

## **PART III – CSU FACILITIES PLANNING, DESIGN AND CONSTRUCTION STANDARDS**

### **DIVISION 09 – FINISHES**

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**Housing and Dining Facilities (HDS) has adopted amendments for all HDS facilities. Confirm applicable standards with Project Representative on a per Project basis.**

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#### **09 00 00 – GENERAL INFORMATION**

- A. A color scheme shall be recommended by the A/E, and submitted to the Project Representative for review and approval by Facilities Management (FM) Planning, Design, Construction and Engineering and the department(s) occupying the building.
1. Changes shall not be made once a color scheme for the Project is selected and approved.
- B. High traffic corridor and entrance lobby floors shall be luxury vinyl tile (LVT), terrazzo or sealed concrete.
1. Ceramic or quarry tile shall not be used.
- C. Stairways shall have a sealed, polished concrete finish.
1. Tread shall have a raised edge at the sides to keep cleaning water from dripping over the edge.
- D. Laboratory floors shall be sealed, polished concrete or seamless epoxy.
- E. Rubber base shall be used for all carpet, LVT, resilient flooring and sealed concrete installations unless otherwise noted.
- F. Rooms that require frequent cleaning including, but not limited to Restrooms, Commuter Shower Rooms, Indoor Bike Rooms and locker room shall have wall materials and finishes that can withstand power washing.
1. Restrooms shall have ceramic tile floors with grout and wall tile wainscot to at least 60" above finished floor (AFF).
    - a. Grout shall not be white in color.
  2. Locker Room, Commuter Shower Rooms and Indoor Bike Rooms shall have walls with finishes of glazed concrete block, ceramic tile or fiberglass reinforced plastic.
  3. Commuter Shower Room floors shall be slip resistant ceramic tile with gray or black grout.
- G. To assist the consulting A/E in the selection of finishes, the Project Representative shall provide the current listing of materials available on preferred contract pricing through FM Logistics.
- H. All electrical panelboards shall be factory painted with low gloss enamel (not flat wall paint) suitable for metal.
1. Field painting shall not be permitted.
- I. Exterior black pipe gas lines shall be cleaned of all oils and rust, primed with rust inhibitive primer, and painted with industrial enamel finish.

#### **09 20 00 – PLASTER AND GYPSUM BOARD**

- A. Gypsum Board:

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1. All gypsum board shall be 5/8" thick Type 'X'.
2. Provide water-resistant paperless board in high moisture areas.

#### B. Metal Studs, Non-structural:

1. Light gauge metal framing shall be minimum 25-gauge x 3-5/8" @ 16" oc.
2. Secure with fasteners or proper crimping tool (welds are discouraged).

#### C. Corner Guards:

1. Provide rounded corner guards in high traffic areas and loading zones for research laboratories where rolling equipment carts are used.

### 09 30 00 – TILING

- A. To reduce lead times, use local Vendors for procurement.

### 09 51 00 – ACOUSTICAL CEILINGS

#### A. Sole Source Products:

1. Ceiling Tile:
  - a. Contact Project Representative
2. Ceiling Grid:
  - a. Contact Project Representative

#### B. Ceiling Tile:

1. For remodels, match existing ceiling tile if possible. These Armstrong products predominant:
  - a. Minaboard FireGuard – Fissured 895 (If existing cannot be matched, use Fissured 895)
  - b. Georgian 898
2. All new buildings shall use the Sole Source Product.
3. Concealed Grid Systems and ceiling panels larger than 2'-0" x 4'-0" are not allowed.
4. Use scrubbable vinyl-faced ceiling tile, Armstrong VL Unperforated Fire Guard 870, in restrooms and high humidity areas.

#### C. Ceiling Panel Markers for access identification – Color Code:

1. Removable ceiling tile may provide access to mechanical/electrical components located above the ceiling.
2. The panel or tile shall be marked with colored map tacks glued in place according to the following schedule:

<u>Description of Access</u>	<u>Pin Color</u>
Waste valves and unions	Blue
Waste cleanouts	Black
Ventilation test areas, dampers	Purple

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Fire dampers or fire detector	Red
Electrical transformers and resistance heaters	Orange
Natural gas, oxygen, steam valves and unions	Yellow
Nitrogen, compressed air, vacuum valves and unions	Green
Miscellaneous mechanical	Gray

#### 09 61 00 – FLOORING TREATMENT

##### A. Floor Finish:

1. Products to be used for finishes, sealers, and strippers shall be as recommended by FM Building Services through the Project Representative.
  - a. Products which are incompatible with the current finish, sealers, or strippers can damage the existing finish.
2. FM Building Services may choose to install initial seal and finish to new flooring.
  - a. The Project Representative shall determine whether this option shall be used for the Project and direct the Architect accordingly.
3. Stone and Concrete:
  - a. Allow adequate curing.
  - b. Seal and apply finish as recommended by FM Building Services through the Project Representative.
4. Ceramic Tile:
  - a. Grout sealer shall be required.
    - i. Apply no sooner than 48 hours after grouting.
  - b. Seal and apply finish as recommended by FM Building Services through the Project Representative.

#### 09 65 00 – RESILIENT FLOORING

##### A. Sole Source Products:

1. Contact Project Representative

##### B. Rubber Base:

1. Top set cove and extended toe base with premolded outside corners, thermoset, minimum of 4" in height.
2. Integral bases formed with sheet flooring shall have a backing behind the cove.

#### 09 68 00 – CARPETING

##### A. General Requirements:

1. Carpet tiles are preferred over rolled goods for durability and ease of replacement.
2. Under normal circumstances, carpet shall be installed only in faculty or administrative offices (not graduate student offices).
  - a. Classrooms and lecture rooms shall be carpeted only when necessary for acoustic reasons.
3. Show layout of each carpet type installation on Layout Drawings at 1/8" scale or larger.

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4. Submit for verification purposes a minimum of a 9" x 9" sample of each carpet required.
  - a. Samples shall be accompanied by Manufacturer's Specification for each carpet required using terminology characteristics as listed in this Specification.
  - b. Also include a complete representation in sample form of all available colorations.
5. Submit Manufacturer's printed maintenance recommendations for the care, cleaning, and maintenance of the carpet, including detailed instructions pertaining to hot water extraction methods.
6. All carpet of the same type in continuous areas shall be from the same dye lots.
  - a. Carpets that are piece dyed and are limited to dye batch sizes must be approved by the Project Representative.
  - b. Transition from one dye lot to another shall be detailed on Shop Drawings and approved by Project Representative.
7. Deliver carpeting materials in original mill protective wrapping with mill register numbers and tags attached.
  - a. Maintain wrappers and protective covers in place until carpet is ready for installation.
  - b. Store inside, in well ventilated area, protected from weather, moisture and soiling.
8. Maintain temperatures in space in accordance with carpet or adhesive Manufacturer's recommendations, but in no case less than 65°F for 24 hours prior to, during and after installation.
  - a. Subfloor temperature shall be a minimum 65°F for 24 hours prior to and after installation.
9. All of the carpet shall be stored in a room on site 24 hours prior to actual installation with the room preconditioned at a minimum of 65°F with relative humidity between 10% and 65%.
10. A calcium chloride test shall be performed on the concrete to detect the presence of moisture. Acceptable results require that moisture content does not exceed 8 lbs. per 1,000 square feet per 24 hours.
  - a. One calcium chloride test shall be performed for every 300 yards of carpet.
  - b. Relative Humidity ASTM F-2170 test method may be used in place of calcium chloride test.
  - c. Acceptable moisture limits are 85% maximum relative humidity.
  - d. Alkalinity tests shall also be performed at all moisture test locations.
  - e. PH shall register between 5 and 9.
  - f. All tests shall be documented and submitted to the Project Representative for approval prior to installation.
11. Carpet installation shall not begin until the Work of other trades is substantially completed.
12. Prepare the subfloor to ensure a successful installation.
13. Comply with Manufacturer's instructions and recommendations for installation of this type of carpet by the full glue down methods.
14. Adhesives shall be waterproof, non-flammable, and recommended and approved by the carpet Manufacturer in writing for compatibility with carpet backing.
  - a. Adhesives shall have no calculated VOCs, be non-flammable, and meet the criteria of the CRI Green Label Plus Certification Program.
  - b. MSDS and samples of product used shall be submitted. Adhesive shall have a Lifetime Bond Warranty from Manufacturer.
15. Carpeting shall be installed with the pile lying in the same direction (monolithic), unless another

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specified method is recommended by the Manufacturer or at Project Representative's approval.

- a. Cut carpet tile evenly and accurately to fit neatly at walls, columns and projections.
- b. Extend carpet under open-bottomed and raised-bottom obstructions, and under removable flanges of obstructions.

16. Installed carpet tiles shall be free from ripples, ravel, frays and puckers.

- a. All loop pile carpets shall demonstrate some fuzzy edges due to normal manufacturing conditions.

17. Do not bridge building expansion joints with continuous carpeting, provide for movement.

18. Vacuum installed carpet using two motor, top loading, upright commercial machine with brush-only element, utilizing a high filtration dust bag.

- a. Remove spots in accordance with Carpet Manufacturer's guidelines and replace carpet where spots cannot be removed.
- b. Remove any protruding face yarn using sharp scissors.
- c. Be certain to trim any loose yarns or fibers at all seams.

19. Following cleaning and vacuum carefully protect the carpeting from soiling and damage until final acceptance.

20. Protection shall be accomplished by using a protection paper.

- a. For example, Fortifiber Corporation "Seekure 892", or other approved heavy, reinforced, non-staining kraft laminated paper.
  - i. Edges shall be lapped 6" and secured with non-asphaltic tape.
  - ii. Covering shall be kept in repair and damaged portions replaced during the construction and move-in period.

21. Furnish 5% additional yardage of each carpet type required; extra yardage is over and above any overage provided by Manufacturer.

- a. Normal manufacturing overage not to exceed 10% for under 1000 yards, not to exceed 5% for over 1000 yards.
- b. Deliver, prior to commencement of installation, to the Project Representative uncut in clearly marked dust proof packages.

22. Deliver usable scraps after installation to the Project Representative, properly packaged and identified.

- a. Dispose of smaller pieces as construction waste.

#### B. Low-Traffic Carpeting:

1. Acceptable Products:

- a. (list here)

2. Products not Allowed:

- a. (list here)

3. Discussion:

- a. Fibers shall be 100% Type 6 or 6.6 BCF Nylon
- b. Construction:
  - i. Loop, level, textured, or tip shear
- c. Gauge:
  - i. No gauge restrictions
- d. Average Pile Density:

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- i. Minimum of 5000 oz. per cubic yard as per CRI Density formula (36 in/yd x face weight in oz/sy)/pile thickness (inches)
- e. Static Control:
  - i. < 3.5 kV when tested under American Association of Textile Chemists and Colorists (AATCC) 134
- f. Flammability:
  - i. Shall pass DOC–FF–1\_70 Pill Test.
  - ii. Floor Radiant Panel:
    - a) Meets NFPA Class 1 when tested per ASTM E–648 glue down.
  - iii. NBS Smoke Chamber:
    - a) Less than 450 Flaming Mode per ASTM–E–662.
- g. Moisture Barrier:
  - i. Passes Moisture Impact at 10,000 cycles or British Spill Testing
- h. Indoor Air Quality:
  - i. Manufacturer must demonstrate that carpet is certified under the CRI Green Label Plus Program
- i. Dyed Method:
  - i. printed, solution dyed or yarn dyed, or combination of both (as long as all performance criteria are met)
- j. Texture Retention Rating:
  - i. Vettermann Drum test method ASTM D5417 for 22,000 cycles with a minimum rating of 3.0 or Hexapod Test Method, ASTM D5252 for 12,000 cycles (8.4 lb. tumbler) with a minimum rating of 3.0.
  - ii. Rating using the appropriate Commercial Reference Scale for the construction per ASTM D7330 test method.
  - iii. Testing conducted without underpad or brushing.

#### C. High–Traffic Carpeting:

- 1. Acceptable Products:
  - a. (list here)
- 2. Products not Allowed:
  - a. (list here)
- 3. Discussion:
  - a. Fibers shall be 100% Type 6 or 6.6 BCF Nylon
  - b. Construction:
    - i. Loop, level or textured
  - c. Gauge:
    - i. No gauge restrictions
  - d. Average Pile Density:
    - i. Minimum of 6000 oz. per cubic yard as per CRI Density formula (36 in/yd x face weight in oz/sy)/pile thickness (inches)
  - e. Static Control:
    - i. < 3.5 kV when tested under AATCC 134
  - f. Flammability:
    - i. Shall pass DOC–FF–1\_70 Pill Test
    - ii. Floor Radiant Panel:
      - a) Meets NFPA Class 1 when tested per ASTM E–648 glue down
    - iii. NBS Smoke Chamber:
      - a) Less than 450 Flaming Mode per ASTM–E–662
  - g. Moisture Barrier:
    - i. Passes Moisture Impact at 10,000 cycles or British Spill Testing

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- h. Indoor Air Quality:
  - i. Manufacturer must demonstrate that carpet is certified under the CRI Green Label Plus Program
- i. Dyed Method:
  - i. 100% solution dyed or solution dyed/yard dyed combination with a minimum of 75% solution dyed (as long as all performance criteria are met)
  - ii. Preference shall be given to 100% solution dyed products.
- j. Stain Resistance:
  - i. AATCC TM 171 (HWE) for 2 cleanings to simulate removal of topical treatments by hot water extraction, followed by AATCC TM 175 Stain Resistance test; minimum rating of 8 using AATCC Red 40 Stain Scale
- k. Texture Retention Rating:
  - i. Vettermann Drum test method ASTM D5417 for 22,000 cycles with a minimum rating of 3.5 or Hexapod Test Method, ASTM D5252 for 12,000 cycles (8.4 lb. tumbler) with a minimum rating of 3.5
  - ii. Rating using the appropriate Commercial Reference Scale for the construction per ASTM D7330 test method.
  - iii. Testing conducted without underpad or brushing
- l. Colorfastness to Light:
  - i. AATCC TM 16.3 to 200 AFU' minimum rating of 3–4 using AATCC Gray Scale for Color Change (applies only to 100% solution dyed products)
- m. Colorfastness to atmospheric contaminants:
  - i. AATCC TM 164 (resistance to fade from oxides of nitrogen) and AATCC TM 129 (resistance to fade from ozone) for 2 cycles; minimum rating of 3–4 using AATCC Gray Scale for Color Change (applies only to 100% solution dyed products)
- n. Colorfastness to crocking:
  - i. AATCC TM 165, minimum rating of 4 using the AATCC Chromatic Transfer Scale (applies only to 100% solution dyed products)

#### D. Backing Characteristics:

- 1. Broadloom:
  - a. Primary Backing:
    - i. Synthetic Woven or Non–Woven
  - b. Secondary Backing:
    - i. Thermoplastic Polyolefin (TPO) recyclable composite at a minimum of 12'–0" width, or Closed Cell Vinyl Backing System at a minimum of 6'–0" width where the following conditions are required:
      - a) Impermeable to moisture
      - b) Chemical or mechanical welded, water–tight seam impermeable to moisture and airflow
- 2. Modular:
  - a. Primary Backing:
    - i. Synthetic Woven or Non–Woven
  - b. Secondary Backing:
    - i. Thermoplastic Polyolefin (TPO) recyclable composite or Closed Cell Vinyl Backing System
  - c. All tile sizes acceptable.

#### E. Warranties:

- 1. Definition of Lifetime:
  - a. Lifetime is defined as the period from which materials are installed until the date in which

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the Project Representative removes them from service.

2. Manufacturers shall provide a Lifetime Warranty, non-prorated, against failure covering all costs including freight, labor and material for the following:
  - a. Edge ravel
  - b. Back delamination
  - c. Superior tuft bind in high traffic environments, wet or dry
  - d. Static protection as stated above
  - e. Moisture Barrier pre-coat and backing
  - f. Wear – no more than 10% face yarn loss
  - g. Adhesive failure

#### **F. Environmental Attributes:**

1. Carpet tile must be 100% recyclable.
2. Carpet tile must meet the National Sanitation Foundation (NSF) 140 Standard SCS Sustainable Choice – Gold or EPP California Gold.
3. Carpet tile must contain 15% post-or pre-consumer recycled content based on total weight.
4. Carpet mill must be International Organization for Standardization (ISO) 14001 certified or similar equal certification.
5. Low Emitting Materials:
  - a. Carpet and adhesives must meet the Low Emitting Materials standards as outlined in U.S. Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) criteria.
  - b. Adhesives must meet VOC emissions standards per South Coast Air Quality Management District Rule # 1168 and CRIs Green label plus.
6. End of Life Reclamation:
  - a. Carpet tile must have an existing methodology actively in place to achieve landfill diversion.
  - b. Carpet reclamation program shall be through Carpet Manufacturer's recycling program.
7. Products must have Environmental Product Declarations (EPDs) for Life Cycle Assessment.
  - a. The EPD must meet ISO 14025 and be based on 2012 PCR (Product Category Rule) for Environmental Product Declarations Flooring: Carpet

### **09 72 00 – WALL COVERINGS**

#### **A. Vinyl Wall Covering:**

1. Vinyl wall covering must be approved for desired location by FM Planning, Design, Construction and Engineering through the Project Representative.
2. The material shall be difficult to tear and stain resistant with a smooth surface that shall be resistant to high alkaloid cleansers.

### **09 90 00 – PAINTING AND COATING**

#### **A. Interior Finishes:**

1. All interior finishes applied on-site including Paints, Coatings, Stains and Sealers shall meet the

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current LEED requirements for Low-Emitting Materials.

- a. If a specific use or application requires a high-performance or oil-based product that does not comply with the LEED requirements the Project Representative shall be contacted to approve an alternate product.
  - i. For example, the use of Epoxy Wall Paint in high use areas.
- b. Interior Finish Colors:
  - i. Contact Project Representative for additional information.
- c. FM uses a standardized group of paint colors for high use areas such as corridors and general assignment classrooms.
  - i. Contact the Project Representative for the current standardized list.
- d. Color variations are discouraged within individual spaces such as labs and offices.
- e. Establish and conform to a set building color palette.

#### B. Exterior Finishes:

1. Exterior finishes applied on-site shall be water based, low odor and low-VOC when feasible given the application and durability requirements.
2. Exterior Finish Colors:
  - a. Contact Project Representative for additional information.

#### C. Application of Interior and Exterior Finishes:

1. All Paintings and Coatings shall be installed to a journeyman level of craftsmanship, paying special attention to surface preparation, etching, priming and undercoating.
2. All finishes shall minimize painting and other routine maintenance.
  - a. A semi-gloss finish is recommended for corridors, restrooms, classrooms and other high traffic areas.
3. When alkyd enamel or other special coatings are specified to be applied on-site, special attention must be directed to any occupancy of the space or adjacent spaces during the painting and repainting process.
4. Exterior black pipe gas lines:
  - a. Surface shall be cleaned of all oils and rust, primed with rust inhibitive primer and painted with industrial enamel finish.

**END OF DIVISION**