SECTION 09 2116
GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Metal stud wall framing.

B. Acoustic insulation.

C. Cementitious backing board.

D. Gypsum wallboard.

E. Joint treatment and accessories.

1.3 RELATED REQUIREMENTS

A. Section 07 8400 - Firestopping: Top-of-wall assemblies at fire rated walls.

B. Section 07 9005 - Joint Sealers: Acoustic sealant.

C. Section 08 1213 - Hollow Metal Frames

1.4 REFERENCE STANDARDS

A. AISI SG02-1 - North American Specification for the Design of Cold-Formed Steel Structural Members; American Iron and Steel Institute; 2001 with 2004 supplement. (replaced SG-971)

B. ANSI A108.11-SystemDeleted - American National Standard for Interior Installation of Cementitious Backer Units; 2010 (Revised).

C. ANSI A118.9-SystemDeleted - American National Standard Specifications for Test Methods and Specifications for Cementitious Backer Units; 1999 (Reaffirmed 2010).

D. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.

E. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2015.

F. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members; 2014.

G. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2012.

H. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2015.

I. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2013.

J. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2015.

K. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2014.

L. ASTM C1047 - Standard Specification for Accessories For Gypsum Wallboard and Gypsum Veneer Base; 2014a.

M. ASTM C1325 - Specification for Non-Asbestos Fiber-Mat Reinforced Cementitious Backer Units; 2014.

N. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2014.

O. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2012.

P. GA-216 - Application and Finishing of Gypsum Board; 2013.

1.5 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on metal framing, gypsum board, accessories, and joint finishing system.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing gypsum board application and finishing, with minimum 5 years of documented experience.

PART 2 PRODUCTS

2.1 GYPSUM BOARD ASSEMBLIES

A. Provide completed assemblies complying with ASTM C840 and GA-216.

2.2 METAL FRAMING MATERIALS

A. Non-Loadbearing Framing System Components: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/240 at 5 psf.
   1. Studs: "C" shaped with flat or formed webs with knurled faces.
   2. Runners: U shaped, sized to match studs.
   3. Thickness: 20 ga. minimum
   4. Furring: Hat-shaped sections, minimum depth of 7/8 inch.

B. Partition Head To Structure Connections: Provide track fastened to structure with legs of sufficient length to accommodate deflection, for friction fit of studs cut short and fastened as indicated on drawings.

2.3 BOARD MATERIALS

A. Manufacturers - Gypsum-Based Board:
   1. American Gypsum: www.americangypsum.com/#sle.
   2. Georgia-Pacific Gypsum: www.gpgypsum.com/#sle.
   3. USG Corporation: www.usg.com/#sle.
   4. Substitutions: See Section 01 6000 - Product Requirements.

B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
   1. Application: Use for vertical surfaces, unless otherwise indicated.
   2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
      a. Mold-resistant board is required at all locations.
   3. Thickness:
      a. Vertical Surfaces: 5/8 inch.
   4. Mold-Resistant Paper-Faced Products:
      a. American Gypsum; M-Bloc.
      b. Georgia-Pacific Gypsum; ToughRock Mold-Guard.

C. Backing Board For Tile Areas:
   1. Application: Surfaces behind tile in toilets _____.
   2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
   3. ANSI Cement-Based Board: Non-gypsum-based; aggregated Portland cement panels with glass fiber mesh embedded in front and back surfaces complying with ANSI A118.9-SystemDeleted or ASTM C1325.

a. Thickness: 5/8" inch.
b. Products:
a) National Gypsum Company; PermaBase Cement Board: www.nationalgypsum.com/#sle.
b) USG Corporation; Durock: www.usg.com.

D. Ceiling Board: Special sag resistant gypsum ceiling board as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
1. Application: Ceilings, unless otherwise indicated.
2. Thickness: 1/2 inch.
3. Edges: Tapered.

2.4 ACCESSORIES

A. Acoustic Insulation: ASTM C665; preformed mineral fiber, friction fit type, unfaced. Thickness: 3.5 inch.

B. Acoustic Insulation: 1; preformed glass fiber, friction fit type, unfaced. Thickness: 2 inches.

C. Finishing Accessories: ASTM C1047, galvanized steel or rolled zinc, unless otherwise indicated.
1. Types: As detailed or required for finished appearance.
2. Special Shapes: In addition to conventional cornerbead and control joints, provide U-bead at exposed panel edges.
3. Manufacturers - Finishing Accessories:
a. Same manufacturer as framing materials.

D. Joint Materials: ASTM C475 and as recommended by gypsum board manufacturer for project conditions.
1. Tape: 2 inch wide, creased paper tape for joints and corners, except as otherwise indicated.
2. Ready-mixed vinyl-based joint compound.

E. Screws for Attachment to Steel Members Less Than 0.03 inch In Thickness, to Wood Members, and to Gypsum Board: ASTM C1002; self-piercing tapping type; cadmium-plated for exterior locations.

F. Screws for Attachment to Steel Members From 0.033 to 0.112 inch in Thickness: ASTM C954; steel drill screws for application of gypsum board to loadbearing steel studs.

PART 3 EXECUTION

3.1 EXAMINATION

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

3.2 FRAMING INSTALLATION

A. Metal Framing: Install in accordance with ASTM C754 and manufacturer's instructions.

B. Studs: Space studs at 16 inches on center.
1. Extend partition framing to structure in all locations.
2. Partitions Terminating at Structure: Attach extended leg top runner to structure, maintain clearance between top of studs and structure, and brace both flanges of studs with continuous bridging.

C. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double 16 ga. studs at jambs.

D. Standard Wall Furring: Install at indicated locations , not more than 4 inches from floor and ceiling lines and abutting walls. Secure in place on alternate channel flanges at maximum 24 inches on center.
1. Orientation: Horizontal.
2. Spacing: At 16 inches on center.

E. Blocking: Install mechanically fastened steel channel blocking for support of:

1. Framed openings.
2. Wall mounted cabinets.
3. Wall mounted door hardware.

3.3 ACOUSTIC ACCESSORIES INSTALLATION

A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.

B. Acoustic Sealant: Install in accordance with manufacturer's instructions.

3.4 BOARD INSTALLATION

A. Comply with ASTM C 840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

B. Single-Layer Non-Rated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.

C. Double-Layer Non-Rated: Use gypsum board for first layer, placed parallel to framing or furring members, with ends and edges occurring over firm bearing. Place second layer perpendicular to framing or furring members. Offset joints of second layer from joints of first layer.

D. Cementitious Backing Board: Install over steel framing members and plywood substrate where indicated, in accordance with ANSI A108.11-SystemDeleted and manufacturer's instructions.

E. Installation on Metal Framing: Use screws for attachment of all gypsum board .

3.5 INSTALLATION OF TRIM AND ACCESSORIES

A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
   1. Not more than 30 feet apart on walls over 50 feet long.

B. Corner Beads: Install at external corners, using longest practical lengths.

C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials and as indicated.

3.6 JOINT TREATMENT

A. Paper Faced Gypsum Board: Use paper joint tape, bedded with ready-mixed vinyl-based joint compound and finished with ready-mixed vinyl-based joint compound.

B. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
   1. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
   2. Level 1: Fire rated wall areas above finished ceilings, whether or not accessible in the completed construction.

C. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
   1. Feather coats of joint compound so that camber is maximum 1/32 inch.

3.7 TOLERANCES

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

END OF SECTION

SECTION 09 2300
GYPSUM PLASTERING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Gypsum plaster over metal lath and masonry.

B. Repairs to existing gypsum plaster.

1.2 RELATED REQUIREMENTS

A. Section 07 9200 - Joint Sealants: Sealing acoustical gaps in construction other than gypsum board or plaster work.

B. Section 09 2116 - Gypsum Board Assemblies: Metal stud framing and furring for plaster.

1.3 REFERENCE STANDARDS

A. ASTM C28/C28M - Standard Specification for Gypsum Plasters; 2010 (Reapproved 2015).

B. ASTM C35 - Standard Specification for Inorganic Aggregates for Use in Gypsum Plaster; 2001 (Reapproved 2014).

C. ASTM C842 - Standard Specification for Application of Interior Gypsum Plaster; 2005 (Reapproved 2010).

1.4 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittals procedures.

B. Product Data: Provide data on plaster materials, characteristics, and limitations of products specified.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing the work of this section with minimum 5 years documented experience.

1.6 FIELD CONDITIONS

A. Do not apply plaster when substrate or ambient air temperature is under 50 degrees F or over 80 degrees F.

B. Maintain minimum ambient temperature of 50 degrees F during and after installation of plaster.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Gypsum Plaster:
   1. National Gypsum Company: www.nationalgypsum.com/#sle.
   2. USG: www.usg.com/#sle.
   3. Substitutions: See Section 01 6000 - Product Requirements.

2.2 PLASTER MATERIALS

A. Aggregate for Base Coats: ASTM C35; sand.

B. Base Plaster: Gypsum neat plaster complying with ASTM C 28
   1. Product: Gold Bond Brand Two-Way Hardwall Gypsum Plaster manufactured by National Gypsum Co.

C. Ready-Mixed Finishing Plaster: Gypsum/Lime putty type, ASTM C28; mixture of gauging plaster and lime.
   1. Product: Kal-Kote manufactured by National Gypsum Co..

D. Aggregate for Finish Coats: As specified in ASTM C842.

E. Water: Clean, fresh, potable and free of mineral or organic matter that could adversely affect plaster.

2.3 METAL LATH AND FURRING

A. Lath, Beads, Screeds, and Joint Accessories: Galvanized steel

2.4 PLASTER MIXES

A. Over Metal Lath: Three-coat application, ready-mixed plaster, mixed and proportioned in accordance with ASTM C842 and manufacturer's instructions.

B. Ready-Mixed Plaster Materials: Mix in accordance with manufacturer's instructions.

C. Finish Coat for Troweled Finish: Lime putty with gypsum gauging plaster, mixed and proportioned in accordance with ASTM C842.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that existing conditions are satisfactory before starting work.

B. Masonry: Verify joints are cut flush and surface is ready to receive work of this section. Verify no bituminous or water repellent coatings exist on masonry surface.

C. Grounds and Blocking: Verify items within walls for other sections of work have been installed.

D. Metal Lath and Accessories: Verify lath is flat, secured to substrate, and joint and surface perimeter accessories are in place.

3.2 PREPARATION

A. Remove any loose or deteriorated existing base or finish coats.

B. Dampen masonry surfaces to reduce excessive suction.

C. Apply bonding agent in accordance with manufacturer's instructions.

3.3 PLASTERING

A. Apply gypsum plaster in accordance with ASTM C842 and manufacturer's instructions.

B. Thickness of Plaster including Finish Coat:

1. Over metal lath: 5/8 inch. or as required to match existing thickness
2. Direct to unit masonry: 5/8 inch. or as required to match existing thickness.

C. Finish Texture: Trowel to a consistent and smooth finish to match adjacent existing surfaces..

3.4 TOLERANCES

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

END OF SECTION

SECTION 09 3000
TILING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings, general provisions of the Agreement between Owner and Contractor and other Division 1 Specification Sections, apply to this Section

1.2 SECTION INCLUDES

A. Tile for floor applications.

B. Tile for wall applications.

C. Stone thresholds.

D. Ceramic trim.

E. Non-ceramic trim.

F. Membrane waterproofing.

1.3 RELATED REQUIREMENTS

A. Section 03 5400 - Cast Underlayment.

B. Section 07 9005 - Joint Sealers.

C. Section 09 2116 - Gypsum Board Assemblies: Tile backer board.

1.4 REFERENCE STANDARDS

A. ANSI A108/A118/A136.1 - American National Standard Specifications for the Installation of Ceramic Tile (Compendium); 2013.1.

1. ANSI A108.5 - American National Standard Specifications for Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).
2. ANSI A108.10 - American National Standard Specifications for Installation of Grout in Tilework; 1999 (Reaffirmed 2010).
3. ANSI A108.11-SystemDeleted - American National Standard for Interior Installation of Cementitious Backer Units; 2010 (Revised).
4. ANSI A118.7 - American National Standard Specifications for High Performance Cement Grouts for Tile Installation; 2010 (Revised).
5. ANSI A118.9-SystemDeleted - American National Standard Specifications for Test Methods and Specifications for Cementitious Backer Units; 1999 (Reaffirmed 2010).
6. ANSI A118.10 - American National Standard Specifications for Load Bearing, Bonded, Waterproof Membranes For Thin-Set Ceramic Tile And Dimension Stone Installation; 2014.

B. ANSI A118.15 - American National Standard Specifications for Improved Modified Dry-Set Cement Mortar; 2012.

1. ANSI A136.1 - American National Standard for Organic Adhesives for Installation of Ceramic Tile; 2008 (Reaffirmed 2013).
2. ANSI A137.1 - American National Standard Specifications for Ceramic Tile; 2013.1.
3. ASTM C373 - Standard Test Method for Water Absorption, Bulk Density, Apparent Porosity, and Apparent Specific Gravity of Fired Whiteware Products, Ceramic Tiles, and Glass Tiles; 2014a.

C. TCNA (HB) - Handbook for Ceramic, Glass, and Stone Tile Installation; 2015.

1.5 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.

C. Samples: Mount tile and apply grout on two plywood panels, minimum 18 x 18 inches in size illustrating pattern, color variations, and grout joint size variations.

D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

E. Maintenance Data: Include recommended cleaning methods, cleaning materials, stain removal methods, and polishes and waxes.

F. Maintenance Materials: Furnish the following for Edgemont School District's use in maintenance of project.
   1. See Section 01 6000 - Product Requirements, for additional provisions.
   2. Extra Tile: 10 square feet of each size, color, and surface finish combination.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the types of products specified in this section, with minimum 5 years of documented experience.

B. Installer Qualifications: Company specializing in performing tile installation, with minimum of 5 years of documented experience.

1.7 MOCK-UP

A. See Section 01 4000 - Quality Requirements, for general requirements for mock-up.

B. Construct tile mock-up where indicated on the drawings, incorporating all components specified for the location.
   1. Minimum size of mock-up is indicated on the drawings.
   2. Approved mock-up may remain as part of the Work.

1.8 DELIVERY, STORAGE, AND HANDLING

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

1.9 FIELD CONDITIONS

A. Do not install solvent-based products in an unventilated environment.

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

PART 2 PRODUCTS

2.1 TILE

A. Porcelain Floor Tile: ANSI A 137.1, and as follows:
   1. Moisture Absorption: 0 to 0.5 percent as tested in accordance with ASTM C373.
   2. Size: 12 by 24 inch.
   3. Shape: Square.
   4. Surface Finish: Slip resistant.
   5. Color(s): As indicated on drawings.

B. Glazed Wall Tile: ANSI A 137.1, and as follows:
   1. Moisture Absorption: 7.0 to 20.0 percent as tested in accordance with ASTM C373.
   2. Size: 3 x 6 inch accept tile.
   3. Size: 6 x 18 inch. field tile.
   4. Size: 6 x 13 inch bull nose tile.
   5. Size: 6 x 6 inch cove base.
   6. Edges: Square.
   7. Surface Finish: High gloss.

2.2 TRIM AND ACCESSORIES

A. Ceramic Trim: Matching bullnose, double bullnose, and cove base ceramic shapes in sizes coordinated with field tile.
   1. Manufacturer: Same as for tile.

B. Non-Ceramic Trim: Brushed stainless steel, style and dimensions to suit application, for setting using tile mortar or adhesive.
   1. Applications: Use in the following locations:
      a. Open edges of wall tile.
   2. Manufacturer:
      a. Schluter-Systems: www.schluter.com/#sle.

C. Thresholds: Marble, white or gray, honed finish; 4 inches wide by full width of wall or frame opening; 1/2 inch thick; beveled one long edge with radiused corners on top side; without holes, cracks, or open seams.
   1. Applications: Provide at the following locations:
      a. At doorways where tile terminates.

2.3 SETTING MATERIALS

A. Latex-Portland Cement Mortar (Thinset Installation Methods): ANSI A118.4, composed as follows:
   1. Universal two component setting system consisting of liquid synthetic polymer additive and dry set mortar.
      a. For wall applications, provide nonsagging, latex-Portland cement mortar complying with ANSI A118.4 for mortar of this type defined in Section F-2.1.2.

2.4 GROUTS

A. Manufacturers:
   1. Mapei Corporation; Product Ultracolor Plus FA) for floors and walls.
   2. Substitutions: See Section 01 6000 - Product Requirements.

B. Polymer Modified Grout: ANSI A118.7 polymer modified cement grout.
   1. Applications: Use this type of grout where indicated .
   2. Use sanded grout for joints 1/8 inch wide and larger; use unsanded grout for joints less than 1/8 inch wide.
   3. Color(s): As selected by Fuller and D'Angelo, P.C. from manufacturer's full line.

C. Grout Sealer: Liquid-applied, moisture and stain protection for existing or new Portland cement grout.
   1. Composition: Water-based colorless silicone.

2.5 THIN-SET ACCESSORY MATERIALS

A. Waterproofing Membrane at Floors Above Grade: Specifically designed for bonding to cementitious substrate under thin-set tile; complying with ANSI A118.10.
   1. Material: Chlorinated polyethylene sheet membrane with polyester fabric laminated to both sides, 30 mils, thick, minimum.
   2. Products:
      a. AVM Industries, Inc; System 750 with polyester fabric reinforcing at edges, corners, joints, and cracks: www.avmindustries.com.

B. Trowelable Underlayments and Patching Compounds: Latex-modified, Portland-cement-based formulation provided or approved by manufacturer of tile-setting materials for installations indicated

C. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers

D. Grout Sealer: Manufacturer's standard silicone product for sealing grout joints that does not change color or appearance of grout.
   1. Products: MAPEI Corporation; KER 003, Silicone Spray Sealer for Cementitious Tile Grout
      a. Provide sealer coat over all tile floors

E. Expansion Joints: Provide expansion joints for Unglazed Porcelain Tile on each column line and as recommended by the TCA Handbook for the installation reference EJ171-04 manufacturer.
   1. Schluter Dilex as manufactured by Schluter Systems.
      a. PVC anchor legs and side sections, with chlorinated polyethylene sealant

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that sub-floor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive tile.

B. Verify that sub-floor surfaces are dust-free and free of substances that could impair bonding of setting materials to sub-floor surfaces.

C. Verify that required floor-mounted utilities are in correct location.

3.2 PREPARATION

A. Protect surrounding work from damage.

B. Vacuum clean surfaces and damp clean.

C. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.

3.3 INSTALLATION - GENERAL

A. Install tile, thresholds, and stair treads and grout in accordance with applicable requirements of ANSI A108.1a thru A108.13, manufacturer's instructions, and TCNA (HB) recommendations.

B. Lay tile to pattern indicated. Do not interrupt tile pattern through openings.

C. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor joints.

D. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make grout joints without voids, cracks, excess mortar or excess grout, or too little grout.

E. Form internal angles square and external angles bullnosed.

F. Install non-ceramic trim in accordance with manufacturer's instructions.

G. Install thresholds where indicated.

H. Sound tile after setting. Replace hollow sounding units.

I. Keep expansion joints free of adhesive or grout. Apply sealant to joints.

J. Prior to grouting, allow installation to completely cure; minimum of 48 hours.

K. Grout tile joints. Use standard grout unless otherwise indicated.

L. Apply sealant to junction of tile and dissimilar materials and junction of dissimilar planes.

3.4 INSTALLATION - FLOORS - THIN-SET METHODS

A. Over interior concrete substrates, install in accordance with TCNA (HB) Method F113, dry-set or latex-Portland cement bond coat, with standard grout, unless otherwise indicated.
   1. Where waterproofing membrane is indicated, install in accordance with TCNA (HB) Method F122, with latex-Portland cement grout.

3.5 INSTALLATION - WALL TILE

A. Over cementitious backer units on studs, install in accordance with TCNA (HB) Method W244, using membrane at toilet rooms.

B. Over interior concrete and masonry install in accordance with TCNA (HB) Method W202, thin-set with dry-set or latex-Portland cement bond coat.

3.6 CLEANING

A. Clean tile and grout surfaces.

3.7 PROTECTION

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

END OF SECTION

SECTION 09 5100
ACOUSTICAL CEILINGS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Suspended metal grid ceiling system.

B. Acoustical units.

1.3 RELATED REQUIREMENTS

A. Section 05 5000 Miscellaneous Metals: Uni-strut ceiling support.

B. Section 07 9005 - Joint Sealers: Acoustical sealant.

1.4 REFERENCE STANDARDS

A. ASTM C635/C635M - Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2013a.

B. ASTM C636/C636M - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels; 2013.

C. ASTM E580/E580M - Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions; 2014.

D. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.

E. ASTM E1264 - Standard Classification for Acoustical Ceiling Products; 2014.

F. CAL (CHPS LEM) - Low-Emitting Materials Product List; California Collaborative for High Performance Schools (CHPS); current edition at www.chps.net/.

G. UL (FRD) - Fire Resistance Directory; current edition.

H. Ceilings and Interior Systems Construction Association (CISCA): Code of Practices.

1.5 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on suspension system components.

C. Samples: Submit two samples 12 x 12 inch in size illustrating material and finish of acoustical units.

D. Samples: Submit two samples each, 12 inches long, of suspension system main runner.

E. Manufacturer's Installation Instructions: Indicate special procedures.

F. Maintenance Materials: Furnish the following for Edgemont School District's use in maintenance of project.

1. See Section 01 6000 - Product Requirements, for additional provisions.
2. Extra Acoustical Units: Quantity equal to 5 percent of total installed.

G. LEED Submittal: Documentation of recycled content and location of manufacture.

1.6 QUALITY ASSURANCE

A. Fire-Resistive Assemblies: Complete assembly listed and classified by UL for the fire resistance indicated.

B. Suspension System Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum 5 years documented experience.

C. Acoustical Unit Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum 5 years documented experience.

1.7 FIELD CONDITIONS

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

PART 2 PRODUCTS

2.1 ACOUSTICAL UNITS

A. Manufacturers:

B. Acoustical Units - General: ASTM E1264, Class A.

C. Cementitious Wood Fiber Acoustical Panels: _____ with wood fiber with inorganic hydraulic cement with the following characteristics:
1. Size: 24 x 24 inches.
2. Thickness: 1 inches.
3. VOC Content: None.
4. Panel Edge: Square.
5. Antimicrobial Paint Treatment.
6. Humidity-Resistant.
7. Bio block paint on face and back.
8. Suspension System: Exposed grid Type Prelude XL.
9. Surface Color: White.
10. Product: Acousti-Tough Ceiling by Tectum Inc. : info@tectum.com.

D. Acoustical Panels: School Zone Fine Fissured.
1. VOC Content: As specified in Section 01 6116.
2. Size: 24 x 24 inches.
3. Light Reflectance: 0.85 percent, determined in accordance with ASTM E1264.
4. NRC Range: 0.70 to 0.70, determined in accordance with ASTM E1264.
5. Ceiling Attenuation Class (CAC): 35, determined in accordance with ASTM E1264.
6. Panel Edge: Square.
7. Surface Pattern: fine fissured.
8. Surface Color: White.
9. Products:
   a. Substitutions: See Section 01 6000 - Product Requirements.
10. Suspension System: Exposed grid Type Prelude XL.

2.2 SUSPENSION SYSTEM(S)

A. Manufacturers:
1. Armstrong World Industries, Inc; Product Prelude XL 15/16": www.armstrong.com.
2. Structural Classification: Intermediate duty, ASTM C 635.

B. Suspension Systems - General: Complying with ASTM C635/C635M; die cut and interlocking components, with stabilizer bars, clips, splices, perimeter moldings, and hold down clips as required.

2.3 ACCESSORIES

A. Support Channels and Hangers: Galvanized steel; size and type to suit application, seismic requirements, and ceiling system flatness requirement specified.

B. Perimeter Moldings: Same material and finish as grid.
1. Minimum 7/8" horizontal flange

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that layout of hangers will not interfere with other work.

3.2 INSTALLATION - SUSPENSION SYSTEM

A. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.

B. Locate system on room axis according to reflected plan.

C. Install after major above-ceiling work is complete. Coordinate the location of hangers with other work.

D. Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.

E. 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.

F. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.

G. Support fixture loads using supplementary hangers located within 6 inches of each corner, or support components independently.

H. Do not eccentrically load system or induce rotation of runners.

I. Perimeter Molding: Install at intersection of ceiling and vertical surfaces and at junctions with other interruptions.

1. Install in bed of acoustical sealant.
2. Use longest practical lengths.
3. Overlap and rivet corners.

3.3 INSTALLATION - ACOUSTICAL UNITS

A. Install acoustical units in accordance with manufacturer's instructions.

B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.

C. Fit border trim neatly against abutting surfaces.

D. Install units after above-ceiling work is complete.

E. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.

F. Cutting Acoustical Units:

1. Make field cut edges of same profile as factory edges.

G. Install seismic clips or stabilizer bars as per code requirements.

END OF SECTION

SECTION 09 9000
PAINTING AND COATINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Surface preparation.

B. Interior painting and coating systems.

C. Scope:

1. Finish all newly installed and existing disturbed surfaces exposed to view, unless fully factory-finished and unless otherwise indicated, including the following:
   a. Interior:
      a) Concrete Masonry Units: Concrete block wall surfaces
      b) Metal: Structural steel columns, joists, trusses, beams, miscellaneous and ornamental iron, structural iron, and other ferrous metal.
      c) Drywall: Walls, ceilings, gypsum board, and similar items.
      d) Plaster: Wall surfaces
      e) Hollow metal door frames.

1.2 RELATED REQUIREMENTS

A. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions.

1.3 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.

B. SSPC-SP 1 - Solvent Cleaning; 2015.

1.4 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide complete list of products to be used, with the following information for each:

1. Product characteristics.
2. Surface preparation instructions and recommendations.
3. Primer requirements and finish specification.
4. Storage and handling requirements and recommendations.
5. Application methods.
6. Clean-up information.

C. Maintenance Materials: Furnish the following for Edgemont School District's use in maintenance of project.

1. See Section 01 6000 - Product Requirements for additional provisions.
2. Extra Paint and Finish Materials: 1 gallon of each color; from the same product run, store where directed.
3. Label each container with color in addition to manufacturer's label.

1.5 QUALITY ASSURANCE

A. Applicator Qualifications: Company specializing in performing the type of work specified with minimum 3 years experience and approved by manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, product name, product code, color designation, VOC content, batch date, environmental handling, surface preparation, application, and use instructions.

C. Paint Materials: Store at a minimum of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.7 FIELD CONDITIONS

A. Do not apply materials when environmental conditions are outside the ranges required by manufacturer.

B. Follow manufacturer's recommended procedures for producing the best results, including testing substrates, moisture in substrates, and humidity and temperature limitations.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Basis of Design Products: Subject to compliance with requirements, provide Sherwin-Williams Company (The) products indicated; www.sherwin-williams.com/#sle.

B. Comparable Products: Products of approved manufacturers will be considered in accordance with 01 6000 - Product Requirements, and the following:
   1. Products that meet or exceed performance and physical characteristics of basis of design products.

2.2 PAINTINGS AND COATINGS

A. General:
   1. Provide factory-mixed coatings unless otherwise indicated.
   2. Do not reduce, thin, or dilute coatings or add materials to coatings unless specifically indicated in manufacturer's instructions.

B. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.

2.3 Paint Systems - INTERIOR

A. Masonry CMU: Concrete, split face, scored, smooth, high density, low density, and fluted.
   1. Latex Systems:
      a. Eg-Shel/Satin Finish:
         a) 1st Coat: Sherwin-Williams PrepRite Block Filler, B25W25: www.sherwin-williams.com/#sle.
            (a) 75 to 125 sq ft/gal.
         b) 2nd and 3rd Coat: Sherwin-Williams ProMar 200 Zero VOC Eg-Shel, B20-2600 Series: www.sherwin-williams.com/#sle.
            (a) 4 mils wet, 1.7 mils dry per coat.

B. Metals: Ferous Metal, Door frames
   1. Alkyd Systems, Water-Based:
      a. Semi-Gloss Finish:
         a) 1st Coat: Sherwin-Williams Pro Industrial Pro-Cryl Universal Primer, B66-1310 Series: www.sherwin-williams.com/#sle.
            (a) 5 mils wet, 2 mils dry per coat.
         b) 2nd and 3rd Coat: Sherwin-Williams Pro Industrial Water Based Alkyd Urethane Enamel Semi-Gloss, B53-1150 Series: www.sherwin-williams.com/#sle.
            (a) 4 to 5 mils wet, 1.4 to 1.7 mils dry per coat.

C. Drywall and Plaster: Walls, gypsum board, plaster and similar items.
   1. Latex Systems:

a. Eg-Shel Finish High Performance (HP):
   a) 1st Coat: Sherwin-Williams ProMar 200 Zero VOC Interior Latex Primer, B28W2600: www.sherwin-williams.com/#sle.
      (a) 4 mils wet, 1.5 mils dry per coat.
   b) 2nd and 3rd Coat: Sherwin-Williams ProMar 200 HP Zero VOC Eg-Shel, B20-1950 Series: www.sherwin-williams.com/#sle.
      (a) 4 mils wet, 1.7 mils dry per coat.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

C. Test shop-applied primer for compatibility with subsequent cover materials.

3.2 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Masonry: Remove efflorescence and chalk.

D. Gypsum Board: Fill minor defects with filler compound; sand smooth and remove dust prior to painting.

E. Plaster: Fill hairline cracks, small holes, and imperfections with patching plaster. Make smooth and flush with adjacent surfaces. Treat textured, soft, porous, or powdery surfaces in accordance with manufacturer's instructions.

F. Ferrous Metal:
   1. Solvent clean according to SSPC-SP 1.
   2. Shop-Primed Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Prime bare steel surfaces.

3.3 APPLICATION

A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

B. Apply products in accordance with manufacturer's written instructions.

C. Apply coatings at spread rate required to achieve manufacturer's recommended dry film thickness.

3.4 Priming

A. Apply primer to all surfaces unless specifically not required by coating manufacturer. Apply in accordance with coating manufacturer's instructions.

B. Primers specified in painting schedules may be omitted on items factory primed or factory finished items if acceptable to top coat manufacturers.

3.5 Cleaning

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

B. Clean surfaces immediately of overspray, splatter, and excess material.

C. After coating has cured, clean and replace finish hardware, fixtures, and fittings previously removed.

3.6 PROTECTION

A. Protect finished coatings from damage until completion of project.

B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION