coats of traffic paint, yellow or white as selected by Architect.
- B. Steel - Unprimed:
1. One coat of alkyd primer.
 2. Two coats of alkyd enamel, gloss.
 3. For railings and bollards use high performance coating system:
 - a. *Epoxy Primer apply at 4 to 6 mil thickness - Carboline 893 2-component Cross linked epoxy or Tnemec Series 27F.*
 - b. *Typoxy Polyamid Epoxy: 2 Top Coats Aliphatic polyurethane enamel applied at minimum of 2 mils DFT(dry film thickness) per coat - Carboline 133 HB Aliphatic Polyurethane or Tnemec Series 1075 Endura-Shield 3-5.*

- C. Steel - Shop Primed:
 - 1. Touch-up with zinc chromate primer.
 - 2. Two coats of alkyd enamel, gloss.
- D. Steel - Galvanized:
 - 1. One coat galvanize primer.
 - 2. Two coats of alkyd enamel, gloss.

3.8 SCHEDULE - INTERIOR SURFACES

- A. Wood - Painted:
 - 1. One coat of latex prime-sealer.
 - 2. Two coats of alkyd enamel, semi-gloss.
- B. Wood - Transparent:
 - 1. Filler coat (for open grained wood only).
 - 2. Two coats of stain.
 - 3. One coat sealer.
 - 4. Two coats of varnish satin.
- C. Cabinet Interior:
 - 1. One coat of latex prime sealer.
 - 2. One coat of alkyd enamel, semi-gloss.
- D. Steel - Unprimed:
 - 1. One coat of alkyd primer.
 - 2. Two coats of alkyd enamel, semi-gloss.
- E. Steel - Primed:
 - 1. Touch-up with alkyd primer.
 - 2. Two coats of alkyd enamel, semi-gloss.
- F. Steel - Galvanized:
 - 1. One coat galvanize primer.
 - 2. Two coats of alkyd semi-gloss.
- G. Concrete Floors:
 - 1. Verify compatibility with waterproofing installed with concrete. If required acid etch surface to receive epoxy coating.
 - 2. Two coats waterborne epoxy (BM Super Spec HP).
- H. Gypsum Board: All surfaces unless noted otherwise.
 - 1. One coat of latex primer sealer.
 - 2. Two coats of latex eggshell.
- I. Gypsum Board in all **wet areas** including Toilet Rooms, Housekeeping Rooms, Janitors Closets, Kitchens, Lounges, and Locker Rooms: (3 coats with total dry film thickness not less than 2.5 mils.)
 - 1. One coat of latex primer sealer.
 - 2. Two coats of odorless alkyd enamel, semi-gloss.
- J. Wall Surfaces Under Vinyl Wall Covering:
 - 1. One coat of alkyd primer sealer.

END OF SECTION