

DIVISION 9 - FINISHES

I. GENERAL

A. This division contains the following elements:

1. Floor Finishes.
2. Wall Finishes.
3. Ceiling Finishes.
4. Paint Finishes.

B. Provide finish materials durable and able to cope with south Florida weather conditions. Finishes shall allow for cleaning of graffiti or stains with relative ease by the building's custodial staff. The design and selection of building finishes shall be based on the following:

1. Vandal resistance.
2. Cost effectiveness.
3. Durability.
4. Resistance to cracking and peeling.
5. Resistance to fading or discoloration during use or from exposure to acids or other chemicals.
6. Weather tightness under hurricane conditions.
7. Absence of excessively rough or sharp textures and features.

C. Finish materials are major contributors to the "Sick Building Syndrome". M-DCPS is greatly concerned about materials harming the occupants or the environment either by the manufacturing process or use in buildings.

1. Finish materials containing or able to emit harmful substances or particles into the air shall not be used.
2. Building products shall not contain asbestos, lead, formaldehyde, mercury, volatile organic compounds (VOCs), or any other harmful products. Only non toxic adhesives are to be used in M-DCPS installations.

D. Interior finish materials shall comply with:

1. NFPA 101 Chapters 6, 10, and 11 for interior finish flame spread general requirements.
2. Americans with Disabilities Act and Accessibility Guidelines (ADA).
3. Florida Department of Community Affairs - Florida Accessibility Code for Building Construction (DCA).
4. Tile Council of America, Inc. - Handbook for Ceramic Tile Installation.

II. FLOOR FINISHES

A. Flooring material locations are designated in the project program requirements. Select finishes based on durability, initial costs, maintenance methods, and maintenance costs.

1. Flooring shall have slip resistance coefficients of at least the following values or greater:
 - a. 0.5 at leveled floors.
 - b. 0.6 at accessible routes.
 - c. 0.8 at ramps and inclined floors or walks.

B. Ceramic Floor Tile (09310):

1. Floor slabs to receive tile shall be recessed the depth of the tile and setting bed to provide a level plane at access points. Slabs shall have steel trowel and fine broom finishes with no curing compounds used.
2. Floor tile in wet areas shall be not greater than 2 inches by 2 inches. There is no size restriction for non-wet areas.
3. Provide a tile cove wall base at areas with a ceramic tile floor.
4. Tile flooring shall be suitable for floor use and be easily maintainable.
5. Select color of tile and grout to conceal dirt for low maintenance. Avoid very light colors and very dark colors.
6. Provide marble thresholds at doorways or entrances to wet areas with ceramic tile flooring.
7. Installation of ceramic tile over existing ceramic tile is not allowed.

C. Quarry Tile (09330):

1. Floor slabs to receive quarry tile shall be recessed the depth of the tile and setting bed to provide a level plane at access points. Slabs shall have steel trowel and fine broom finishes with no curing compounds used.
2. Quarry tile shall be flat, impervious and be easily cleanable.
3. Quarry tile size shall be 6 inches by 6 inches by 1/2".
4. Specify dark gray, high temperature, chemical resistant epoxy mortar and grout with prewaxed quarry tile to avoid quarry tile staining.
5. Do not use thin set at quarry tile installations.
6. Provide 6 inch high quarry tile wall base to match floors except at walls with ceramic tile.
7. Slope floors down uniformly 1/8" per foot to floor drains located at low points. Ponding is not allowed.

D. Wood Flooring (09561):

1. Floor slabs to receive wood shall be recessed the depth of the wood flooring system to provide a level plane at access points.
2. Provide 1-1/2" or 2-1/2" wide x 33/32" thick, grade no. 2 or better, tongue and groove, maple or other accepted M-DCPS wood over wood sleepers on cushioning pads according to the following.
 - a. Gymnasiums: 3/8" pads.
 - b. Stage, Gymnastics/dance, and Little Theater: 5/8" pads.
3. Use ventilated cove rubber bases or other type base recommended by specific flooring system manufacturer.
4. Expansion joint covers shall be stainless steel and flush with flooring.
5. Provide mats or dirt gratings for the full width of gymnasium entrance doors. Mats shall be securely anchored to the floor.
6. Include multi-color school logo at gymnasium floor.

E. Resilient Flooring (09660/09665):

1. Resilient flooring shall be vinyl composition tile or sheet vinyl.
2. Vinyl composition tile shall be 12 inches x 12 inches x 1/8" with a marbleized pattern on the surface of the tile dispersed uniformly throughout the thickness of the tile to the back of the tile without significant change.
3. Solid color or surface pattern vinyl composition tile are not allowed.
4. Provide metal edge guards at flooring transitions.
5. Areas with resilient flooring shall receive rubber cove base.
6. Only non-toxic adhesives shall be used for resilient flooring installations.
7. Provide heavy duty slip resistant vinyl flooring according to program requirements.
8. Use of flooring shall be appropriate according to manufacturer's guidelines.
9. Existing resilient flooring shall be removed and floor prepared to manufacturer's recommendations when new resilient flooring is required.

F. Interlocking Rubber Flooring (9660):

1. Interlocking rubber flooring shall be laid loose over sealed concrete floor in areas designated by program requirements.
2. Flooring shall be 24 inches by 24 inches by 9/16" interlocking pieces with invisible seams extending from wall to wall.
3. Adhesives shall not be used for installation.

G. Carpet (09682):

1. Carpet shall be restricted to areas designated by program requirements.
2. Carpet shall comply with SREF, ADA, and DCA.
3. Carpet type shall be tufted carpet.

4. Carpet selection shall be a stable, even surface of tufted carpet. Shag carpet or other irregular surfaces are not acceptable.
5. Specific Requirements:
 - a. Tufted carpet shall comply with the following as certified by an M-DCPS accepted independent testing laboratory and as required by M-DCPS:
 - 1) Carpet installation: Glue-down applications for classroom/ assembly and egress. Adhesive strips are not allowed.
 - 2) Backing: Unitary, 100 percent synthetic materials, resistant to shrinkage, decomposition, mildew, or supporting odor. Primary and secondary backings and organic materials are not allowed.
 - 3) Description: Tufted, level or textured loop, domestic manufacturer.
 - 4) Binding Sites: 1/8 or 1/10 gage.
 - 5) Yarn Ply: Multi-ply.
 - 6) Pile Fiber Brand Name and Content: 100 percent branded (Federally registered trademark), with soil hiding, stain and static resistant continuous filament nylon, hollow or solid core, and shall not have been reclaimed from any textile fabric.
 - 7) Permanent Static Resistance: Shall not exceed a peak electrostatic charge generated of 3 Kv maximum.
 - 8) Average Pile Fiber Weight: Not less than 28 ounces per square yard.
 - 9) Finish Pile Thickness: 0.195 inch maximum.
 - 10) Tuft Bind: Not less than 20 pounds.
 - 11) Minimum Radiant Flux: 0.45 watts per square centimeter.
 - 12) Smoke Density: Not to exceed optical density of 450.
 - b. Tufted carpet shall also comply with the following minimum performance criteria:
 - 1) Produced by a domestic manufacturer and be of inorganic composition.
 - 2) Dye Method: Solution dyed.
 - 3) Total weight: Not less than 60 ounces per square yard.
 - 4) Weight Density Factor: Not less than 125,000.
 - 5) Microbial Resistance: Minimum 90 percent bacterial reduction and limited to maximum 20 percent fungal growth.
 - 6) Flammability: Federal Flammability Standards DOC FF 1-70.
6. Color selection shall conceal dirt for low maintenance. Avoid very light colors and very dark colors.
7. Provide metal transition strips at changes of flooring materials.
8. Carpeted spaces shall receive rubber cove wall base.

H. Epoxy Resin Flooring (09730):

1. Epoxy flooring shall be used in areas according to program requirements.
2. Specify a smooth orange peel surface.
3. Slope floors down uniformly 1/8" per foot to floor drains located at low points. Ponding is not allowed.
4. Use a 4-inch high integral epoxy base with epoxy flooring unless directed otherwise by M-DCPS.

I. Sealed Concrete Floors:

1. Provide sealed smooth finished concrete floors at interior areas without a permanent floor covering and exterior concrete areas according to program or code requirements.
2. Provide a translucent, non-yellowing, non-toxic sealer, resistant to moisture and efflorescence.
3. Use rubber cove wall bases at interior sealed concrete floors.
4. Sealed concrete floors are not to be used as an impervious surface.

J. Floor Bases:

1. Provide specified bases as described under type of flooring.
2. Resilient bases shall be 4 inch rubber cove wall bases. Preformed corners and vinyl or asphalt emulsions bases are not acceptable.
3. Where wood bases and shoe molds are existing, existing shoe mold shall be removed and replaced with new shoe mold. All wood shall be painted.

K. Flooring for unconditioned interior/enclosed corridors, as defined by SREF with enclosed long sides and open or enclosed ends, shall be ceramic tile, quarry tile, pavers, or other durable, exterior, slip-resistant materials.

L. Use recessed and framed entrance floor mats at gymnasium entrances, exterior doors to carpeted areas, and other program required locations.

M. Provide marble thresholds at doors to sink-equipped custodial closets.

III. WALL FINISHES

A. Interior wall finish locations are designated in the project program requirements.

B. Select interior finishes based on required fire resistance ratings, STC ratings, durability, initial costs, maintenance methods, and maintenance costs compared with other potential systems.

C. Insulation may be required to be separated from building interiors by an approved thermal barrier. See Division 7 for insulation.

D. Standard Wall Finishes:

1. Interior:

a. Non-student and administrative areas:

- 1) 5/8" gypsum board or 5/8" Type X gypsum board.
- b. Elementary school, K-8, and primary learning center (PLC) student occupied spaces and high traffic areas:
 - 1) 5/8" high impact abuse resistant gypsum board with a cellulose face and embedded fiberglass.
- c. Middle, middle learning center (MLC), and high school student occupied spaces and high traffic areas:
 - 1) Three coat cement plaster over metal lath.
 - 2) Two coat cement plaster over concrete/masonry.
 - 3) For fire rated applications only, use one coat veneer plaster over colored bonding agent, interior taped 5/8" cement board reinforced with vinyl-coated, woven glass-fiber mesh embedded in both surfaces (UL U407).
- d. Painted concrete masonry units at interior locations when complying with SREF and the following.
 - 1) Elevations of exposed masonry walls showing block coursing, doors, windows, lintels, tie beams, tie columns, louvers, electrical switches, fixtures, clock/speaker assemblies, and receptacles are clearly shown and dimensioned for all conditions.
 - 2) Channeling the wall face is not allowed.
 - 3) UL or STC masonry assembly rating provided to comply with applicable fire-resistive or sound rating requirements.
 - 4) Interior exposed block at exterior walls:
 - a) Provide weeps at the bottom course of each block core.
 - b) Use an accepted vapor barrier.
 - c) Use the proper composition and weight of block to achieve the insulation value required.
 - d) Loose-fill insulation or in-core styrofoam insulation inserts are not allowed.
- e. Any of the accepted interior standard wall finishes are allowed for use above finished ceilings when meeting acoustical and fire resistance requirements.
- f. Metal corner beads are not allowed. Use plastic trim accessories.
2. Standard Exterior Finishes:
 - a. Horizontal and Vertical Surfaces:

- 1) Two coat stucco over concrete/masonry.
- 2) Exterior 1/2" concrete board systems reinforced with vinyl-coated, woven glass-fiber mesh only at facias, soffits and other decorative elements not part of the structural envelope.

b. Weather Protected Horizontal and Vertical Surfaces:

- 1) Stucco over expanded metal lath or paper-backed hot dipped galvanized welded wire fabric not part of the structural envelope.

c. Exposed Concrete:

- 1) Columns, beams, and ceilings of P.E. Shelters and Driver's Ed. Shelters:
- 2) Ceilings of covered walkways and canopies.

d. Use blown stucco only when required to match existing surfaces at historical buildings.

e. Metal corner beads are not allowed. Use plastic trim accessories.

f. Prefabricated metal or plastic stucco reveals are not allowed. Strike final stucco coat to achieve score patterns. Slope bottom edge of horizontal score lines to dispel water.

E. Ceramic Wall Tile:

1. Use in toilet rooms and toilet room vestibules, showers/locker rooms, cafeteria kitchens, snack bars, salad bars, and serving areas.
2. In group toilet rooms, shower rooms, and kitchens, use tile for the entire length and height of walls. Wainscot use is not acceptable.
3. In individual toilets, provide at least a 5 foot high ceramic tile wainscot and impervious materials for the remaining surfaces.
4. Typical wall tile size: Nominal 4" x 4".
5. Provide bullnose trim pieces at corners of tile walls and cove bases at floor line.
6. Installation of ceramic tile over existing ceramic tile is not allowed.
7. Apply tile over:
 - a. 1/2" waterproof concrete backer boards, reinforced with vinyl-coated, woven glass-fiber mesh, at elementary individual toilet rooms and staff toilet rooms.
 - b. 2 coat cement plaster over metal lath or paper backed welded wire fabric at food service areas, showers/locker rooms, and public and group toilet rooms.

F. Interior wood paneling shall be reviewed on a per condition basis. Paneling shall comply with flame spread ratings, codes, and standards. Provide proper backing and sealers.

G. Acoustically Absorptive Wall Panels (09520):

1. Use to achieve acceptable NRC and reverberation characteristics in cafeteria dining rooms, auditoriums, music rooms, little theaters, and gymnasiums.
2. Panels shall comply with flame spread ratings.
3. Panel attachments shall be concealed.
4. Fabric covered panels or any other acoustical treatment susceptible to damage in cafeteria dining rooms, music rooms, or any other student occupied spaces shall be at least 7'2" above finished floor or with other means of protection.
5. Exposed fiberglass after installation is not allowed.
6. See General Considerations for acoustical ratings.

H. Epoxy Resin Wall Finish:

1. Use in cafeteria food storage rooms, chemical storage, and other programmed spaces requiring impervious wall finishes and not receiving ceramic tile.
2. Epoxy resin products shall be water based and free of solvents.

IV. CEILING FINISHES

A. Standard Ceiling Finishes:

1. Establish ceiling heights according to minimum dimensions according to SREF and program requirements.
2. 2 foot by 2 foot lay-in acoustical panel suspended ceiling systems shall be the typical interior ceiling.
 - a. Grid installation shall have support wiring at 4 feet on center on main support runners and within 3 inches of each corner of each 2 x 4 drop-in fluorescent light fixture.
 - b. Soffits at interior ceilings of non-student and administrative areas shall be 5/8" gypsum board or 5/8" Type X gypsum board.
 - c. Soffits at interior ceilings of student occupied spaces and high traffic areas shall either match the wall finish or be 5/8" high impact abuse resistant gypsum board with a cellulose face and embedded fiberglass.
3. Cafeteria kitchens, salad bars, snack bars, and serving areas shall receive 2 foot by 2 foot lay-in vinyl faced gypsum panels with an aluminum capped or aluminum suspension system.
4. Ceilings less than 8'0" above finish floor at ceiling retrofit projects shall receive a 2 foot by 2 foot suspended ceiling system with tectum panels or other abuse resistant lay-in panels.
5. Showers, drying and locker rooms, public and student toilets, and any other high moisture content spaces shall receive painted cement plaster/metal lath ceilings.
6. Staff and elementary individual toilet rooms shall receive 1 coat veneer plaster over

- gypsum plaster base.
7. Provide access panels through plaster ceilings in sufficient size, number, and location to above ceiling electrical, mechanical, or other elements requiring access.
 8. Use stucco for exterior soffits if a finish is needed to protect elements from potential damage by weather, vandalism, or excessive wear.
 9. Receiving, custodial, electrical, telephone, and mechanical rooms or closets, unfinished rooms, and other similar spaces shall have a ceiling of an exposed or painted structure if allowed by fire separation requirements.

B. Existing Acoustical Ceilings:

1. Restoration by cleaning existing acoustical lay-in ceilings instead of total replacement may be accepted by the M-DCPS project manager and M-DCPS Facilities Operations. Cleaning products shall be non-toxic, non-flammable, and odorless.
2. Replace 12 inch x 12 inch existing concealed spline system ceilings needing extensive repairs with a 2 foot by 2 foot lay-in acoustical panel suspended ceiling.

C. Ceilings shall provide the required acoustical ratings for specific areas according to Design Criteria - General Considerations.

D. Metal ceilings and metal soffits are not allowed.

E. Lay out ceiling tiles to avoid perimeter units of less than 1/2 unit width.

V. PAINT FINISHES (09900-09902)

A. Proper paint selection and specifications shall be the responsibility of the A/E for compliance with M-DCPS Facilities Design and Quality Control - Paint Quality Staff - Approved Paint Quality Procedures.

1. Use the results of M-DCPS Paint Quality Staff site investigation and testing results to specify painting procedures.
2. Paint submittals require acceptance by A/E before review and acceptance by M-DCPS Paint Quality Staff.

B. Accepted paint materials are listed in "Miami-Dade County Public Schools and Florida School Plant Management Association Paint and Related Materials", latest edition (M-DCPS Paints).

C. Paints, emulsions, enamels, lacquers, varnishes, sealers, or any other paint related materials in a construction contract shall comply with M-DCPS Paints.

1. Only materials accepted in writing by M-DCPS or listed in the M-DCPS Paints are allowed on the job site.
2. Paint color selections shall comply with "M-DCPS Approved Paint Colors for New and Existing Facilities", latest edition. See Appendix for approved paint colors.
3. Acceptance by M-DCPS Paint Quality Staff is required for:

- a. Paint related submittals before purchase and installation.
 - b. Paint warranties.
- D. Unpainted exterior and unpainted interior surfaces shall receive water-based paints with appropriate primers.
- 1. See DOE Categories MP-25 and MP-26 for water-based paints suitable for priming and painting metal surfaces.
- E. Specify a minimum of 28 days for concrete and stucco/plaster to cure, before painting. If scheduling does not allow the minimum 28 days, specify the contractor to provide moisture and pH test results to the A/E.
- F. Specify a bonding type primer or acid etching for prestressed or other types of smooth concrete to obtain an adequate paint bonding profile.
- G. Specify the contractor shall only proceed with painting with the M-DCPS Paint Quality Staff, A/E, and paint manufacturer representative's written approvals allowing painting to begin.
- H. Interior and exterior wall and trim paint finishes shall be semi-gloss:
- I. Gypsum board, veneer plaster, and plaster ceilings at new construction shall be semi-gloss.
- J. Flat or satin paint finishes may be used at existing walls and ceilings on a per condition basis.
- K. Do not use dark blues, reds, yellows, or other deep or bright colors on exterior surfaces or any other surfaces exposed to ultraviolet light. See the following for additional information:
- 1. M-DCPS "Procedures and Standards for the Painting of New and Existing School Facilities by Contractors".
 - 2. M-DCPS "Approved Paint Colors for New and Existing Facilities".
- L. Lead-based paints or primers are not allowed for use.
- M. Specified paint shall have a 6-year manufacturer's warranty for labor and materials.
- N. Handling and disposal of solvents shall comply with applicable environmental requirements.
- O. Repainting of Existing Surfaces.
- 1. Cleaning, proper treatment of mildewed areas, patching, and crack repair are required. Loose or deteriorated caulking at the perimeter of openings shall be replaced.
 - 2. Perform adhesion tests on existing surfaces to be repainted and issue specifications for latex paint based upon test results. Specify manufacturer to assume responsibility for satisfactory surface preparation, conditions, and adhesion to uphold required warranty.
 - 3. Determine if pressure cleaning, at suitable areas, is required to remove paint not well bonded. Complete removal of existing well-bonded paint is not always required.

END OF DIVISION

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**Division 9
Design Criteria**

**9 - 11
M-DCPS**