School Construction Authority

Architecture & Engineering

Design Requirements

5.1 Finishes

5.1.1 Typical Room Finishes

Description/Design Approach:

- A. The following finishes are typically for new construction. New interior finishes adjacent to or surrounded by existing construction shall match existing. In the tables, Layout Number and Layout Name reference the SCA's ROOM PLANNING STANDARDS.
- B. General Notes:
 - 1. Except for Kitchen Spaces, Refuse and Recycling Storage and other wet areas with multiple floor drains, ceramic tile floors, when required, shall be thin set. At thin set areas with drains, drain(s) shall be set 1/4" below finish floor with a two feet swale in concrete surrounding the drain. At thick set areas (kitchen, refuse and recycling storage, and other wet areas with multiple floor drains), structural slab shall be depressed and the floor pitched with concrete fill or structural repair concrete to provide pitch to the drains and facilitate installation of tile with a uniform setting bed depth. Coordinate with structural for slab depression. For shower areas and refuse and recycling room, slab shall slope 1/4" per foot. For other locations such as the kitchen, floors shall pitch about 1/8" per foot.
 - 2. Gypsum board ceilings, soffits and fascias shall be painted, and the gypsum board shall be mold & moisture resistant type.
 - 3. Coordinate location of all wall-mounted devices.
 - 4. All surfaces to receive painted finishes shall be painted with semi-gloss paint. Block filler shall be used on all concrete block prior to painting
 - 5. Avoid use of white or light color VCT, which causes maintenance problems. See Specifications for maximum light reflectivity values.
 - 6. Except for Administrative spaces, all spaces that have Acoustical Tile Ceilings shall have "hold-down clips". Hold-down clips for wood fiber composition panels (Tectum) shall be impact type.
 - 7. Metal Panel ceilings shall be non-perforated.
 - 8. Terrazzo Tile flooring and base shall be precast cementitious type.
 - 9. Wainscot finish material shall be applied to partitions, extending from base to height indicated herein or shown on Drawings.
 - 10. Stainless steel corner guards 5'-high, shall be provided at all external partition corners in the kitchen and shall be used for tiled freestanding columns within the cafeteria.

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C. The following Legend identifies typical room finishes and is used throughout the "Table of Typical Spaces and Finishes".

	Legend of Finishes and Finished Materials						
Floor							
Cpt -	Carpet	PT -	Porcelain Tile	CT -	Ceramic Tile		
SC -	Sealed Concrete	RW -	Resilient Wood	TT -	Terrazzo Tile		
PC -	Painted Concrete	QT -	Quarry Tile	VCT -	Vinyl Composition Tile		
PE -	Poured Epoxy	SV -	Sheet Vinyl	SRVT -	Slip-retardant Vinyl Tile		
FAF -	Fluid-Applied Eqpt. Rm. Flooring	IRF-	Interlocking Rubber flooring	RAF -	Resilient Athletic flooring		
GPWF	 GreenPlay Wood Floor 	PEF –	Point Elastic Synthetic floor	IPF -	Interlocking Polymer Flooring		
AWF -	Anchored Wood Floor	AEF –	Area Elastic Synthetic Floor	IDF -	Interlocking Dance Floor		
NAWF	 Non-anchored Wood Floor 	IRF-	Interlocking Rubber flooring	VSAF -	Vinyl Sheet Athletic Flooring		
SRSV -	Slip Resistant Sheet Vinyl						
Base							
IE -	Integral Epoxy	MA -	Metal Angle	RB –	Resilient Base (Vinyl or Rubber)		
Wall							
GCT -	Glazed Ceramic Tile	SG-P -	Semi-Gloss Paint				
Ceilin	g						
AcT -	Acoustical Tile	Gyp Bd	- Gypsum Board	MP -	Metal Pan		
TcT -	Tectum (Wood Fiber						
	Composition Panel)						
Misce	llaneous						
IP -	Intumescent Paint						
NA -	Not applicable						



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Interiors – Section 5.0

	Table of Typical Spaces and Finishes								
Layout Number	Layout Name	Floor	Base	Wall	Wainscot	Ceiling	Notes		
Group K	Kitchen / Food Services								
К2	Kitchen: Including Receiving Area, Cooking, and Preparation Area, Pot Wash Areas	QT	QT	GCT	Full height	MP	 Metal panel ceiling shall be non-perforated Wall Tile shall extend a minimum of 4-inches above ceiling. Epoxy grout shall be used with quarry tile floors and base. Marble saddle shall be provided at all changes of flooring material. Provide flush saddle between VCT floor in food storage area and QT floor in kitchen 		
K2	Can Wash/Mop room	QT	QT	GCT	Full height	MP	• Wall tile shall extend a minimum of 4-inches above ceiling.		
К3	Student Servery Layout and Schedule	QT	QT	GCT	Full height	MP	 Wall tile shall extend a minimum of 4-inches above ceiling. Provide flush saddle between VCT floor in dining area and QT floor in servery when there is no demising wall separating the spaces. 		
K4	Temporary Kitchen	QT	QT	GCT	Full height	MP	Wall Tile shall extend a minimum of 4-inches above ceiling.		
K5	Warming/Therm Hold Kitchen Layout and Schedule	QT	QT	GCT	Full height	MP	Wall Tile shall extend a minimum of 4-inches above ceiling.		
NA	Food Storage	VCT	RB	SG-P		AcT	Provide flush saddle between VCT floor in food storage area and QT floor in kitchen		
NA	Non-food storage	VCT	RB	SG-P		AcT	Provide flush saddle between VCT floor in food storage area and QT floor in kitchen		
K6	Dietician's/Manager's Office	VCT	RB	SG-P		AcT			
NA	Walk –in Refrigerator and Freezer	QT							
NA	Compressor room	SC	RB	SG-P		SG-P	Ceiling material shall be mold & moisture resistant gypsum board.		
K7	Kitchen Staff locker rooms	СТ	GCT	GCT	GCT	SG-P	 Top of GCT wainscot 4'6" AFF Ceiling material shall be mold & moisture resistant gypsum bd 		
K8	Kitchen Help Locker room	VCT	RB	SG-P		AcT			

Requirement Applies to:

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Design Requirements

Interiors – Section 5.0

	Table of Typical Spaces and Finishes							
Layout Number	Layout Name	Floor	Base	Wall	Wainscot	Ceiling	Notes	
NA	Detergent Storage	VCT	RB	SG-P		AcT		
Group UPK	UPK			-				
UPK 1-10	Typical UPK Classroom	VCT	RB	SG-P		AcT		
	Exercise Room	VSAF	RB	SG-P (See Notes)	Removable protective padding	See Notes	Where ceiling is not provided, exposed ductwork shall be round and painted. AcT ceiling where provided to have Impact clips	
UPK 7-10	UPK Lobby Design Criteria	VCT	RB	SG-P		AcT		
UPK 9-16	Receiving and General Supply Room	VCT	RB	SG-P		AcT		
UPK 9-19	UPK Grounds Equipment Closet	SC	RB	SG-P				
UPK 9-24	Refuse and Recycling Storage	SC	RB	SG-P				
UPK10-11	UPK General office/Waiting Room	VCT	RB	SG-P		AcT		
	Principal's Office	VCT	RB	SG-P		AcT		
	Principal's Office w/ Conf Area	VCT	RB	SG-P		AcT	Toilet room shall have CT flooring, GCT wainscot to 4'-6" AFF, GCT base.	
UPK 10-25	UPK Community Activities/Parents room	VCT	RB	SG-P		AcT		
UPK 10-27	UPK Staff Room	VCT	RB	SG-P		AcT		
UPK 12-11	UPK Custodian's Workshop/office	VCT	RB	SG-P		AcT		
UPK 12-25	UPK Telecommunications	PC	RB	SG-P				

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Rooms	Assembly	Material	
Auditorium and Library	Perimeter of area: double layer of wallboard on both sides of studs, all layers extending to slab above.	Face layers: 5/8" thick reinforced abuse resistant gypsum board.	
	Partitions within area: 1 layer on one side, 2 layers on opposite side.	Concealed layers: 5/8" thick, mold & moisture resistant gypsum wallboard.	
Partitions separating High Noise spaces such as Cafeteria,	Perimeter of area: Masonry partitions or 6-inch deep, 25 gauge studs with three layers of 5/8-inch gypsum board	Face layers: 5/8" thick reinforced abuse resistant gypsum board.	
Music Rooms, Dance Classrooms and Lunchrooms from instructional spaces	on both sides. Partitions within area: 1 layer on one side, 2 layers on opposite side.	Concealed layers: 5/8" thick, mold & moisture resistant gypsum wallboard.	
MEP Rooms and Storage Rooms	Single layer of wallboard on one side of studs, and double layer on opposite side of studs.	Face layer: 5/8" thick reinforced abuse resistant gypsum board. Concealed layer: 5/8" thick, mold &	
	Additional layers to achieve fire rating.	moisture resistant gypsum wallboard.	
Ganged Toilets, Gym Locker, Gym Showers, Gym Toilets.	Double layer on toilet room side, including chase wall. Single layer on side facing classroom,	Face layer on toilet room side: 5/8" thick cement board. Concealed layer: 5/8" thick, mold & moisture resistant gypsum wallboard.	
	office, etc.	Classroom side: 5/8" thick reinforced abuse resistant gypsum board.	
Classroom Toilets	Double layer on toilet room side. Single layer on side facing classroom.	Concealed and face layers in toilet room: 5/8" thick, mold & moisture resistant gypsum wallboard.	
		Classroom side: 5/8" thick reinforced abuse resistant gypsum board.	
Janitor's Sink Closet	Single layer on side facing Closet	5/8" thick, mold & moisture resistant gypsum wallboard	
Kitchen and Servery	Single layer within kitchen.	Face layer 5/8" thick cement board.	
	Double layer for partition at perimeter of kitchen area. 2-hour fire rating where required. All layers extend to slab above.	Concealed layer 5/8" thick, mold & moisture resistant gypsum wallboard.	

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bearing corridor walls for new buildings are not required to be fire-rated for schools (Occupancy type E) as they are required to be sprinklered (BC Table 1018.1.1).

- b. Two-hour fire rating is typically required for offices, shops, kitchens, shafts, vertical exits, exit passageways, safe area, fire rescue area and other locations as required for existing buildings under the 1968 NYC Building Code and other applicable codes.
- c. For buildings designed under the 2014 code:
 - i) A two-hour fire rating is required for vertical exits (BC 11022.1) shafts (BC 708.4) elevator hoistways (BC 708.14) and safe areas (BC 1028.17.3)
 - ii) A one-hour fire rating is required for non-sprinklered mechanical rooms (BC Table 509), and for shafts that penetrate fewer than three stories (BC 708.4)
 - iii) Spaces that are accessory to 'E' occupancy and occupy a floor area not more than 10% of the area of the story in which they are located do not require a fire separation (BC 508.2.1, BC 508.2.4).
 - iv) Assembly spaces that are accessory to 'E' occupancy do not require a fire separation (BC 508.2.1 exception 1.2, BC 508.2.4)
- 6. It is preferred that the 2-hour wall in the non-sprinklered Kitchen be located to separate the Kitchen spaces from the following: Students' Servery, the A La Carte Room and the Teachers' Servery. If this is not possible, the 2-hour wall shall be located to separate the Cafeteria's seating area from the following: Students' Servery, A La Carte Room and Teachers' Servery. (Use of these 2-hour walls located strategically should eliminate the use of fire rated roll down shutters between seating area and Servery).

The wall between the Servery and Cafeterias (non-rated walls only) may be constructed of hollow metal frames and "tempered glass" Vision Panels. Height shall be restricted to the overall height of door frames.

A fire-rated partition is not required between the kitchen and the servery and/or the kitchen and dining space when the kitchen is fully sprinklered per Section BC 508.4.4 exception 2.

- 7. Trade shops requiring concrete block partitions include carpentry, metal, electric, plumbing, automotive, welding, and stagecraft. Drywall partitions are permitted for photography, graphics, mechanical drafting, home economics, cosmetology, robotics, and plastics shops.
- 8. Wardrobe and material supply closets within all classrooms, including special education classrooms, and offices are to be constructed of single layer of gypsum board each side (unless required otherwise for fire-rating). Refer to DR 1.3.2.3 for other detailed requirements.

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4. Terrazzo Tile (TT):

Provide precast cementitious type. Terrazzo tile is installed in a thinset application. May be used in high traffic areas such as lobby, vestibules, entry corridors, and exit passageways.

5. Poured Epoxy (PE):

Also known as "Resinous Flooring". This type of floor is typically used in areas where resistance to acids, chemicals, solvents and reagents is necessary.

6. Quarry Tile (QT):

In addition to being used in high traffic areas, quarry tile is to be used in all kitchens. As it is resistant to acid and other chemicals, it may also be used for science labs in existing buildings.

Notes:

- a. Epoxy grout is to be used for quarry tile in kitchens and science labs. Epoxy grout is nonporous and is resistant to many acids, chemicals and strong cleaning detergents; it also resists staining and does not **support** the growth of bacteria. The formulation specified is high temperature resistant and will not soften when exposed to hot liquids or steam.
- b. Quarry tile in kitchens is to be a thickset application utilizing sheet membrane waterproofing.
- c. For other locations, provide thin set application. For areas with drains, provide cold applied liquid waterproof membrane.
- **7.** Vinyl Composition Tile (VCT):

Classified as 'Resilient Flooring,' this material is the most widely used flooring material in the school building, typically used in classrooms, typical corridors, offices and other spaces.

B. Auditorium Flooring

1. Painted Concrete (PC):

Typically only used in the seating areas for Auditoriums. Color **to be** coordinated with interior finishes.

2. Sheet Vinyl (SV):

Used for non-sloped areas of the Auditorium floor, including the orchestra and back-ofhouse areas and any non-sloped aisles. Vinyl tile may also be used at such locations but must be carefully planned out at the change in slope.

3. Slip Retardant Sheet Vinyl (SRSV):

Used for the sloped aisles of auditorium floor.

Requirement Applies to:

New Construction



Design Requirements

5.4 Ceiling Systems

5.4.1 Suspended Ceilings

Description/Design Approach:

Ceiling Heights

Minimum ceiling heights for suspended ceilings are indicated in the table below.

Location	Early Childhood Center	Primary School	Intermediate School	High School
Corridors	10' - 0"	10' - 0"	10' - 0"	10' - 0"
Classrooms	9' - 4"	9' - 4"	10' - 0"	10' - 0"
Offices	9' - 4"	9' - 4"	10' - 0"	10' - 0"
Lunchrooms	10' - 0"	10' - 0"	10'- 0"	10' - 0"
Gymnasium *	16' - 0"	16' - 0"	24' - 0"	24' - 0"
Gymatorium *	16' - 0"	16' - 0"	24' - 0"	24' - 0"
Kitchen	9' - 4"	9' - 4"	9' - 4"	9' - 4"
Toilets	9' - 0"	9' - 0"	10' - 0"	10' - 0"
Storage				

* To closest obstruction.

A. Fire Rating

Required fire ratings and separations are to be provided by the floor/roof assembly independent of the ceiling construction.

- B. Ceiling Types
 - 1. Typical ceiling shall be 2' x 4' lay-in acoustical tile with hold down clips. Exceptions noted below, and in Design Requirement 5.1.1, Typical Room Finishes.
 - 2. Ceilings in corridors in High Schools shall be "Tectum" (wood fiber composition) panels. Ceiling materials for lobby ceilings may be lay-in acoustical tile with hold down clips, mold & moisture resistant gypsum board or any other material that works with the ceiling suspension system such as; metal slats, etc. Use of other ceiling material to enhance the lobby aesthetic is subject to approval by the Authority.
 - 3. Soffits and ceilings shall be mold & moisture resistant gypsum board. Framing for attachment of the gypsum board shall be spaced 12" on center.
 - 4. Kitchen ceilings shall be 2' x 2' lay-in metal panels, non-perforated.
 - 5. Gymnasium does not require a ceiling. If a ceiling is provided, use "Tectum" with a minimum of 4 impact clips, or more if recommended by manufacturer.

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Design Requirements

5.5 Doors

5.5.1 Interior Doors and Frames

Description/Design Approach:

- A. Types
 - Under the 1968 NYC Code for existing buildings, doors that provide access to interior corridors required to have a one-hour fire resistance rating from spaces devoted to nonhazardous uses (i.e. classrooms, offices, toilets etc.) shall be 1³/₄" solid core wood doors without a fire rating (per section 27-371(b)).

Under the 2014 NYC Code for new buildings and additions, interior corridors are not required to be fire rated in sprinklered schools (Group E) per BC Table 1018.1. Therefore, no fire rating is required for corridor doors. Doors to classrooms and offices shall be $1\frac{3}{4}$ " solid core wood doors without a fire rating.

- 2. Doors within rooms (e.g. kindergarten toilets, inner offices, etc.) shall be wood.
- 3. Doors for wardrobes and closets within rooms shall be wood.
- 4. Doors to Kitchen and spaces within the kitchen (e.g. food storage, can wash, Dieticians office, kitchen help locker rooms etc.) shall be galvanized hollow metal.
- 5. All other doors, including all stair doors, shall be steel with the fire-rating required by code. Fire rated doors shall have the appropriate BSA, MEA or other entity accepted by the Code or OTCR label installed at the factory.
- B. Construction
 - Interior wood doors shall comply with Architectural Woodwork Institute's (AWI) Architectural Woodwork Standards (AWS). Doors shall be constructed of structural composite lumber core, 1³/₄" thick 5-ply construction. Half-surface mounted ball bearing hinges shall be used on all wood doors with the exception of wardrobe and closet doors.

Wood doors with mineral cores or any other door types not described above are <u>not</u> acceptable.

- 2. Reinforcing for steel doors shall be as indicated in the specifications and standard details. UL approved insulation shall be used in the core of the doors for sound deadening.
- 3. All doors, inclusive of sidelites or transoms, shall have 14 gage steel frames reinforced as indicated in the specifications and standard details. Knock-down frames are <u>not</u> acceptable.
- 4. Hardware
 - Existing buildings where the 1968 NYC Code is applicable: Positive latching per Section 27-371 (j) (1) is not required for stair doors. Push/pull hardware is allowed.

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5.5 Doors

5.5.2 Rolling Grilles and Shutters in the Kitchen Areas (or Warming Pantries)

Description/Design Approach:

Rolling Grilles and Shutters shall be provided with locks. The locks shall be on the kitchen side and easily accessible to the Department of Education - Office of School Food and Nutrition Services (OSFNS) personnel. The kitchen equipment shall be laid out such that staff shall not have to move any equipment to reach the locking mechanism of the grille or shutter.

Rolling Shutters shall be manually operated push-up type for smaller units up to 40 sq. ft. in area and crank type for larger units up to 12 feet in length. Rolling Shutters of greater sizes shall be provided with electric motors and manual override. If shutter is located in a fire-rated wall, provide fire-rated shutter as required by the New York City Building Code.

Rolling Grilles up to 12 feet in length shall be crank type. Rolling Grilles with lengths greater than 12 feet shall be provided with electric motors and manual override.

Rolling Grilles at serving lines with low wall-mounted fixed tray slides are to extend from the ceiling to the tray slide except at the milk dispenser, where the grille must extend from the ceiling to the floor.

Rolling Grilles at serving lines with equipment-mounted tray slides are to extend from the ceiling to the floor.