SECTION 09000

GENERAL INFORMATION

PART 1 - GENERAL

1.1 SUMMARY
   A. This section provides general information standards for finishes.

1.2 REFERENCES

1.3 SYSTEM PERFORMANCE REQUIREMENTS
   A. General Information:
      1. Interior Color Scheme is to be recommended by the A/E, and shall meet all criteria established with input and approval by the UC Denver Campus Architect through the UC Denver Project Manager.
      2. Rubber base shall be used for both carpet and resilient tile installations unless design indicates an upgrade. Upgrades must be approved by UC Denver campus architect through the UC Denver Project Manager.
      3. Fire Hazard classification: Provide materials bearing UL labels for the following:
         a) Flame spread not more than 25
         b) Fuel contributed not more than 15
         c) Smoke developed not more than 25

1.4 DEFINITIONS

1.5 SUBMITTALS

1.6 QUALITY ASSURANCE
   A. Quality Assurance shall be provided in accordance with Division 1.

1.7 DELIVERY, STORAGE, AND HANDLING
   A. Delivery, storage, and handling shall be provided in accordance with Division 1.

1.8 WARRANTY
   A. Product and system warranties shall be provided in accordance with Division 1.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

2.2 MATERIALS, GENERAL

PART 3 - EXECUTION

3.1 EXAMINATION

3.2 INSTALLATION, GENERAL

3.3 TESTING, CLEANING, AND CERTIFICATION

3.4 COMMISSIONING (DEMONSTRATION)

3.5 SCHEDULES

END OF SECTION
SECTION 09100
METAL SUPPORT SYSTEMS

PART 1 - GENERAL
1.1 SUMMARY
   A. This section provides standards for metal support systems.
1.2 REFERENCES
1.3 SYSTEM PERFORMANCE REQUIREMENTS
1.4 DEFINITIONS
1.5 SUBMITTALS
1.6 QUALITY ASSURANCE
   A. Quality Assurance shall be provided in accordance with Division 1.
1.7 DELIVERY, STORAGE, AND HANDLING
   A. Delivery, storage, and handling shall be provided in accordance with Division 1.
1.8 WARRANTY
   A. Product and system warranties shall be provided in accordance with Division 1.

PART 2 - PRODUCTS
2.1 MANUFACTURERS
2.2 MATERIALS, GENERAL
   A. Metal Studs - Non-structural:
      1. Light gauge metal framing should be minimum 25 gauge.

PART 3 - EXECUTION
3.1 EXAMINATION
3.2 INSTALLATION, GENERAL
   A. Secure with fasteners or proper crimping tool (welds are discouraged).
   B. Mount on 16 inch centers where possible.
3.3 TESTING, CLEANING, AND CERTIFICATION
3.4 COMMISSIONING (DEMONSTRATION)
3.5 SCHEDULES

END OF SECTION
SECTION 09250
GYPSUM BOARD

PART 1 - GENERAL

1.1 SUMMARY
   A. This section provides standards for gypsum board.

1.2 REFERENCES

1.3 SYSTEM PERFORMANCE REQUIREMENTS

1.4 DEFINITIONS

1.5 SUBMITTALS

1.6 QUALITY ASSURANCE
   A. Quality Assurance shall be provided in accordance with Division 1.

1.7 DELIVERY, STORAGE, AND HANDLING
   A. Delivery, storage, and handling shall be provided in accordance with Division 1.

1.8 WARRANTY
   A. Product and system warranties shall be provided in accordance with Division 1.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

2.2 MATERIALS, GENERAL
   A. Gypsum Board: All gypsum board shall be 5/8 inch thick Type 'X'. Provide water resistant board in
      high moisture areas. Exterior sheeting gypsum board must be made of a material that doesn’t
      support mold growth.

PART 3 – EXECUTION

3.1 EXAMINATION

3.2 INSTALLATION, GENERAL
   A. Gypsum Board Application and Finishing Standards: Install and finish gypsum panels to comply
      with ASTM C840 and GA-216.
   B. Finishing Gypsum Board Assemblies:
      1. General: Apply joint treatment at gypsum board joints (both directions); flanges of corner
         bead, edge trim, and control joints; penetrations; fastener heads, surface defects; and
         elsewhere as required to prepare gypsum board surfaces for decoration and levels of
         gypsum board finish indicated.
      2. Prefill open joints, rounded or beveled edges, and damaged areas using setting-type joint
         compound.
      3. Apply joint tape over gypsum board joints except those with trim accessories having
         concealed face flanges not requiring taping to prevent cracks from developing in joint
         treatment at flange edges.
      4. Levels of Gypsum Board Finish: Provide the following levels of gypsum board finish per
         GA-214.
a. For level 4 gypsum board finish, embed tape in joint compound and apply three separate coats of joint compound over joints, angles, fastener heads, and accessories. Touch up and sand between coats and after last coat as needed to produce a surface free of visual defects and ready for decoration. Use the following joint compound combinations:

1) Embedding and First Coat: Ready-mixed, drying-type, all-purpose or taping compound.

2) Fill (Second) Coat: Ready-mixed, drying-type, all-purpose or topping compound.

3) Finish (Third) Coat: Ready-mixed, drying-type, all-purpose or topping compound.

3.3 TESTING, CLEANING, AND CERTIFICATION
3.4 COMMISSIONING (DEMONSTRATION)
3.5 SCHEDULES

END OF SECTION
SECTION 09300
TILE

PART 1 - GENERAL
1.1 SUMMARY
   A. This section provides standards for ceramic tile work.

1.2 REFERENCES

1.3 SYSTEM PERFORMANCE REQUIREMENTS
   A. Patching existing ceramic tile work to accommodate new construction and new tile work as shown on the drawings and in schedules for wall tile and floor tile.

1.4 DEFINITIONS

1.5 SUBMITTALS
   A. For initial selection of colors, submit manufacturer’s actual tile samples, showing full range of colors, textures and patterns. Include samples of grout and accessories requiring color selection. Submit samples of trim and other units if requested by Architect.

1.6 QUALITY ASSURANCE
   A. Quality Assurance shall be provided in accordance with Division 1.

1.7 DELIVERY, STORAGE, AND HANDLING
   A. Delivery, storage, and handling shall be provided in accordance with Division 1.

1.8 WARRANTY
   A. Product and system warranties shall be provided in accordance with Division 1.

PART 2 – PRODUCTS
2.1 MANUFACTURERS
   A. Acceptable Manufacturers: Subject to compliance with requirements, provide products by the following:
      1. American Ocean Tile Co., Inc.
      2. Dal-Tile Corp.
      3. Monarch Tile Mgr’s., Inc.
      4. Or approved equal

2.2 MATERIALS, GENERAL
   A. Glazed Wall Tile:
      1. 4.25” x 4.25”, 5/16” thickness, cushion edge, with finish, colors and patterns as selected and approved through the UC Denver Project Manager.

   B. Ceramic Mosaic Tile:
      1. 2” x 2”, 1/4” thickness, porcelain body, all-purpose edge units, with finish, colors and patterns as selected and approved through the UC Denver Project Manager. Factory mount tile onto sheets with mesh, dot, net, or other backing method.

   C. Trim Shapes:
1. As required for complete installation, of same material, size, color and finish of field tile. Provide shapes from manufacturer’s standards as follows:
   a. Wainscot Cap: Surface bullnose.
   b. Base: Cove base.
   c. In-corners: Field-butted square corners with coved based and cap angle pieces to member with stretcher shape.
   d. Out-corners: Surface bullnose.
   e. Jambs: Surface bullnose where tile projects from jamb.

D. Grout:

1. Grout color will coordinate with the tile color, as selected and approved through the UC Denver Project Manager.

PART 3 – EXECUTION

3.1 EXAMINATION

3.2 INSTALLATION, GENERAL

3.3 CLEANING, AND CERTIFICATION

A. Cleaning:
   1. Upon completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.
   2. Unglazed tile may be cleaned with acid solutions only when permitted by the tile and grout manufacturer’s printed instructions, but not sooner than 14 days after installation. Protect metal surfaces, cast iron and vitreous plumbing fixtures from effects of acid cleaning. Flush the surface with clean water before and after cleaning.
   3. Finished Tile Work: Leave finished installation clean and free of cracked, chipped, broken, unbonded, or otherwise defective tile work.

B. Protection:
   1. When recommended by the tile manufacturer, apply a protective coat of neutral protective sealer to completed tile walls/floors. Protect installed tile work with kraft paper or other heavy covering during the construction period to prevent damage or wear.

3.4 COMMISSIONING (DEMONSTRATION)

3.5 SCHEDULES

END OF SECTION
SECTION 09510
ACOUSTICAL CEILINGS

PART 1 – GENERAL

1.1 SUMMARY
A. This section provides standards for acoustical ceilings.

1.2 REFERENCES

1.3 SYSTEM PERFORMANCE REQUIREMENTS

1.4 DEFINITIONS

1.5 SUBMITTALS

1.6 QUALITY ASSURANCE
A. Quality Assurance shall be provided in accordance with Division 1.

1.7 DELIVERY, STORAGE, AND HANDLING
A. Delivery, storage, and handling shall be provided in accordance with Division 1.

1.8 WARRANTY
A. Product and system warranties shall be provided in accordance with Division 1.

PART 2 – PRODUCTS

2.1 MANUFACTURERS
A. Acceptable Manufacturers: Subject to compliance with requirements, provide products by the following:

1. Ceiling Tile:
   a. Armstrong World Industries, Inc.
   b. Building Products Div.
   c. USG Interiors, Inc.

2. Ceiling Suspension Materials:
   a. Chicago Metallic Corp.
   b. Armstrong World Industries, Inc.
   c. USG Interiors, Inc.

2.2 MATERIALS, GENERAL
A. Ceiling Tile:
   1. Shall be 2’ x 4’ or 2’ x 4’ scored 2’ x 2’ mineral fiber, lay in. patterns, colors and finishes shall be as selected and approved through the UC Denver Project Manager.

B. Ceiling Suspension Materials:
   1. Chicago metallic fire rated system where required by code (preferred), white finish, color to be approved by UC Denver Project Manager.

C. Ceiling Panel Marked for Identification of access-Color Code.
1. Removable ceiling tile may provide access to mechanical/electrical components located above the ceiling. When this is necessary, the panel or tile will be marked with colored map tacks (glued in place) according to the following schedule:

<table>
<thead>
<tr>
<th>Description of Access</th>
<th>Pin Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste: valves &amp; unions</td>
<td>Blue</td>
</tr>
<tr>
<td>Waste: cleanouts</td>
<td>Black</td>
</tr>
<tr>
<td>Ventilation: test areas, dampers</td>
<td>Purple</td>
</tr>
<tr>
<td>Fire dampers or fire detector</td>
<td>Red</td>
</tr>
<tr>
<td>Electrical: transformers &amp; resistance heaters</td>
<td>Orange</td>
</tr>
<tr>
<td>Natural gas, oxygen, steam valves &amp; unions</td>
<td>Yellow</td>
</tr>
<tr>
<td>Nitrogen, compressed air, vacuum valves &amp; unions</td>
<td>Green</td>
</tr>
<tr>
<td>Miscellaneous mechanical</td>
<td>Gray</td>
</tr>
</tbody>
</table>

PART 3 – EXECUTION

3.1 EXAMINATION
3.2 INSTALLATION, GENERAL
3.3 TESTING, CLEANING, AND CERTIFICATION
3.4 COMMISSIONING (DEMONSTRATION)
3.5 SCHEDULES

END OF SECTION
SECTION 09650
RESILIENT FLOORING

PART 1 – GENERAL

1.1 SUMMARY
   A. This section provides standards for resilient flooring.

1.2 REFERENCES

1.3 SYSTEM PERFORMANCE REQUIREMENTS

1.4 DEFINITIONS

1.5 SUBMITTALS

1.6 QUALITY ASSURANCE
   A. Quality Assurance shall be provided in accordance with Division 1. (Architect/Engineer should specify moisture testing prior to installation and define maximum allowance moisture.)

1.7 DELIVERY, STORAGE, AND HANDLING
   A. Delivery, storage, and handling shall be provided in accordance with Division 1.

1.8 WARRANTY
   A. Product and system warranties shall be provided in accordance with Division 1.

PART 2 - PRODUCTS

2.1 MANUFACTURERS
   A. Acceptable Manufacturers: Subject to compliance with requirements, provide products by the following:
      1. Vinyl Composition Tile:
         a. Armstrong
         b. Azrock
         c. Mannington
         d. Or approved equal
      2. Accessories:
         a. Johnsonite
         b. Musson Rubber
         c. Roper
         d. Or approved equal

   B. MATERIALS GENERAL
      1. Vinyl Composition Tile:
         a. ASTM F1066, Types IV, 12” x 12” x 0.125” gage unless otherless indicated, pattern extending through full tile thickness, Composition 1 (asbestos free).
         b. Provide colors and patterns as selected and approved through the UC DENVER Product Manager.
      2. Accessories:
2. RESILIENT FLOORING

2.1 RESILIENT FLOORING DESIGN REQUIREMENTS

a. Resilient Base: ASTM F1861, Type I, roll stock rubber, with matching end stops and preformed or molded corner units, .0125” gage, 4” high. Provide topset style with cove base toe at all locations.
b. Resilient Edge Strips: 0.125” thick, homogeneous vinyl or rubber composition, tapered or bullnose edge, not less than 1” wide
c. Abrasive Strip: Self-adhesive, 1” wide, with aluminum oxide grit.
d. Colors: Utilize manufacturer’s standard colors, to be as selected and approved through the UC Denver Project Manager.

3. Adhesives Compounds:
a. Cement or adhesive of types recommended by flooring manufacturer to suit material and substrate condition. Use asphaltic types for concrete substrate.
b. Concrete Slab Primer: Non-staining type as recommended by flooring manufacturer.
c. Leveling Compound: Latex type which can be feather edged, as recommended by flooring manufacturer.

2.2 PROJECT CONDITIONS

A. Sub-floor preparation is to include all required work to prepare the existing floor for installation of the product as specified in this document and Manufacturer’s installation instructions.

B. The maximum amount of moisture evacuation from the floor is 3.0 pounds per 1,000 square feet in 24 hours. The acceptable pH level of the substrate is between 7.0 and 9.0. Flooring contractor is responsible for floor testing.

C. All material used in sub-floor preparation and repair shall be recommended by the carpet manufacturer and shall be chemically and physically compatible with the carpet system being bid.

D. Maintain minimum 65 degrees F ambient temperature and 65% Relative Humidity for 72 hours prior to, during, and 48 hours after installation.

E. Do not install carpet until space is enclosed and weatherproof, wet-work in space is completed and nominally dry, work above ceilings is complete, and ambient temperature and humidity conditions are and will be continuously maintained at values near those indicated for final occupancy.

PART 3 - EXECUTION

3.1 EXAMINATION

3.2 INSTALLATION, GENERAL

A. Floor Cleaning, Finishing:

1. Products to be used for finishes, sealers, and stripper will be as recommended by UC Denver ES through the UC Denver Project Manager.

2. Vinyl Composite Tile: Strip factory seal and apply finish recommended by UC Denver ES through the UC Denver Project Manager.

3.3 TESTING, CLEANING, AND CERTIFICATION

3.4 COMMISSIONING (DEMONSTRATION)
3.5 SCHEDULES

END OF SECTION
SECTION 09680
CARPET

PART 1 – GENERAL

1.1 SUMMARY

A. This section provides standards for carpets.
   1. Sheet Carpet
   2. Installation

1.2 REFERENCES

A. Section 09650 – Resilient flooring

1.3 SYSTEM PERFORMANCE REQUIREMENTS

A. Carpet Application:
   1. Locations for carpet installation shall be reviewed and approved through the UC Denver Project Manager.

1.4 DEFINITIONS

1.5 SUBMITTALS

A. Shop Drawings showing the extent of carpet, seam direction of carpet, and accessories shall be submitted to Architect for approval prior to installation. Check pattern match, if any, for matching during installation and possible waste factors in ordering required amounts. Should also indicate columns, doorways, enclosing walls or partitions, built-in cabinets, and locations where cutouts are required in carpet. Copy of approved shop drawings to be available on job site during installation.

B. Carpet schedule using same room designations indicated on drawings.

C. Product Data: Provide data on specified products, describing physical and performance characteristics, sizes, patterns, colors available, and method of installation.

D. Selection Samples: Submit manufacturer’s complete set of color samples for Architect’s initial color selection.

E. Verification Samples: Submit two 18” x 18” samples illustrating color and pattern for each carpet material specified.

F. Manufacturer’s Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.

G. Maintenance Data: Include maintenance procedures, recommendations for maintenance materials and equipment, and suggested schedule for cleaning.

H. Manufacturer’s Carpet Warranty.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications
   1. Upon request, manufacturer to provide representative to assist in project start-up and to inspect installation while in process and upon completion.
2. Company specializing in manufacturing specified carpet with minimum 1 year documented experience

3. Representative will notify designated contact if any installation instructions are not followed.

4. Single Source Responsibility: Obtain each type of carpet from one source and by a single manufacturer.

5. Manufacture’s rep will be present at 6 month and 11 month punch walks.

B. Installer Qualifications

1. Flooring contractor must be certified by the carpet manufacturer prior to bid.

2. Flooring contractor to be a specialty contractor normally engaged in this type of work and shall have prior experience in the installation of these types of materials.

3. Flooring contractor will be responsible for proper product installation, including floor testing and preparation, as specified by the carpet manufacturer and JOB CONDITIONS herein.

4. Flooring contractor to provide Owner a written installation warranty that guarantees the completed installation to be free from defects in materials and workmanship for a period of one year after job completion.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to the site in manufacturer’s original packaging listing manufacturer’s name, product name, identification number, and related information.

B. Store in a dry location, between 60 degrees F and 80 degrees F and a relative humidity below 65%. Protect from damage and soiling. Stack carpet rolls horizontally on a flat surface, stacked no higher than two rolls.

C. Make stored materials available for inspection by the Owner’s representative.

D. Store materials in area of installation for minimum period of 48 hours prior to installation.

1.8 PROJECT CONDITIONS

A. Sub-floor preparation is to include all required work to prepare the existing floor for installation of the product as specified in this document and Manufacturer’s installation instructions.

B. The maximum amount of moisture evacuation from the floor is 3.0 pounds per 1,000 square feet in 24 hours. The acceptable pH level of the substrate is between 7.0 and 9.0. Flooring contractor is responsible for floor testing.

C. All material used in sub-floor preparation and repair shall be recommended by the carpet manufacturer and shall be chemically and physically compatible with the carpet system being bid.

D. Maintain minimum 65 degrees F ambient temperature and 65% Relative Humidity for 72 hours prior to, during, and 48 hours after installation.

E. Do not install carpet until space is enclosed and weatherproof, wet-work in space is completed and nominally dry, work above ceilings is complete, and ambient temperature and humidity conditions are and will be continuously maintained at values near those indicated for final occupancy.
F. **EXTRA MATERIALS**

1. Deliver all unused carpet and large scraps to Owner for “attic stock.” Dispose of scraps less that 2 square foot in area or less than 8” in width.

1.9 **WARRANTY**

A. Warranty to be sole source responsibility of the Manufacturer. Second source warranties and warranties that involve parties other than the carpet manufacturer are unacceptable.

B. If the product fails to perform as warranted when properly installed and maintained, the affected area will be repaired or replaced at the discretion of the Manufacturer.

C. Where demountable partitions or other items are indicated for installation on top of finished carpet tile floor, install carpet tile before installation of these items.

D. Cut and fit carpet tile to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings.

E. Extend carpet tile into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.

F. Install borders parallel to walls.

G. Roll with appropriate roller for complete contact of carpet with mill-applied adhesive to sub-floor. Carpet to be securely adhered in accordance with ADA requirements (Section 4.5.3).

H. Trim carpet neatly at walls and around interruptions.

I. Completed carpet is to be smooth and free of bubbles, puckers, and other defects.

J. Warranty shall not exclude carpet product installed on stairs provided it is properly installed and maintained.

K. Warranty shall be for a specifically defined non-prorated period of twenty years. “Lifetime” warranties are not acceptable.

L. The non-prorated twenty-year warranty shall cover against and specifically define the following:

   1. Excessive Surface Wear: More than 15% loss of pile fiber weight
   2. Excessive Static Electricity: More than 3.0 kV per AATCC 134
   3. Resiliency Loss of the Backing: More than 10% loss of backing resiliency
   4. Delamination
   5. Edge Ravel
   6. Zippering

M. Tuft Bind warranty in lieu of edge ravel and zippering is not acceptable.

**PART 2 – PRODUCTS**

2.1 **MANUFACTURERS**
2.2 MATERIALS, GENERAL

A. FIBER

1. ** Nylon Fiber: Fiber must be premium branded nylon. Mill extruded nylon will not be accepted.

2. Durable stain inhibitor should be applied to the fiber during product manufacturing to resist fiber staining and soiling. (Minimum average of three fluorine analyses of a single composite sample per CRI TM-102: 500 ppm.)


4. ** Dye Method: Fiber to be minimum 95% solution dyed

B. BACKING CHARACTERISTICS

1. Primary Backing: Synthetic Woven or Non-Woven.

2. Pre-Coat (Fusion Coat): Sealant Vinyl

   a. Density (ASTM D-1667): 18.5 lbs/cu ft +/- 5%
   b. Compression Set (ASTM D-1667): Max 10%
   c. Compression Deflection (ASTM D-1667): Min. 7 psi @ 25%; Max. 25 psi @ 25%
   d. Impermeable to moisture and airflow
   e. Provide for a chemically welded seam that is also impermeable to moisture and airflow
   f. 6’ Width Roll Goods
   g. Product to be installed with a mill-applied releasable “dry” adhesive system (when/if available from Manufacturer) to securely attach product to sub-floor in compliance with ADA guidelines, Section 4.5.3. Free-lay and stretch-in installations not allowed.

2.3 PERFORMANCE CHARACTERISTICS

A. Test reports for the following performance assurance testing to be submitted upon request. Submitted results shall represent average results for production goods of the referenced style.

B. Requirements listed below must be met by all products.

1. Flooring Radiant Panel
   - ASTM E-648 / NFPA 253: Class 1 (CRF: 0.45 watts/sq cm or greater)

2. Federal Flammability
   - CPSC FF 1-70: Passes

3. Smoke Density
   - ASTM E-662 / NFPA 258: < 450 Flaming Mode

4. Electrostatic Propensity
   - AATCC 134 (Step & Scuff): 3.0 kV or less

5. Static Coefficient of Friction
ASTM C-1028: Passes ADA Guidelines for Accessible Routes (Minimum 0.60)
6. Delamination of Secondary Backing of Pile Floor Coverings
   ASTM D-3936: Minimum 15 lbs.
7. Lightfastness
   AATCC 16E: > 4 @ 100 hours
8. Vetterman Drum
   ASTM D-5417: Minimum 3 @ 22,000 cycles
9. Moisture Barrier
   Moisture Penetration by Impact @ 10 psi: No Penetration of backing and seam after 10,000 impacts
10. Air Flow Barrier
    Air Permeability of Textile Fabrics: No Air Flow (0.0 ft³/min) through backing and seam
11. Seam Integrity
    Seam to remain intact after 50,000 cycles per Phillips Chair Test
12. VOC Chamber Testing
    ASTM D-5116: Product inclusive of “dry” adhesive system meets criteria established by the State of Washington Indoor Air Quality Specification for Carpet and/or Carpet & Rug Institute’s (CRI) Indoor Air Quality Carpet Testing Program. If “dry” adhesive (2.02D) not available from manufacturer and “wet” adhesive is used to install the product, carpet and adhesive to meet CRI’s Green Label requirements

2.4 SUBSTITUTES/ALTERNATES
   A. Subject to compliance with all requirements, “or equal” must match the selected color(s) and have similar aesthetic appearance and tuft density, closed-cell vinyl backing. Substitution sample and submittals to be considered must be submitted for written approval of quality and color in accordance with bidding documents. Sample of proposed substitute must be inclusive of both the face and proposed backing (color-only sample not acceptable).

2.5 ACCESSORIES
   A. Materials recommended by Manufacturer for patching, priming, chemically welding the seams, etc.
   B. Adhesives: Products to be supplied with a pre-cured, mill-applied or other “dry” adhesive system (2.02E) when available. Otherwise, adhesive should be full spread, extremely low VOC in compliance with CRI Indoor Air Quality Adhesive Testing Program requirements, compatible with materials being adhered, as recommended by the Manufacturer.

PART 3 – EXECUTION

3.1 EXAMINATION
   A. Prepare sub-floor to comply with criteria established in Manufacturer’s installation instructions. Use only preparation materials that are acceptable to the Manufacturer.
      1. Remove all deleterious substances from substrate(s) that would interfere with or be harmful to the installation. (i.e. floor wax)
      2. Remove sub-floor ridges and bumps. Fill cracks, joints, holes, and other defects.
B. Verify that sub-floor is smooth and flat within specified tolerances and ready to receive carpet.

C. Verify that substrate surface is dust-free and free of substances that would impair bonding of product to the floor.

D. Verify that concrete surfaces are ready for installation by conducting moisture and pH testing. Results must be within limits recommended by Manufacturer.

E. There will be no exceptions to the provisions stated in the Manufacturer’s installation instructions.

3.2 INSTALLATION, GENERAL

A. Install product in accordance with Manufacturer’s installation instructions.

B. Verify carpet match before cutting to ensure minimal variation between dye lots.

C. Layout carpet and locate seams in accordance with shop drawings.
   1. Locate seams in area of least traffic, out of areas of pivoting traffic, and parallel to main traffic. Minimize cross seams.
   2. Do not locate seams perpendicular through door openings.
   3. Align run of pile in same direction as anticipated traffic and in same direction on adjacent pieces.
   4. Locate change of color or pattern between rooms under door centerline.
   5. Provide monolithic color, pattern, and texture match within any one area.

D. Install carpet tight and flat on sub-floor, well-fastened at edges, with a uniform appearance.

E. Double-cut carpet seams with accurate pattern match. Make cuts true, and unfrayed.

F. Chemically weld all seams with manufacturer’s recommended seam sealer as stated in installation instructions. Make sure the seam is fully sealed.

G. Roll with appropriate roller for complete contact of carpet with mill-applied adhesive to sub-floor.

H. Trim carpet neatly at walls and around interruptions.

I. Completed carpet is to be smooth and free of bubbles, puckers, and other defects.

3.3 TESTING, CLEANING, AND CERTIFICATION

A. Remove excess adhesive and/or seam sealer from floor and wall surfaces without damage.

B. All rubbish, wrappings, debris, trimmings, etc. to be removed from site and disposed of properly.

C. Clean and vacuum carpet surfaces using a beater brush/bar commercial vacuum.

D. After each area of carpet is installed, protect from soiling and damage by other trades.

3.2 COMMISSIONING (DEMONSTRATION)

3.3 SCHEDULES

END OF SECTION
SECTION 09684
CARPET TILE

PART 1 – GENERAL

1.8 SUMMARY
A. Section Includes
   1. Carpet Tile
   2. Installation

1.9 REFERENCES
A. Section 09650 – Resilient flooring

1.10 SYSTEM PERFORMANCE REQUIREMENTS
A. Carpet Application:
   1. Locations for carpet installation shall be reviewed and approved through the UC Denver Project Manager.

1.11 DEFINITIONS

1.12 SUBMITTALS
A. Shop Drawings showing the extent of carpet, seam direction of carpet, and accessories shall be submitted to Architect for approval prior to installation. Check pattern match, if any, for matching during installation and possible waste factors in ordering required amounts. Should also indicate columns, doorways, enclosing walls or partitions, built-in cabinets, and locations where cutouts are required in carpet. Copy of approved shop drawings to be available on job site during installation.

B. Carpet schedule using same room designations indicated on drawings.

C. Product Data: Provide data on specified products, describing physical and performance characteristics, sizes, patterns, colors available, and method of installation.

D. Selection Samples: Submit manufacturer’s complete set of color samples for Architect’s initial color selection.

E. Verification Samples: Submit two 18” x 18” samples illustrating color and pattern for each carpet material specified.

F. Manufacturer’s Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.

G. Maintenance Data: Include maintenance procedures, recommendations for maintenance materials and equipment, and suggested schedule for cleaning.

H. Manufacturer’s Carpet Warranty.

1.13 QUALITY ASSURANCE
A. Manufacturer Qualifications
   1. Upon request, manufacturer to provide representative to assist in project start-up and to inspect installation while in process and upon completion.
   2. ** Company specializing in manufacturing of carpet tile with minimum 5 year documented...
experience
3. Representative will notify designated contact if any installation instructions are not followed;
4. Single Source Responsibility: Obtain each type of carpet from one source and by a single
manufacturer.
5. Manufacturer’s rep will be present at 6 month and 11 month punch walks.

B. Installer Qualifications

1. Flooring contractor must be certified by the carpet manufacturer prior to bid.
2. Flooring contractor to be a specialty contractor normally engaged in this type of work and
shall have prior experience in the installation of these types of materials.
3. Flooring contractor will be responsible for proper product installation, including floor testing
and preparation, as specified by the carpet manufacturer and JOB CONDITIONS herein.
4. Flooring contractor to provide Owner a written installation warranty that guarantees the
completed installation to be free from defects in materials and workmanship for a period of
one year after job completion.

1.14 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to the site in manufacturer’s original packaging listing manufacturer’s name,
product name, identification number, and related information.
B. Store in a dry location, between 60 degrees F and 80 degrees F and a relative humidity below
65%. Protect from damage and soiling. Stack carpet rolls horizontally on a flat surface, stacked
no higher than two rolls.
C. Make stored materials available for inspection by the Owner’s representative.
D. Store materials in area of installation for minimum period of 48 hours prior to installation.

1.8 PROJECT CONDITIONS

A. Sub-floor preparation is to include all required work to prepare the existing floor for installation of
the product as specified in this document and Manufacturer’s installation instructions.
B. The maximum amount of moisture evacuation from the floor is 3.0 pounds per 1,000 square feet
in 24 hours. The acceptable pH level of the substrate is between 7.0 and 9.0. Flooring contractor
is responsible for floor testing.
C. All material used in sub-floor preparation and repair shall be recommended by the carpet
manufacturer and shall be chemically and physically compatible with the carpet system being bid.
D. Maintain minimum 65 degrees F ambient temperature and 65% Relative Humidity for 72 hours
prior to, during, and 48 hours after installation.
E. Do not install carpet until space is enclosed and weatherproof, wet-work in space is completed and
nominally dry, work above ceilings is complete, and ambient temperature and humidity conditions
are and will be continuously maintained at values near those indicated for final occupancy.
F. EXTRA MATERIALS

2. Deliver all unused carpet tiles to Owner for “attic stock.”

1.9 WARRANTY

A. Warranty to be sole source responsibility of the Manufacturer. Second source warranties and warranties
that involve parties other than the carpet manufacturer are unacceptable.

B. If the product fails to perform as warranted when properly installed and maintained, the affected area will be repaired or replaced at the discretion of the Manufacturer.

C. Chair Pads are not required for carpet warranty coverage.

D. Warranty shall not exclude carpet product installed on stairs provided it is properly installed and maintained.

E. Warranty shall be for a specifically defined non-prorated period of twenty years. “Lifetime” warranties are not acceptable.

F. The non-prorated twenty-year warranty shall cover against and specifically define the following:
   5. Excessive Surface Wear: More than 15% loss of pile fiber weight
   6. Excessive Static Electricity: More than 3.0 kV per AATCC 134
   7. Resiliency Loss of the Backing: More than 10% loss of backing resiliency
   8. Delamination
   9. Edge Ravel
   7. Zippering

G. Additional warranty shall be for a minimum non-prorated period of two years and shall cover against shrinkage, cupping, and doming.

H. Tuft Bind warranty in lieu of edge ravel and zippering is not acceptable.

PART 2 – PRODUCTS

b. MANUFACTURERS

c. MATERIALS, GENERAL
   i. FIBER

1. **Nylon Fiber:** Fiber must be premium branded nylon. Mill extruded nylon will not be accepted
   
2. Durable stain inhibitor should be applied to the fiber during product manufacturing to resist fiber staining and soiling. (Minimum average of three fluorine analyses of a single composite sample per CRI TM-102: 500 ppm.)
   

4. **Dye Method:** Fiber to be minimum 95% solution dyed

   ii. BACKING CHARACTERISTICS

   1. Primary Backing: Synthetic Woven or Non-Woven
   2. Pre-Coat (Fusion Coat): Sealant Vinyl
   3. Secondary Backing: Vinyl Hardback. 100% reclaimed-content, nylon reinforced vinyl matrix backing is preferred and should be provided if available.

   1. Density (ASTM D-1667): Minimum 65 lbs/cu ft +/- 5%
   2. Fiberglass Reinforced.
3. **18” x 18” or 50cm**

4. **Product to be installed using manufacturer’s recommended adhesive. Non adhesive methods are preferred and should be provided if available.**

### 2.03 PERFORMANCE CHARACTERISTICS

A. Test reports for the following performance assurance testing to be submitted upon request. Submitted results shall represent average results for production goods of the referenced style.

B. Requirements listed below must be met by all products.

1. Flooring Radiant Panel
   
   ASTM E-648 / NFPA 253: Class 1 (CRF: 0.45 watts/sq cm or greater)

2. Federal Flammability
   
   CPSC FF 1-70: Passes

3. Smoke Density
   
   ASTM E-662 / NFPA 258: ≤ 450 Flaming Mode

4. Electrostatic Propensity
   
   AATCC 134 (Step & Scuff): 3.0 kV or less

5. Static Coefficient of Friction
   
   ASTM C-1028: Passes ADA Requirements for Accessible Routes (minimum 0.60)

6. Delamination of Secondary Backing of Pile Floor Coverings
   
   ASTM D-3936: Minimum 15 lbs.

7. Lightfastness
   
   AATCC 16E: > 4 @ 100 hours

8. Vetterman Drum
   
   ASTM D-5417: Minimum 3 @ 22,000 cycles

9. VOC Chamber Testing
   
   ASTM D-5116: Product inclusive of “dry” adhesive system meets criteria established by the State of Washington Indoor Air Quality Specification for Carpet and/or Carpet & Rug Institute’s (CRI) Indoor Air Quality Carpet Testing Program. If “dry” adhesive (2.02D) not available from manufacturer and “wet” adhesive is used to install the product, carpet and adhesive to meet CRI’s Green Label requirements.

10. Dimensional Stability
    
    Aachen / ISO 2551: Maximum Change +/- 0.149%

C. Substitutes/Alternates

1. Subject to compliance with all requirements, “or equal” must match the selected colors, have similar aesthetic appearance and tuft density, vinyl backing – preferably 100% reclaimed. Substitution sample and submittals to be considered must be submitted for written approval of quality and color in accordance with bidding documents. Sample of proposed substitute must be inclusive of both the face and proposed backing (color-only sample not acceptable).

D. ACCESSORIES
1. Materials recommended by Manufacturer for patching, priming, etc.

2. Adhesives: Products to be supplied with a pre-cured, mill-applied or other “dry” adhesive system (2.02E) when available. Otherwise, adhesive should be full spread, extremely low VOC in compliance with CRI Indoor Air Quality Adhesive Testing Program requirements, compatible with materials being adhered, as recommended by the Manufacturer.

3. Base, Carpet Edge, and Transition Strips: As specified in applicable sections.

PART 3 – EXECUTION

3.4 EXAMINATION

A. Prepare sub-floor to comply with criteria established in Manufacturer’s installation instructions. Use only preparation materials that are acceptable to the Manufacturer.

1. Remove all deleterious substances from substrate(s) that would interfere with or be harmful to the installation. (i.e. floor wax)

2. Remove sub-floor ridges and bumps. Fill cracks, joints, holes, and other defects.

B. Verify that sub-floor is smooth and flat within specified tolerances and ready to receive carpet.

C. Verify that substrate surface is dust-free and free of substances that would impair bonding of product to the floor.

D. Verify that concrete surfaces are ready for installation by conducting moisture and pH testing. Results must be within limits recommended by Manufacturer.

E. There will be no exceptions to the provisions stated in the Manufacturer’s installation instructions.

3.5 INSTALLATION, GENERAL

A. Install product in accordance with Manufacturer’s installation instructions.

B. Where demountable partitions or other items are indicated for installation on top of finished carpet tile floor, install carpet tile before installation of these items.

C. Cut and fit carpet tile to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings.

D. Extend carpet tile into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.

E. Install borders parallel to walls.

F. Roll with appropriate roller for complete contact of carpet with mill-applied adhesive to sub-floor. Carpet to be securely adhered in accordance with ADA requirements (Section 4.5.3).

G. Trim carpet neatly at walls and around interruptions.

H. Completed carpet is to be smooth and free of bubbles, puckers, and other defects.

3.2 TESTING, CLEANING, AND CERTIFICATION

A. Remove excess adhesive and/or seam sealer from floor and wall surfaces without damage.
B. All rubbish, wrappings, debris, trimmings, etc. to be removed from site and disposed of properly.

C. Clean and vacuum carpet surfaces using a beater brush/bar commercial vacuum.

D. After each area of carpet is installed, protect from soiling and damage by other trades.

COMMISSIONING (DEMONSTRATION)

SCHEDULES

END OF SECTION
SECTION 09900

PAINTING

PART 1 – GENERAL

1.1 SUMMARY
   A. This section provides standards for painting.

1.2 REFERENCES

1.3 SYSTEM PERFORMANCE REQUIREMENTS
   A. Interior and Exterior Finishes:
      1. All painting must be of journeyman level craftsmanship, paying special attention to
         preparation, etching, priming and undercoating.
      2. Single-Source Responsibility: Provide primers and undercoat paint produced by the same
         manufacturer as the finish coats. (use low V.O.C. paint)
   B. Application:
      1. When alkyd enamel or other special coatings with objectionable characteristics are
         specified, special attention must be directed to any public occupancy of the space or
         adjacent spaces during the painting and repainting process.

1.4 DEFINITIONS

1.5 SUBMITTALS
   A. Product data shall be submitted for each of the following products:
      1. MSDS’s for all coatings must be provided to the UC Denver Project Manager before
         application.

1.6 QUALITY ASSURANCE
   A. Quality Assurance shall be provided in accordance with Division 1, including the following:
      1. Installer Qualifications: Engage an experienced applicator who has completed painting
         system applications similar in material and extent to those indicated for the project that
         have resulted in a construction record of successful in-service performance.

1.7 DELIVERY, STORAGE, AND HANDLING
   A. Delivery, storage, and handling shall be provided in accordance with Division 1.

1.8 WARRANTY
   A. Product and system warranties shall be provided in accordance with Division 1.

PART 2 – PRODUCTS

2.1 MANUFACTURERS
   A. Acceptable Manufacturers: Subject to compliance with requirements, provide products by the
      following:
      1. Paint:
         a. Benjamin Moore and Co. (Moore)
         b. PPG Industries, Pittsburgh Paints (PPG)
         c. The Sherwin-Williams Company (S-W)
2.2 MATERIALS, GENERAL

A. Paint:
1. Material Compatibility: Provide block fillers, primers, finish coat materials, and related materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by the manufacturer based on testing and field experience.

2. Material Quality: Provide the manufacturer’s best quality paint material of the various coating types specified. Paint material containers not displaying manufacturer’s product identification will not be acceptable.
   a) Proprietary Names: Use of manufacturer’s proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers. Furnish the manufacturer’s material data and certificates of performance for proposed substitutions.

3. Colors: Provide colors from the manufacturer’s full range of standard colors as selected and approved through the UC Denver Project Manager.

4. Sheen of finishes for interior and exterior surfaces shall be as selected and approved through the UC Denver Project Manager.

B. Primers:
1. Primers: Provide the manufacturer’s recommended factory-formulated primers that are compatible with the substrate and finish coats indicated.

C. Undercoat Materials:
1. Undercoat Materials: Provide the manufacturer’s recommended factory-formulated undercoat materials that are compatible with the substrate and finish coats indicated.

D. Finish Paint Material:
1. Finish Paint: Provide the manufacturer’s recommended factory-formulated finish-coat materials that are compatible with the substrate and undercoats indicated.

E. Wood Stains:
1. Quick dry stains

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examination of the conditions of the substrate to receive the work shall be done in accordance with Division 1.

3.2 INSTALLATION, GENERAL

A. Apply water-based and water-born paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 50 degree F (10 degree C) and 90 degree F (32 degree C). Do not thin any water-based products.

B. Apply solvent-thinned paints and lacquers only when the temperature of surfaces to be painted and surrounding air temperatures are between 45 degree F (7 degree C) and 95 degree F (35 degree C).

C. Do not apply exterior paint in snow, rain, fog, or mist; or when the relative humidity exceeds 85%; or at temperatures less than 5 degree F (3 degree C) above the dew point; or to damp or wet surfaces.

D. General: Apply paint according to manufacturer’s directions. Use applicators and techniques best suited for substrate and type of material being applied.
E. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.

F. Minimum Coating Thickness: Apply materials no thinner than the manufacturer’s recommended spreading rate. Provide the total dry film thickness of the entire system as recommended by the manufacturer.

G. Stipple Enamel Finish: Roll and redistribute paint to an even and fine texture. Leave no evidence of rolling such as laps, irregularity in texture, skid marks, or other surface imperfections.

H. Pigmented (Opaque) Finishes: Completely cover to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.

I. Protection:
   1. Protect work of other trades, whether being painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as acceptable to Architect.
   2. Provide “Wet Paint” signs to protect newly painted finishes. Remove temporary protective wrappings provided by others to protect their work after completing painting operations.

3.3 TESTING, CLEANING, AND CERTIFICATION

3.4 COMMISSIONING (DEMONSTRATION)

3.5 SCHEDULES

END OF SECTION
SECTION 09950

WALL COVERINGS

PART 1 - GENERAL

1.1 SUMMARY
A. This section provides standards for wall coverings.

1.2 REFERENCES

1.3 SYSTEM PERFORMANCE REQUIREMENTS
A. Vinyl Wall Covering:
   1. Vinyl wall covering must be approved for desired location through the UC Denver Project Manager. The surface should be smooth and resistant to high alkaloid cleansers.

1.4 DEFINITIONS

1.5 SUBMITTALS

1.6 QUALITY ASSURANCE
A. Quality Assurance shall be provided in accordance with Division 1.

1.7 DELIVERY, STORAGE, AND HANDLING
A. Delivery, storage, and handling shall be provided in accordance with Division 1.

1.8 WARRANTY
A. Product and system warranties shall be provided in accordance with Division 1.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

2.2 MATERIALS, GENERAL

PART 3 – EXECUTION

3.1 EXAMINATION

3.2 INSTALLATION, GENERAL

3.3 TESTING, CLEANING, AND CERTIFICATION

3.4 COMMISSIONING (DEMONSTRATION)

3.5 SCHEDULES

END OF SECTION