

SECTION 08653 SOUND CONTROL WINDOWS

Part 1 – General

1.01 Summary

- A. Section includes:
 1. Extruded aluminum windows with fixed sash
- B. Related Sections:

1.02 References

- A. ASTM E90–Airborne sound transmission loss, 1/3 octave band data.
- B. ASTM B221–Aluminum-alloy extruded bar, rod, wire, shape, and tube.
- C. ASTM E283–Rate of air leakage through exterior sliding doors, curtain walls, and doors.
- D. ASTM E331–Test method for water penetration by uniform static air pressure difference.
- E. ASTM E413–Classification for rating sound insulation.
- F. ASTM E1425–Determining the acoustical performance of exterior sliding doors and doors.

1.03 System Description

- A. System 77 Aluminum fixed windows with custodial access vent and frame depth of 6-1/16 inches (154 mm) in typical application.
- B. Performance Requirements:
 1. Air Infiltration: Accordance with ASTM E283.
 2. Water Resistance: Accordance with ASTM E331.
 3. All windows must meet or exceed the minimum requirements of performance class FC for the design load specified in accordance with ANSI/AAMA 101-88 and the requirements for STC 52 when tested per ASTM E90 and evaluated by E413.
 4. The entire window assembly (framing members, glass, and integral components) shall meet or exceed the value listed when measured in accordance to ASTM E90 and E413. The sound transmission loss shall meet the following allowable deviations:
 - a. Three non-continuous 1/3 octave band values may deviate below the specified values as much as three decibels, subject to the provision in 2:
 - b. The summation of deviation of decibels from the specified values must not exceed six decibels.

Tested values for an STC 52 window shall be:

1/3 Octave Bands:	125	160	200	250	315	400	500	630	800
Transmission Loss:	28	39	42	44	45	50	52	52	53

1/3 Octave Bands:	1000	1250	1600	2000	2500	3150	4000
5000							
Transmission Loss:	53	55	57	62	64	68	70

75

1.04 Quality Assurance

- A. Single Source Responsibility:
 1. Obtain entrances, storefronts, ribbon walls, window walls, curtain walls, window systems, and finish through one source from a single manufacturer.
- B. Provide test reports from AAMA accredited laboratories certifying the performances as specified in 1.03.

1.05 Warranty

- A. Warranted against failure and/or deterioration of metals due to manufacturing process for a period of two (2) years.

Part 2 – Products

2.01 Manufacturers

- A. Acceptable Manufacturers:
 1. Arcadia, Inc., 4620 Andrews Street, North Las Vegas, NV 89081. (702) 644-4668 www.arcadiainc.com
- B. Acceptable Products:
 1. System 77 Acoustical Windows, 6-1/16" depth as designed by Window Technologies, Inc.

2.02 Materials

- A. All frame extrusions shall be fabricated from aluminum extrusions of 6063-T5 alloy and temper with a minimum wall thickness of 0.078 inch. The aluminum shall be free of defects which impair strength and appearance.
- B. The main frame shall be thermally broken by glass-reinforced polyamide nylon strips which shall not deteriorate or shrink from corner joints and shall contract or expand at the same rate as aluminum. The thermal strips shall be knurled into place to allow for separate finishes on interior and exterior portions of the window.
- C. Window components shall be designed and assembled so as to provide a continuous exterior water deterrent.
- D. Framing system shall incorporate an airspace between the panes of glass of at least 4 1/2 inches (114 mm).
- E. Units shall be double glazed utilizing laminates and a 4 1/2 inch (114 mm) air space as required for the specified sound transmission loss in decibels.
- F. The acoustical performance and rating of the glass and glazing shall be as a complete glazing system installed in the aluminum frame with the weather-stripping and seals of that system. Acoustic test report data for the glass alone shall not be acceptable.

2.03 Finish

- A. Finish all exposed areas of aluminum and components as indicated.
 1. An Architectural Class II or I color anodic coating conforming with AA-M12C22A34/AA-M12C22A44.
 - a. Anodized finish color shall be Colornodic _____. (AB1 Light Champagne, AB2 Champagne, AB3 Light Bronze, AB4 Medium Bronze, AB5 Standard Medium Bronze, AB6 Dark Bronze, AB7 Standard Dark Bronze, AB8 Black.)
 - (or) 1. An Architectural Class anodic II or coating conforming with AA-M12C22A31/AA-M12C22A41.
 - a. Anodize finish color shall be Colornodic _____ (#11 Clear)
 - (or) 1. Fluorocarbon Coating: AAMA 2605.2.
 - a. Resin: 70% PVDF Kynar 500/Hylar 5000.
 - b. Substrate: cleaned and pretreated with chromium phosphate.
 - c. Primer: Manufacturer's standard resin base compatible coating. Dry film thickness.
 - (a) Extrusion: Minimum 0.20 mil.
 - d. Color Coat: 70% PVDF, dry film thickness.
 - (a) Extrusion: 1.0 mil.
 - e. Color: As selected by Architect.

2.04 Fabrication

- A. Corner joinery: All frames shall be mitered, reinforced with angles, and mechanically staked for rigid, even, and tight joinery. All corners shall be flush, hairline, and sealed with an elastomeric sealant.
- B. Weep holes shall direct moisture drainage to the exterior.
- C. No screw type fasteners shall be necessary except where two or more units are muller together. Mullion fasteners shall be cadmium plated or stainless steel.

Part 3 – Execution

3.01 Examinations

- A. Examine conditions and verify substrate conditions are acceptable for product installation.

3.02 Installation

- A. Install in accordance with approved shop drawings and manufacturers installation instructions.

3.03 Field Quality Control

- A. Contractor's responsibility to make all necessary final adjustments to attain normal operation of each door and its mechanical hardware.

END OF SECTION