

Montgomery County Public Schools Facilities Guide
DIVISION 8 - DOORS AND WINDOWS

SECTION 08500

WINDOWS

PART 1 GENERAL

1.01 GUIDE INCLUDES

- A. Optional types of windows.

SIZE OF GLAZED SECTIONS

SIZE OF GLASS PANELS SHALL NOT EXCEED 1728 SQ. INCHES (3'-0" X 4'-0")
MINIMIZE DIFFERENT SIZES - MAXIMUM OF 4 PER SCHOOL

1.02 SUBMITTALS

- A. Submit to architect for approval, complete shop and installation drawings and manufacturer's literature. This Section and Section 08800 "Glass & Glazing" shall be submitted concurrent for coordination.
- B. Contractor shall list exact size of glass, type of coatings and tint for re-glazing and include as a part of projects Operations, Maintenance, and Product Data Manual.
- C. Include location of manufacture of windows.
- D. Submit recycled-content information, designating percentages of post-consumer and pre-consumer recycled materials.
- E. Provide manufacturer's certification that glazing sealants applied on building interior meet testing and product requirements of the 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.
- F. Submit MSDS for any applicable products used.

1.03 QUALITY ASSURANCE

- A. Materials and products shall be manufactured by a company continuously and regularly employed in manufacturing of windows for a period of 5 years.
- B. Manufacturer shall extrude and finish metal used in window units.
- C. Window units shall be tested and certified in accordance with AW50 and HC50.
- D. Installation shall be by only mechanics who are thoroughly trained and experience in installation of windows.

1.04 GUARANTEE

- A. Provide manufacturer's complete 2 year guarantee against defects in materials or workmanship, manufacturer's 10 year guarantee on finish, manufacturer's 5 year guarantee on glass and 10 year guarantee on glass dual seal, and 3 year guarantee on window installation.

Comment [Comment1]: Referenced in Section 01740 Warranties and Bonds

Products to be verified for LEED-for Schools version 2.2, EQc4

PART 2 PRODUCTS

2.01 MANUFACTURERS: (SUBJECT TO COMPLIANCE WITH REQUIREMENTS, GIVE PREFERENCE TO PRODUCTS MANUFACTURED WITHIN A 500-MILE RADIUS OF THE PROJECT SITE)

- A. Aluminum Windows:

1. Traco, Warrendale, PA.
 2. Wausau Metals Corp, Wausau, WI.
 3. Kawneer Company, Inc, Norcorss, GA
 4. EFCO Corp.
- B. Pultruded Fiberglass Windows:
1. Thermotech Windows, Ltd.
 2. Comfort Line
 3. Inline Fiberglass, Ltd.
 4. Fibertec Window & Door Manufacturing, Ltd.
- C. Metal Clad Wood Windows:
1. Pella Designer Series
 2. Loewen Heat Smart
 3. Marvin Windows

2.02 TYPE OF WINDOWS

- A. Thermal break aluminum (with maximized recycled content) or pultruded fiberglass preglazed with performance AW50 rating (site glazed units may only be used in areas which preclude use of factory preglazed units):
1. Fixed
 2. Projecting windows:
 - a. grade level - project-in (hopper) only
 - b. upper level - project-in (hopper) or project-out (awning)
 - c. Make sure project-in or project-out configurations do not cause hazards to persons walking past windows when they are open.
 3. Single hung (see ballast requirement below)
- B. Re-glazing from inside with extruded glazing beads fastened with screws (aluminum) or with plastic retainers under compression (pultruded fiberglass).
- C. Exterior glass shall be low E type (see Section 08800 "Glass and Glazing")
- D. Total window assembly shall have following performance values, as labeled by NFRC and U.S. EPA Energy Star:
1. Max U-value: 0.40;
 2. Max SHGC = 0.55;
 3. Min Tvis: 0.70.
 4. Improve upon above values and ASHRAE 90.1-2004 as determined by design and energy modeling process.

2.03 BALLASTS (SINGLE HUNG UNITS ONLY)

- A. Comply with AAMA 902.92 (single ballast unit per side of window unit).

2.04 WINDOW SCREENS

- A. Screens shall not be provided except at kitchen and dining room areas as required by code.

2.05 FINISH (ALUMINUM WINDOWS)

- A. Anodized finish: NAAMM AA-M12C22A42/A44, Class I (minimum thickness of 0.7 mils) integral or electrolytically deposited; comply with AAMA 606.1 or 608.1 (interior)
- B. High-Performance Organic Coating: NAAMM AA-C12C42RIX, Fluorocarbon 3-coat Coating System; comply with AAMA 2605.2 (exterior)

2.06 HARDWARE

- A. Four-bar friction hinges: Comply with AAMA 904.1
- B. Cam handle locks
- C. Concealed adjustable limit stops
- D. Provide extension operator bars as required

2.07 SEALANTS

- A. Glazing sealants applied on building interior 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-for Schools, if alternatives tested to CA protocol are not available.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Inspect walls before beginning installation and verify rough openings are suitable for installation.
- B. Install in accordance with manufacturer specifications and recommendations.
 - 1. A single sample unit shall be installed prior to complete installation. A manufacturer's representative shall certify sample installation before installation can continue.
 - 2. Manufacturer's representative shall provide operations and maintenance demonstration after Substantial Completion.

3.02 CLEANING

- A. Clean surfaces promptly after installation. Clean glazing in accordance with proper glass cleaning procedures. Clean interior concealed areas between sash and frame.

END OF SECTION