

DIVISION 9 - MATERIALS AND FINISHES

GENERAL MATERIAL AND FINISH GUIDELINES

1. The selection of materials shall have the benefit of long range, life cycle cost analysis. All selections shall, however, be within budget limitations. It is expected that the A/E will advise the University of all savings opportunities regarding material selections. Solid and hazardous waste disposal costs for excess materials shall be included in the life cycle cost analysis.
2. The A/E shall coordinate all color and material color selections with the Project Manager. Color schedules will be required for University review with the check set of working drawings. Schedules and samples shall be provided for interior finishes, such as paint, vinyl, baseboards, carpet, tile, bathroom partitions, and the like as well as exterior finishes, such as paint, roof shingles, glazing, and so on. Colors shall be presented in the form of a non-returnable "color-board," which demonstrates all color selections in the form of an overall project color palette.
3. Samples of all finishes and finishing material shall be submitted to the University for approval no later than the 50% Construction Documents phase. In case of special concrete finishes or stucco work, a sample at least 2'-0" square shall be submitted.
4. As a minimum, use a latex-based semi-gloss paint on all wall surfaces to be painted to facilitate cleaning. Use water based epoxy paint behind and beneath water coolers, trash receptacles, adjacent to elevations, in vending rooms and in all restrooms. Do not use paint containing lead.
5. All horizontal, plastic laminate surfaces shall have a matte finish.
6. Blown-on acoustical ceilings and walls are not acceptable.
7. For promotion of indoor air quality, low emissive finish systems should be provided.

GENERAL FINISH REQUIREMENTS FOR SPECIFIC SPACES

Restroom Floors

1. Floors shall be of ceramic, porcelain or quarry tile with dark epoxy grout. They shall have a watertight membrane/sealed so as to prevent seepage.
2. Floor texture should prevent slips.

Custodial Closet Floors

1. The floor shall be finished with ceramic or quarry tile and dark grout, or sealed concrete. The walls shall be of ceramic tile or other special waterproof coating material, a minimum of 4 feet high.

CARPET

General Carpeting Design Guidelines

1. Refer also to Appendix K – Carpet Guidelines for specific product requirements.
2. The design professional shall comply with all carpet specification requirements. No variance from these guidelines shall be approved during the shop drawing process without written approval from the Project Manager. The University reserves the right to test all carpet materials delivered to the site for compliance with specification requirements. The Contractor will be liable for replacement should materials fail testing.

3. Carpet grain direction, seaming, and scribing shall be carefully addressed in drawings and specifications.
4. All carpet, unless otherwise specified, shall run in the same direction. Lay with a minimum number of seams and carpet sections. All carpet is to be smoothly laid with no bubbles, ridges, etc.
5. Where roll carpet is used, no seams shall occur at doorways and entries perpendicular to doors and entries. Seaming occurring at doorways parallel to doors shall be centered directly under doors. When seams occur at corridors, change of directions shall follow wall line parallel to carpet direction.
6. Cross-joints, which are necessary due to length of rolls, shall be placed in the cutting, to avoid occurrence at conspicuous locations, near doors, or at pivot points.
7. Where needed, raw carpet edges at doorways and the like shall be finished with a top quality metal strip or molding.
8. Do not specify carpet in stairways.
9. Incorporate patterns to alleviate soiled appearance.
10. Medium dark colors are preferred.

Carpeting And Related Products

The Contractor will be responsible for coordinating material delivery and installation with the sequencing of the work. Carpet shall be installed using an installer, installation materials, i.e., adhesives, edging, etc., and methods approved by the carpet manufacturer.

The Design professional shall be responsible for carpet type and color selection. Based on appropriateness of use, design selections shall be made from the following:

- a) Broadloom Carpet – 12’ roll goods, woven polypropylene backing.
- b) Hard-backed Carpet – 6’ roll goods, solid backing impervious to moisture.
- c) Modular Carpet – same as hard backed carpet except supplied as individual solid backed carpet squares. Install with releasable adhesive. Recommended for general use and where additional cleanability, acoustical dampening and durability is desired. Modular carpet is recommended where frequent carpet replacement is anticipated, where access to the substrate is necessary and where replacement of roll goods is impractical due to obstructions in the space.
- d) Solution Dyed Carpet – made with carpet yarn that has color throughout the yarn and therefore has superior color retention and resistance to fading. Solution Dyed Carpet may be supplied as Broadloom, Hard-Backed or Modular. Recommended for general use and use in areas with high sunlight exposure and/or potential exposure to bleaching agents, such as laboratory zones where chemicals in use may have a bleaching action, and areas near toilets or janitor’s closets where bleach is used in cleaning.

Use of Carpet

Carpet shall be applied to areas within projects according to the following recommendations:

1. Very High Traffic Zones – Immediately inside entrance doorways, elevator doors, and other places where traffic is very highly concentrated, use tile, walk-off mats, or similar materials in the immediate vicinity of the doorway, elevator entrance or other high traffic zone. As traffic concentration begins to be more spread out, transition to carpet, using the recommendations below for High Traffic zones.

2. High Traffic Zones – Modular Carpet is recommended for High Traffic Zones where frequent carpet replacement is likely. Transition to Hard Backed Carpet as traffic becomes less concentrated, and frequent carpet replacement becomes less likely. These zones must be designed carefully and with respect to the challenges of each particular project, but, in general, the designer should consider Hard Backed Carpet in corridors, lobbies, atriums, aisles, walkway areas within open office areas and similar spaces. Give careful consideration to the transition of this thicker carpet to adjoining areas using Broadloom Carpet.
3. Classrooms – Due to the severe use, likelihood of spills and acoustical considerations, Hard Backed Carpet is recommended for most classrooms. The backing provides this carpet with much better acoustical properties and is much more impervious to moisture penetration.
4. Areas With High Sunlight Exposure or Exposure to Bleaching Chemicals – Use Solution Dyed Carpet for superior color retention and resistance to fading. Provide this carpet as a Broadloom, Hard Backed or Modular design, depending on the traffic characteristics of the space, as outlined above. Examples of such areas are Atria, spaces located inside large areas of South-facing glass, spaces adjacent to certain laboratories using chemicals with bleaching properties, and carpeted areas adjacent to Janitor's Closets and Toilets.
5. All Other Areas – Other areas, including offices and other spaces, can be carpeted with Broadloom carpet, at the discretion of the designer and University Project Manager. Careful consideration should be given to the use, traffic load, and sunlight exposure of each area in choosing the most effective carpet for that area.

Carpet Cleaning

1. As job progresses, surplus adhesive squeezed out between joints shall be removed.
2. Any stains remaining shall be removed by approved methods.
3. Upon completion of work, all base and edging shall be cleaned, all foreign materials removed by approved methods.

General Carpeting Installation Guidelines

1. Use low VOC adhesives unless specifically authorized by the Project Manager.
2. Installation of carpeting and related items shall be done by a competent contractor normally engaged in this trade with materials and methods complying with the specifications and drawings, and in such a manner as to insure a workmanlike job.
3. Any existing resilient vinyl cove base shall be cut to obtain a flush edge with the wall.
4. Sub-Floor Preparation: It is the responsibility of the carpet contractor to remove the existing carpet and pad, where necessary. All surfaces on which the carpeting is installed shall be clean and free of dust, dirt, and debris. Any holes, cracks, depressions, or other imperfections shall be filled and brought to a true plane with non-shrinking grout (similar or equal to "Surco" by W.R. Grace and Company). The A/E shall inspect the surface preparation prior to the installation of the carpet. Moisture tests of substrates are required prior to the installation of carpet and vinyl tile in new structures. A satisfactory reading, conforming to the manufacturer's requirements, shall be obtained before installation is permitted.
5. Damage to the facility or surrounding property incurred by the contractor during any stage of carpet installation shall be repaired and the damaged area restored to its original condition by the contractor at no expense to the University.
6. Installation of carpet shall not disturb the normal usage of the facility. Therefore, the contractor shall arrange with the University Project Manager a time schedule not concurrent with student, faculty, or staff occupation or use.
7. Carpet shall not be installed prior to drywall installation.

Glue-Down Installation Guidelines

- a) Floors shall be free of all wax, grease, paint, oil or any other substance that would create adherence problems. Cracks, expansion joints, etc. are to be filled with a top quality patching compound and finished smoothly. The carpet contractor shall notify the A/E and the University of any flooring conditions that would prevent the completion of satisfactory work.
- b) Floors are to be thoroughly swept and vacuumed by the carpet contractor before applying adhesive.
- c) The mill or factory edge on all roll carpet is to be trimmed far enough in from the carpet edge in order to provide a clean and even seam. Manufacturers' recommended cutting methods shall be used.
- d) Cut edges on all roll carpet are to be treated with a seam sealer at the edge of the carpet at the base of the pile and primary backing. On all carpets, excess sealer is to be removed in accordance with the manufacturer's recommendations. To insure an almost 100% contact with the adhesive, the carpet is to be pressed with a roller or push broom per the manufacturer's standard procedures. Note: Carpet with an attached cushion is not to be treated with a floor-covering roller exceeding 30 pounds.
- e) All carpet shall be installed in strict accordance with the approved seaming plan.
- f) Glue down carpet and/or carpet tiles shall not be installed over existing flooring materials.

Carpet Warranty

Contractor Warranty: The Contractor shall give the University a written, notarized warranty guaranteeing carpet installation and related work for a period of one year after the date of substantial completion. The warranty shall commit the Contractor to making all repair and replacement including labor and materials at no cost to the University.

Manufacturer's Warranty: The Carpet Manufacturer shall provide the University an unrestricted, full replacement, non-prorated, minimum fifteen-year warranty against wear, edge ravel, tuft bind and delamination. The Carpet Manufacturer shall coordinate any and all installation and material approvals, inspections and certifications required to support the specified warranty with the Contractor and Owner's Representative.

RESILIENT FLOOR TILE

General Considerations for Resilient Tile

1. The contractor shall visit the site and familiarize himself with the work to be accomplished. If verification of sub-flooring is required, the contractor shall, upon approval of the Project Manager, remove a portion of the existing flooring material, as required.
2. The A/E shall submit to the University representative samples and manufacturers' literature of materials to be used for approval.
3. The A/E shall submit no later than the completion of the 50% Construction Documents scheduled information regarding floor tile location, color, material, size, gauge, as well as similar information for base and edging. Specify 12" X 12" X 1/8" thick per Federal Spec. FS-312-IV.
4. Damage to the facility or surrounding property incurred by the contractor during any stage of resilient flooring installation shall be repaired and the damaged area restored to its original

condition by the contractor at no expense to the University.

5. Installation of resilient flooring shall not disturb the normal usage of an existing facility. Therefore, the contractor shall arrange, with the University Project Manager, a time not concurrent with student, faculty, or staff occupancy or use.
6. Immediately upon completion of the tile installation, apply a high quality floor sealer and the minimum number of coats of floor finish recommended by the manufacturer to prevent damage to the floor during construction. Re-coat prior to acceptance of the facility by the owner.
7. 5% surplus floor tile to be saved for the owner.
8. Resilient Tile shall not contain asbestos.

General Resilient Tile Installation Guidelines

Installation of resilient flooring and related items shall be done by a competent contractor normally engaged in this trade with materials and methods complying with the specifications and drawings and in such a manner as to insure a workmanlike job.

Sub-Floor Preparation: All surfaces on which resilient flooring and edging are to be installed shall be cleaned free of grease, dirt, paint, and hardeners. Holes, cracks, and other depressions in the existing floor slabs shall be filled or patched, and brought to a true plane with a non-shrinking grout similar or equal to "Loxon."

Floor tile shall be laid with the proper adhesive, meeting Federal specification standards and with close, even joints, to a smooth, even surface, and square with the corridor axis.

Floor tile shall be laid with the grain direction alternating in a checkerboard pattern.

Floor tile at borders on opposite sides of the space shall be equal, and shall be laid, cut, fitted, and scribed to walls, columns, door frames, and the like after laying of the field tile.

Base and molded corners shall be firmly cemented to walls and other vertical surfaces with tight joints. Base throughout its entire length shall have its top and bottom edges in firm contact with the floor and walls. Base shall be scribed accurately to molded corners and to doorframes.

Resilient Tile And Related Products

1. The University must approve all resilient floor tile and related products. Samples of all resilient floor tile and related products as well as manufacturer's product literature must be submitted to and approved by the University prior to the 100% Construction Document submittal.
2. Adhesives for flooring and accessories shall be of the types specifically recommended by the resilient material manufacturers, for the installation conditions involved and shall meet Federal specification standards. For the installation of floor tile and edge strips, waterproof adhesive only shall be used.
3. All resilient tile and resilient base shall be of the same millrun to maintain consistency.
4. All resilient edging strips shall be vinyl with factory formed feathered edge (similar or equal to Johnsonite Reducer Strips).

Resilient Tile Cleaning

1. As the job progresses, surplus adhesive squeezed out between the joints shall be removed. Any stains remaining shall be removed by approved methods.
2. On completion of this work, all tile, base, and edging shall be cleaned as recommended by the tile manufacturer. All foreign matter shall be removed and any chipped or broken tile, base,

or edging shall be replaced with sound material.

Resilient Tile Warranty

1. The contractor shall give the University a written warranty guaranteeing all work performed under this contract for a period of one year after the date of completion. In this written guarantee, the contractor shall agree to make all repairs or corrections required to maintain the completed work in first class condition for the one-year period at no cost to the University. If subcontractors are involved in this project, a similar written guarantee shall be furnished by each subcontractor covering his portion of the work. Subcontractors' warranties will not relieve the general contractor of any warranty responsibility.

STUCCO AND PLASTER

1. Use galvanized steel metal lath in conjunction with acoustic plaster to eliminate rust stains.
2. Where conditions require the highest corrosion resistance, specify that lathing accessories such as corner and casing beads be made of zinc alloy.
3. Provide ample control joints in stucco, particularly in overhangs. Two No. 60 expansion type casing beads butted together are preferred.

QUARRY TILE

1. Quarry tile is a desirable material for stairways, corridors, kitchens and for many other areas both interior and exterior because of its enduring quality, ease of maintenance and fire resistance.
2. Quarry tile treads are preferred for main stairs and should have an integral abrasive of approximately 65% aluminum oxide, ceramically bonded at high temperature.
3. Quarry tile treads shall be replaceable.
4. Quarry tile specified for exterior slab finishes must have an integral abrasive.

CERAMIC TILE

1. The current edition of "The Handbook for Ceramic Tile Installation," published by the Tile Council of America, shall be used as a reference guide for selecting design details and specification wording.
2. Ceramic tile is desirable for floors and walls or wainscots in toilets as well as in some laboratories and utility rooms. Toilet floors shall have dark sealed grout.
3. Ceramic tile on a masonry wall is insufficient to prevent water from permeating a shower room wall. Specify parging or painting the back of the wall and provide a through-wall flashing near the base as a means of conducting the water back to the shower room floor.

ACOUSTICAL CEILING TILE

1. Use extreme care in choosing the correct acoustic units. Do not specify exotic patterns, etc. Ensure that only standard patterns have been specified that will be available for many years in the future.

2. Specify that the Contractor cannot accept discontinued acoustic units, since matching replacements is impossible.
3. Specify that all acoustical ceiling materials shall meet flame-spread rating requirements of prevailing codes for interior finish according to occupancy classification.
4. Specify acoustical ceilings, not only by noise reduction coefficient, but also by tile thickness.
5. Specify mechanical suspension of acoustical ceilings. Adhesive attachment is not permitted.
6. Do not specify acoustical tile in dormitories unless specifically authorized and coordinated with the Project Manager and Housing Department. Acoustic tile is a poor material to use in dormitories because of vandalism.

Where exposed grid systems are specified, a reflected ceiling plan is required on the drawings. Specify construction tolerances regarding plumb, dimensions and locations, particularly where exposed masonry and concrete is used.

Specify that the buildings must be dried by heat or other means prior to installation of acoustical ceilings, to control humidity.

Specify that all suspension systems shall be intermediate duty rated. Heavy duty systems will be provided if the loading dictates. All grid systems shall be supported at a minimum of 4ft in each direction in accordance with the provisions of the latest edition of ASTM 635 and 636.

All lay-in light fixtures regardless of weight shall be independently supported from the structure above.

PAINTING

1. Require undercoats to have slightly different tints, and to be inspected and approved by the Architect/Engineer prior to application of the next coat.
2. Specify the total thickness of paint by "dry mil" or "wet mil" thickness (according to which is recommended by the paint manufacturer), and verify the thickness on the job by use of special low-cost gages.
3. The university will assist the Architect/Engineer in specifying the quality of paint required, acceptable vendor products and paint specifications for specific types of paint and their application. Paints with the highest proportion of titanium dioxide should be used for dirt shedding properties.
4. Clearly describe substrate preparation requirements.
5. Require metal doorframes in masonry walls to be back painted prior to installation.
6. Specify paint on steel and iron items on the basis of mil thickness rather than number of coats. Items exposed to the weather shall have a minimum of six mils total dry film measurement. Interior steel and iron shall have a minimum of four mils dry film measurement.
7. Use a clear silicone waterproofing or approved alternative the exterior of all brick buildings including the stone. 3% silicone is considered adequate; for limestone a 5% silicone is desirable. Products, which have been used and found acceptable, are: Florida Laboratories Chemclear 30 and Sonneborn-Hydrocide S-X.
8. Clear silicone waterproofing shall contain a minimum of 3-5% silicone resin solids in a hydrocarbon solvent conforming to formulation and performance standard of Federal Specifications SS-W-OO110 (G.S.A.). Container label shall certify that it meets above

requirements. Where an interior paint is used on masonry or concrete surfaces, no silicone waterproofing is desired.

9. Provide latex based paint for interior applications and an oil based paint for exterior applications and interior metal applications susceptible to contact and wear. Interior paint shall be no or low VOC to promote indoor air quality.
10. To promote indoor air quality, provide low VOC paints and coatings whenever possible.

END OF SECTION