

Montgomery County Public Schools Facilities Guide

DIVISION 9 – FINISHES

SECTION 09500

ACOUSTICAL TREATMENT

PART 1 GENERAL

1.01 GUIDE INCLUDES

- A. Refer to LEED for Schools Reference Guide – IEQ Acoustical Prerequisite and IEQ Credits for Enhanced Acoustical Performance for Reverberation Times of core learning spaces.
- B. Suspended acoustical ceiling panels shall be noted on finish schedule. Size to be 2 feet x 4 feet.
- C. Acoustical ceiling paneling, lay in units to be considered in:
 - 1. Corridors (ceilings lower than 8'-0" in Elementary; 8'-6" in Secondary)
 - 2. Student Toilets
 - 3. P.E. Locker Areas
- D. Sanitary, Moisture Resistant lay in ceiling panels to be considered in:
 - 1. Other areas not specified, including Food Service Areas
- E. Acoustical Wall Treatments to be considered in:
 - 1. Music Area
 - 2. Gymnasiums
 - 3. Cafeteria/All Purpose
 - 4. Elevator Equipment Room
- F. MCPS Acoustical Consultant to verify if additional measures required for LEED EQp3 Minimal Acoustical Performance and Maryland Classroom Acoustics Guidelines
<http://www.marylandpublicschools.org/NR/rdonlyres/FCB60C1D-6CC2-4270-BDAA-153D67247324/10128/ClassroomAcousticsGuidelines.pdf>
- G. Hook system are preferred for easier maintenance.

1.02 QUALITY ASSURANCE

- A. Installer Qualifications:
 - 1. Engage an experienced installer who has successfully completed acoustical installations similar in scope.
- B. Fire - Performance:
 - 1. Provide acoustical ceilings that conform with testing per ASTM E84, Flame spread: 25 or less. Smoke developed: 50 or less and ASTM E1264 for Class A products.
- C. Provide minimum 10 year non-sag warranty on all panels.
- D. Single - Source Responsibility: Obtain each type of acoustical ceiling and suspension system from a single source.

1.03 SUBMITTALS

- A. Submit MSDS for any applicable product used.
- B. Submit location of manufacture and extraction/recovery of primary raw materials.
- C. Submit recycled-content information, designating percentages of post-consumer and pre-consumer recycled materials.
- D. Submit acoustical data: Noise Reduction Coefficient (NRC) and Ceiling Attenuation Class (CAC)
- E. Submit light reflectance (LR) of all surface materials
- F. Submit formaldehyde content
- G. Submit manufacturer's certification that acoustical materials and field-applied adhesives and sealants meet testing and product requirements of California Department of Health Services Standard Practice for The Testing Of Volatile Organic Emissions From Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda.

1.04 EXTRA STOCK

- A. At end of the project, provide 2 percent of acoustical tile for each size, type and pattern installed. Extra stock to be UL fire resistant. Extra stock to be turned over and signed by schools Building Service Manager.

PART 2 PRODUCTS

2.01 GENERAL: ACOUSTICAL PRODUCTS SHALL MEET FOLLOWING CRITERIA

- A. Testing and product requirements of California Department of Health Services Standard Practice for The Testing Of Volatile Organic Emissions From Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda.
- B. Manufactured and of primary raw materials extracted/harvested/recovered within a 500-mile radius of the project site.
- C. High recycled content (minimum 65 percent)
- D. Minimum Noise Reduction Coefficient NRC of 0.70,
- E. Minimum CAC of 40,
- F. No added formaldehyde
- G. High light reflectance (minimum 0.85)

2.02 MANUFACTURERS AND PRODUCT NUMBERS: SUBJECT TO COMPLIANCE WITH ABOVE REQUIREMENTS, INCLUDE THE FOLLOWING:

- A. Mineral Drop-in Ceiling Panels, regular and fire rated:
1. Armstrong: Ultima #1913, fire rated use School Zone #1811 .
 2. CertainTeed Celotex: Fine Fissured High NRC, fire rated – School Board Protectone
 3. USG: Eclipse Climaplus, fire rated – Eclipse Climaplus Firerated
 4. Square - Avoid tegular and shadow line styles.
- B. Acoustical Ceiling Paneling: (Alternative to Tectum for durability, use Hi Tech Look, Planostile steel perforated ceiling.)
1. Tectum, Inc.
 2. Sonopan, Louiseville Specialty Products
 3. InStar Acoustical Ceiling Systems, Affordable Building Systems
 4. Homasote
- C. Sanitary, Moisture Resistant Tile: Lower NRC - Cautious in area of ceiling plenum.
1. Capaul Architectural Acoustics: Vinyl Rock, fire rated - Vinyl Rock X.
 2. Gold Bond: "Gridstone" vinyl laminated gypsum.
 3. USG: Clean Room Ceiling Panels, SQ #3200.
 4. Kemlite: Glassboard PE w/ Sanigrd.
 5. Chicago Metallic: Eurostone, pattern to be selected
- D. Acoustical Wall Materials:
1. Sound Soak by Armstrong
 2. Silent Wall by USG
 3. Acoustical Wall Series 90 by Kinetics
 4. Certainteed Capaul
 5. Sonopan by Louiseville Specialty Products
 6. Burlap Panels by Homasote
- E. Suspension Systems (Moisture Resistant Only): Hot dipped galvanized - Use only in areas of kitchen, pool, and locker rooms.
1. Chicago Metallic 1830 system
 2. USG
 3. Armstrong Prelude XL
- F. Field applied adhesives and sealants shall meet testing and product requirements of California Department of Health Services Standard Practice for The Testing Of Volatile Organic Emissions From Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda.
1. At minimum, products need to comply with VOC limits specified in LEED-NC version 2.2, EQc4. if alternatives tested to the CA protocol are not available.

Comment [MSOffice1]: SDC review found ALL these products to be NON compliant for LEED-S EQc4.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Coordination of Work: Coordinate layout and installation of acoustical ceiling units and suspension systems with other construction that penetrates ceiling.
- B. Install acoustical treatment in a manner consistent with Division 1 Indoor Air Quality Management requirements.
- C. Ceiling tiles shall not be installed until interior spaces have been properly conditioned to prevent tiles from accumulating excessive moisture.
- D. Nothing shall be suspended from ceiling suspension system. Independent hangers shall be provided for light fixtures, mechanical systems, etc.
- E. Hold down clips shall be installed in Locker Rooms and Toilet Rooms.
- F. Grid pattern shall typically be centered in spaces to minimize panels less than 1/2 original size.

3.02 WASTE MANAGEMENT

- A. Recycle waste acoustical materials in accordance with Section 01524, Construction Waste Management requirements.

END OF SECTION