SECTION 09260
GYPSUM WALLBOARD SYSTEM

PART 1 - GENERAL

1.01 DESCRIPTION

A. Gypsum drywall on studs and metal systems.

B. Interior metal stud systems, entirely.

C. Install access panels and doors provided by various trades.

D. Provide and install all metal and wood backing materials required for installation of all fixtures, cabinets, etc., to gypsum drywall partitions. Wood blocking is specified under Section 06100 of this specification.

E. Related Work Specified Elsewhere:
1. Rough Carpentry: Section 06100
2. Cabinet Work: Section 06410
3. Sealants and Caulking: Section 07951
4. Metal Doors and Frames: Section 08100
5. Wood Doors: Section 08211
7. Painting: Section 09900
8. General Provisions, Mechanical: Section 15010
9. General Provisions, Electrical: Section 16010

1.02 QUALITY ASSURANCE

A. All material shall meet referenced Federal Specification and ASTM Standards.

B. Work provided under this section shall comply with all recommendations of Recommended Specifications for the application and Finishing of Gypsum Wallboard, Standard GA 216-75 of the Gypsum Association.

C. Fire Rating: rated systems shall be installed in strict accordance with printed manufacturer's directions as approved by the rating bureau for time design shown.

1.03 SUBMITTALS

A. Submit samples of the following materials to Architect for approval. Approval must be obtained prior to fabrication or installation.
1. Wall studs and mounting or supporting accessories.
2. Nails, screws.
3. Gypsum wallboard - all types

1.04 STORAGE AND HANDLING

A. Stock pile wallboard at project flat on floor in piles with care against loading beyond load limits of floor. Leave in original wrappings or containers until ready for actual use.

B. Protect wallboard from wetting.

PART 2 - PRODUCTS

2.01 MATERIAL

A. Gypsum wallboard panels (regular) Federal Specification Type III grade R, Class I, ASTM C-36 tapered edge.

B. Gypsum wallboard panels (fire rated) Federal Spec. Type III grade X, Class 3, ASTM C-36 tapered edge.

C. Gypsum wallboard panels (water-resistant) Federal Specification Type VII grade W or X, Class 2, ASTM C-630 tapered edge.

D. Joint compound, Federal Specification SS-W-570B Type I, ASTM C-475.

E. Reinforced tape, Federal Specification SS-J-570B, Type II ASTM C-475. I. Studs, runner and furring channels, Federal Specification QQ-S-698 or QQ-S-775E Type I, Class D, ASTM C-645 and ASTM A-525 25GA.

F. Metal corner bends and trim, Federal Specification QQ-S-775E, Class E, ASTM A-525.

G. Screws Type S, self drilling, ASTM C-646.

H. Adhesive-Type recommended by wallboard manufacturer.

I. Carrying channels shall be 1 1/2" cold rolled channels, 16 gauge, black asphaltum finish.

J. Hanger wire shall be 8 gauge, galvanized, annealed.

K. Furring channel clips shall be galvanized wire clips designed to be used with metal furring attached to 1 1/2" channel.

PART 3 - EXECUTION

3.01 INSPECTION

A. Examine and inspect all surfaces and supports to which gypsum

wallboard is to be applied. If, in the opinion of the drywall contractor any corrections should be made of defects to the base surface which will jeopardize a satisfactory finish wall, he shall bring this to the attention of the general contractor and Architect's field representative prior to any installation.

3.02 PREPARATION

A. Minimum temperature in space shall be 50 degree F. Preferable minimum is 70 degree F. B. Provide ventilation and heat required to remove excess moisture.

3.03 INSTALLATION

A. Install all metal studs and accessories according to wallboard manufacture's recommendation.
   1. All base and head plates or channel members shall be securely anchored in place, centered accurately in location called for on drawing, and positioned in true, straight line.
   2. Wall studs shall be anchored securely, properly braced where required, and erected plumb.
   3. Where studs extend above finished ceiling line install an additional cross member at ceiling line to provide support for the drywall to eliminate bowing between studs.

B. Wall Furring:
   1. Attach furring channel to masonry and concrete wall with concrete stub nails at 24" on centers and on edges of all openings.
   2. Attach horizontal members at finished ceiling line to support top of drywall between studs, shim as necessary to provide straight finished wall lines.

C. Ceiling Furring:
   1. Install carrying channels with hangers at 4'0" on centers.
   2. Secure furring channels with furring clips at 24" on centers and on edges at all openings.

D. All wallboard joints shall be butted loosely together. Butt ends shall not be placed against a tapered edge. Maximum allowance gap at end joints shall be 1/4".

E. Install in maximum practical lengths to span ceiling and walls without end (butt) joints. If butt joints do occur, stagger joints and locate as far as possible from center of ceilings or walls.

F. End joints shall be made between framing member. Float,

taper, and back-block end joints. Support all joints on framing members. Apply end joints compound to back of wallboard along end joints.

G. Joint layout at opening shall be made so that no end joint will align with edges of opening. Install control joints in walls at intervals not to exceed 30' and in ceilings not to exceed 50' in either direction.

H. Install metal trim to edges, and windows, securely fastened according to manufacturer's instructions.

I. Openings cut in wallboard to fit electrical outlets, plumbing, piping, etc., shall be cut to fit with a clearance of not more than 1/8" all around and shall be small enough to be covered by standard plates and escutcheons. L. Mix all adhesive and joint finishing compounds in strict accordance with manufacturer's directions. Mix only enough at one time to be used up during recommended pot life of compound.

J. Fasteners:
1. Install fasteners no closer than 3/8" to end or edge.
2. Space fasteners opposite each other on adjacent ends of edges.
3. Begin fastening from center of wallboard and proceed toward outer end or edges.
4. Apply pressure on wallboard adjacent to fasteners being driven to insure that wallboard will be secured tightly to framing member.
5. Drive fastener with shank reasonable perpendicular to face of board.

K. Screwing:
1. Drive screws with a power screw driver as recommended by wallboard manufacturer.
2. Surface of head shall be below surface of paper without cutting paper.

L. Single ply application to metal framing:
1. Apply single layer:
   a. Apply wallboard on walls vertically.
   b. No vertical joints shall occur with 8" of external corners of windows,doors, or other such openings except at control joints.
2. Application of screws:
   a. space screws at 12 inches on center; space nails at 8" o.c.
   b. Fasten board to framing members, both vertical and horizontal, with screws spaced at 12" o.c. maximum.

M. Joint Treatment:

1. Apply a uniformly thin layer of bedding compound over the joint approximately 4" wide. Center tape over joint and embed into compound.
2. Allow compound to dry thoroughly. For normal conditions this will be approximately 24 hours. Cover tape with as coat of topping and spread out 3" on each side of tape. Feather out at edge.
3. After preceding coat is thoroughly dry, apply another coat over joint. This coat must be smooth and with edges feathered out 3" beyond preceding coat.
4. Reinforce ceiling and wall angles and inside corner angles with type folded to angle and embedded into compound. Reinforce outside corner angles with metal corner beds. Apply at least one additional coat and feather out edges.
5. All screw heads and dimples shall receive at least three coats of compound . Apply as each coat is applied to joints, allowing at least 24 hours between each coat.
6. Flanges of corner bead and trim shall be concealed by at least 2 coats of compound. First layer shall be bedding compound. Apply along with respective coats of compound on joints. Feather out approximately 9 inches from metal bead.
7. Sand coats of compound when thoroughly dry, if sanding is needed. Avoid roughing surface of wallboard.
8. Leave wallboard and treated areas smooth and uniform and ready for decoration.

N. Moisture Resistant Wallboard:

1. Install as recommended by the manufacturer of the wallboard.
2. Use full sheets of board (no scraps) to eliminate butt joints.
3. Treat all joints and fastener heads as recommended by the wallboard manufacturer.
4. Install wallboard in tub areas horizontally with bound uncut edge next to tub. Spaced 1/4" above lip of tub.

O. Patching:

1. After trim has been applied and prior to decoration, correct all surface damage and defectors as required to level work smooth and without observable blemishes which will show through the decoration.
2. In drywall construction, treat joints and nail heads With joint system following manufacturer's instructions.Scratches or scuffs in drywall must be smoothed and spackled.

END OF SECTION

SECTION 09510
ACOUSTICAL CEILINGS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Acoustical tile ceilings.

B. Related Work Specified Elsewhere:
1. General Provisions, Mechanical: Section 15010
2. General Provisions, Electrical: Section 16010
3. Lighting: Section 16500

1.02 QUALITY ASSURANCE

A. Make installation with skilled workmen who are trained and experienced in the craft and methods needed for proper performance of the work.

1.03 JOB CONDITIONS

A. Installation may not begin until the building is enclosed, dry, and clean. Maintain space temperatures in range of 60 to 85 degrees F, with relative humidity not to exceed 80%.

1.03 SUBMITTALS

A. Submit samples and shop drawings in accordance with Section 01340.

PART 2 - PRODUCTS

2.01 ACOUSTICAL MATERIALS

A. Acoustical Tile: 2' x 4' (tegular edge) 5/8" non-combustible mineral fiber tile, similar to Armstrong Minatone; white color, meeting the following performance standards:
1. Non-combustible, flame spread less than 25 (ASTM E84)
2. Sound absorption NRC range .60 - .75 (ASTM C523)
3. Light reflectance minimum .75 (ASTM C523)

2.02 SUSPENSION SYSTEMS

A. Exposed grid system shall be steel Eastern Products, or U.S. Gypsum Company or Inland Steel Products conforming to intermediate or heavy classification of ASTM C635, designed to carry the loads imposed on it by the lighting fixtures. Baked enamel finish; color to be selected.

B. Hanger Wire: No. 12 galvanized and annealed wire.

C. Moldings: Metal angles finished baked enamel, sizes as required.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Install the system in strict accordance with the manufacturer's recommendations and recommendations of ASTM C636. Deflection of any component may not exceed 1/360 of the span.

B. Exposed grid systems: install wall moldings at intersection of suspended ceiling and all vertical surfaces. Miter corners or install corner caps.

C. Lighting fixtures, air diffusers and other similar equipment which attaches to or penetrates ceiling materials:
   1. Provide sufficient hanger wires to support the grid level to within 1/8 of an inch in twelve feet with devices installed.
   2. Coordinate with supplier and installer of devices, prior to delivery of materials.
   3. Provide necessary hanger wires for use by installation performed under section 16500 where the fixtures are surface mounted or for non-modular size fixtures.
   4. Cutting of tile to accommodate non-modular devices, including round or square lighting units, outlet boxes, diffusers, sprinklers, etc., shall be performed under This section.

END OF SECTION

SECTION 09800
SPECIAL COATINGS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Epoxy coating system

B. Related Work Specified Elsewhere:
1. Gypsum wallboard Systems: Section 09260
2. Toilet and Bath Accessories: Section 10800
3. General Provisions, Mechanical: Section 15010

1.02 QUALITY ASSURANCE

A. Furnish affidavit, in triplicate, certifying that materials used in the work conform to these specifications.

B. Materials shall meet all of the following requirements:
1. Bacterial inhibition
2. Class "A" fire rating listed in UL
3. Non-toxic
4. Soil resistant
5. Scrubbing resistance
6. Alkali resistance
7. Chemicals and stain resistance as tested according to NEMA-LD-1-2.05-64.

1.03 SUBMITTALS

A. Submit sample of all materials for Architects' approval in accordance with Section 01300.

1.04 PRODUCT DELIVERY

A. Materials shall be delivered in manufacturer's packages with labels and seals intact.

1.05 GUARANTEE

A. Provide warranty that any areas where coatings have failed within five (5) years from date of acceptance by the Architect will be re-coated at no expense to Owner. Failures from vandalism, abnormal structural movement, or other causes (except normal wear and maintenance) will not be considered coating failure.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Materials shall be converted epoxy coating system. Epoxy tile 8 as manufactured by Porter coating - Porter Paint Company, Cook Paint Company, Glidden, or PHK Products, Inc.

B. Colors shall be selected by the Architect from manufacturers standard colors.

PART 3 - EXECUTION

3.01 INSPECTION

A. Inspect all surfaces to receive work specified in this section, observe other job conditions; and do not begin or continue work unless al conditions are such that a good, even, complete and double coating will be produced.

3.02 PREPARATION

A. After first delivery of materials to the job, prepare a well lighted sample wall of the complete coating system and obtain approval of same from the Architect before proceeding with the rest of the work.

B. Protect all surfaces not required to be coated from materials used in the coating operation.

3.03 APPLICATION

A. Do not begin coating work until surfaces to be coated are dry, even, firm, sound, true to design shape, clean and free of defect, and materials which would adversely affect the quality of appearance of the finished coating.

B. Application shall be by means recommended, in conformance material manufacturer's printed directions.

C. Primer shall be used when and as recommended by the manufacturer.

D. The finish shall not be thinned in any manner.

E. Use masking tape and drip cloths in order to avoid getting materials being used on any surfaces which are not indicated to be coated. Inspect such other nearby surfaces at least four times per day during coating operations, and remove immediately any coating materials found thereon. Remove all coating materials from surfaces not required to be coated at any time and repair or replace such surfaces as may be damaged by the coating and its removal.

END OF SECTION

SECTION 09900
PAINTING

PART 1 - GENERAL

1.01 DESCRIPTION

A. Painting, finishing, and preparation for painting and finishing.

B. Related Work Specified Elsewhere:
1. Cast-In-Place Concrete: Section 03300
2. Unit Masonry: Section 04200
3. Metal Fabrications: Section 05500
4. Finish Carpentry: Section 06200
5. Flashing and Sheet Metal: Section 07600
6. Sealants and Caulking: Section 07951
7. Metal Doors: Section 08210
8. Wood Doors: Section 08211
9. General Provisions, Mechanical: Section 15010
10. General Provisions, Electrical: Section 16010

1.02 QUALITY ASSURANCE

A. All paint products shall meet or exceed quality of materials specified in Part 2.02.

1.03 SUBMITTALS

A. Submit paint manufacturer's printed information and specifications for each type of paint to be applied.

B. All colors shall be selected by the Architect. Submit color samples to Architect for approval before applying any paint or finish.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. All paints shall be ready mixed and shall be delivered to the job site in unopened containers bearing the manufacturer's label specifying his name and the quality, grade and description of the contents.

B. Store materials in a single place as approved by the Architect. Keep storage area neat and clean and make good any damage thereto or to surrounding areas. Remove oily rags, waste, etc. from buildings every night and take every precaution to avoid the danger of fire.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MATERIALS

A. The Painting Schedule of this Section is based, in general, on products by the Pittsburg Paint Company.

B. Equal products of Porter, Glidden, or other manufacturers approved in advance by the Architect, may be substituted in accordance with provisions of the contract.

2.02 MATERIAL TYPES

A. PPG Industries, Inc. product numbers shown (MFW= Minimum Wet Film thickness).
   1. Exterior Vinyl Masonry Paint - Cemethide 37 line, MWF 5.4 mils.
   2. Galvanized Metal Primer - 6-209, MWF 2.3 mils.
   3. Exterior Oil Paint - Speedhide 6 Line, MWF 3.6 mils.
   4. Metal Primer 6-205, MWF 4.6 mils.
   5. Interior Latex Primer Sealer - 6.7 (CMU)or 6-2 (Gyp.Bd), MWF 3.6 mils.
   6. Ferrous Metal Primer - 6-208, MWF 3.2 mils.
   7. Acrylic Latex - Manor Hall Latex Lo Luster 89 Line, MWF 3.9 mils.
   8. Latex Semi-Gloss Enamel - Speedhide Latex Interior Semi-gloss enamel 6 Line, MWF 3.6 mils.

PART 3 - EXECUTION

3.01 INSPECTION

A. Examine all surfaces to be painted and notify the Architect of any conditions which will adversely affect the satisfactory execution and permanency of the work, do not start work until such conditions have been corrected.

3.02 PREPARATION

A. The Contractor shall protect all other surfaces not included in the specific area being painted, including objects inside and outside of buildings, as well as sidewalks, drives, floors, etc., from damage or injury by employees, damage due to misapplication of paint products of due to other operations that may be performed by the Contractor.

B. In the event that switch and receptacle plates, hardware, toilet room accessories, escutcheons and other finished items are erected in their final positions before painting is started, they shall be removed and later replaced upon the completion of the painting by their erector. Apply no paint until these items have been removed.

C. Before applying any paint, thoroughly clean and prepare all

surfaces. Surface shall be free of any foreign material which will adversely affect adhesion or appearance of applied coating.

D. No greater area shall be cleaned at one time than can be coated with the required prime coat within the same day, except where drying time is required or adequate protection maintained.

E. Mildew shall be removed and neutralized by scrubbing affected areas thoroughly with a solution made by adding two (2) ounces of tri-sodium phosphate and eight (8) ounces of sodium hydrocloride (clorox) to one (1) gallon warm water. Use a scouring powder if necessary to remove mildew spores. Rinse with clear water and allow to dry thoroughly before painting.

F. Effervescence showing on any area scheduled to be painted shall be scrubbed off with a commercial lime solution or one (1) part commercial Muriatic acid to five (5) parts water and then rinse with clear water and allow surface to thoroughly dry before painting.

G. Steel Surfaces:
   1. Thoroughly clean all welds, abraded or otherwise defective areas in prime coats with power brushes removing defective or burned paint, etc., by washing with suitable degreasing solvent and wiping dry with a clean cloth or waste.

H. Galvanized Metal Surfaces:
   1. All galvanized surfaces which have not been previously treated for painting shall be thoroughly washed with thinner to remove any oily residue, grease, dirt, etc., then pretreated with proprietary acidbound resinous or crystalline zinc phosphate preparations, used according to the manufacturer's directions, prior to painting, unless manufacturer of primer use directs otherwise.

I. Non-Ferrous Metals
   1. No surface preparation nor paint finish shall be given to non-ferrous surfaces, such as stainless steel, aluminum chrome, copper, brass, etc. Care shall be taken to keep paint off such surfaces and, in the event of spatter or paint drip, remove promptly, clean and restore to original finish.

J. Masonry Surfaces:
   1. Thoroughly clean to remove all loose mortar, grease and other foreign deposits. Fill cracks, voids and rock pockets with mortar.

K. Veneer Plaster, Gypsum Plaster and Gypsum Wallboard:
   1. Fill all minor irregularities with spackling compound and sand to a smooth level surface.

L. Concrete and Stucco: (except areas receiving Elastomeric Finish)
   1. Patch large openings and holes with Portland cement mortar and finish flush with adjacent surface. After priming, fill any remaining small holes with swedish putty made by mixing dry whiting with prime coat of paint.
   2. Remove form-oil from poured-in-place concrete by washing concrete with xylol, or as required for complete removal.
   3. No painting shall be done until surfaces are tested by moisture meter and shown to be within the acceptable limits of th specified manufacturer and safe to paint, or below 15%.

M. Wood:
   1. Remove splinters and rough spots, fill voids and nail holes and sand as required.

3.03 PERFORMANCE

A. All paint shall be applied by skilled, experienced mechanics under competent and constant supervision.

B. The application of paint to all surfaces included in this specification shall be accomplished with quality brushes, even, without runs, sags, defective brushing, clogging, laps or other blemishes. spray application may be used when approved by Architect. Roller painting will be permitted on drywall only.

C. All priming coats and undercoats shall be tinted to approximate shade of the final coats, but each coat of pint shall have a distinct difference in color to distinguish it from the preceeding coat.

D. Each coat of paint must be inspected and approved by the Architect before application of succeeding coat, otherwise no credit for coat applied will be given and the Contractor shall recoat the work in question. Ample notification shall be given the Architect when a particular coat is ready for inspection.

E. All coats, regardless of materials used, shall be completely dry before applying succeeding coats.

F. Paint all surfaces and edges, including top and bottom of all doors, whether wood or metal.

G. Do no exterior painting or finishing when surfaces are wet or damp during rainy weather. Do no painting or finishing when the surrounding temperature is below 50 degrees F.

H. Coverage shall be complete. When color stain, dirt or undercoats show through final coat of paint, the surface shall be covered by additional coats until the paint film is of uniform finish, color, appearance and coverage at no additional cost to owner.

I. The Contractor shall provide and maintain approved type mechanical rotating mixers of adequate size to thoroughly mix the quantities of paint required for this work.

3.04 PROCEDURES FOR MECHANICAL AND ELECTRICAL SURFACES

A. Factory finished items: painting of factory finished items is not required. Under this Section, factory finished means exposed equipment which is specified to be furnished with a multi-stage factory finish. Examples are anodized aluminum grilles and diffusers, panel board doors and trim, chrome plated escutcheons and plumbing specialties, etc. Not included are items which are specified as "factory primed", these items are intended to receive at least two coats of field paint. Repair damaged or scratched factory finishes immediately.

B. Exposed items:
1. Paint conduits and surface raceways in finished interior spaces to match finished surfaces.
2. Paint visible duct surfaces behind vents, registers and grilles flat black.

C. Identification:
1. Paint mechanical piping in mechanical rooms, service yards and on roofs with a color code specified in Section 15047.
2. Identify Life Safety system junction and outlet boxes with red paint as specified in Section 16050.

3.05 SCHEDULE

A. The following schedule shall be constructed as the general guide for the complete painting and finishing of the building. See schedule on drawings for location:
1. TYPE A: Exterior steel not concealed in the construction, including structural items, hollow metal frames, mechanical equipment:

First coat	Ferrous Metal Primer
Second coat	Exterior oil paint
Third coat	Exterior oil paint

2. Type B: Exterior galvanized steel not concealed in the construction, including hollow metal doors frames, steel windows and frames, rain conducting items, mechanical equipment.

First Coat	Galvanized Metal Primer
Second Coat	Exterior Oil Paint
Third Coat	Exterior Oil Paint

3. Type C: Interior steel items, exposed to view, including structural items below ceiling line, railings, hollow metal frames, view window frames, metal bases, steel ladders, steel brackets and supports, over shop coat.

First Coat	Metal Primer
Second Coat	Acrylic Latex
Third Coat	Acrylic Latex

4. Type E: Exterior stucco work; all masonry all exterior concrete:

5. Type F: Interior masonry, concrete block and concrete: Coats as necessary to fill and smooth substrata: Latex modified cementitious masonry prime and fill material.

First Coat	Interior latex primer sealer
Second coat	Latex semi-gloss enamel
Third coat	Latex semi-gloss enamel

6. Type G: Interior smooth plaster and gypsum wallboard, including cement, perlite gypsum and veneer plasters:

First coat	Interior latex primer sealer
Second coat	Latex semi-gloss enamel
Third coat	Latex semi-gloss enamel

7. Type H: Exterior wood: rafters, blocking and similar items exposed to view:

First coat	Olympic stain(oil)
Second coat	Olympic stain(oil)

8. Type I: Interior wood: Doors, casings, trim, jambs (paint finish):

First coat	Interior Late Primer Sealer
Second coat	Latex semi-gloss enamel
Third coat	Latex semi-gloss enamel

END OF SECTION