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1-25-2013

085113 - Aluminum Windows

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Recommended Citation

Weatherbee, Stephanie, "085113 - Aluminum Windows" (2013). *Division 08 – Openings*. 5.
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SECTION 08 5113 - ALUMINUM WINDOWS

1.1 SUMMARY

- A. The University prefers to use regional materials within a 500 mile radius of the campus.
- B. This Section includes fixed and operable aluminum-framed windows for exterior locations.
 - 1. Performance Class: HC.
 - 2. Replacement parts shall be readily available.
 - 3. Provide repair kits with necessary special tools and spare parts. Deliver repair kit to University's Representative.
 - 4. Provide a complete parts list, with prices and ordering information, to the UNH Operations and Maintenance.
 - 5. Provide spare window sashes (equal to 10% of the total windows installed) to the UNH Operations and Maintenance.
 - 6. Provide spare screens (equal to 10% of the total screens installed) to the UNH Operations and Maintenance.

1.2 SUBMITTALS

- A. LEED Submittals:
 - 1. Product Data for Credit MR 4.1 and Credit MR 4.2: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content. Include statement indicating costs for each product having recycled content.
 - 2. Product Data for Credit EQ 4.1: For adhesives and sealants used inside of the weatherproofing system, including printed statement of VOC content.

1.3 DEFINITIONS

- A. Performance class designations according to AAMA/WDMA 101/I.S.2/NAFS:
 - 1. AW: Architectural.
 - 2. HC: Heavy Commercial.
 - 3. C: Commercial.
 - 4. LC: Light Commercial.
 - 5. R: Residential.

1.4 QUALITY ASSURANCE

- A. Fenestration Standard: Comply with AAMA/WDMA 101/I.S.2/NAFS, "North American Fenestration Standard Voluntary Performance Specification for Windows, Skylights



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and Glass Doors," for definitions and minimum standards of performance, materials, components, accessories, and fabrication. Comply with more stringent requirements if indicated.

1. Provide AAMA-certified aluminum windows with an attached label.
- B. Glazing Publications: Comply with published recommendations of glass manufacturers and with GANA's "Glazing Manual" unless more stringent requirements are indicated.
- C. Warranty: All materials and labor for a period of at least three years from substantial completion.

1.5 MANUFACTURERS

- A. Manufacturers who have recently done acceptable projects on campus. Other manufacturers who comply with these standards will be considered.

1.6 MATERIALS

- A. Aluminum Extrusions: Alloy and temper recommended by aluminum window manufacturer for strength, corrosion resistance, and application of required finish, but not less than 22,000-psi (150-MPa) ultimate tensile strength, not less than 16,000-psi (110-MPa) minimum yield strength, and not less than 0.062-inch (1.6-mm) thickness at any location for the main frame and sash members.

1.7 WINDOWS

- A. Residence Hall Window Types:
 1. Residence Hall Windows: Single hung windows in living units are acceptable, double hung are preferred.
 2. Avoid casements, hoppers, or awning units in living units.
 3. Provide a night latch feature on all operable sashes that will allow for sash to be secured in place by the occupant, allowing a 6 inch (150 mm) opening.
- B. Residence Hall Window Screening:
 1. Aluminum Insect Screen Frames: Manufacturer's standard aluminum alloy complying with SMA 1004. Fabricate frames with mitered or coped joints or corner extrusions, concealed fasteners, and removable PVC spline/anchor concealing edge of frame.
 2. Compression type frames mounted in aluminum side channels with an angle clip at both sides of the top, fastened to the window frame with tamper-proof screws to secure all screen frames.
 3. Exterior screens shall cover only the bottom sash.
 4. Aluminum Wire Fabric: 18-by-16 (1.1-by-1.3 mm) mesh of 0.011- (0.28-mm) diameter, coated aluminum wire; with black wire-fabric finish. Provide an



additional layer of 6 mesh .035" diameter black aluminum wire cloth on all windows located at grade level.

C. Academic and Administrative Windows:

1. Operable windows are required in all offices.
2. Operable windows shall be provided in all classrooms that do not have shoulder season cooling (2 pipe system, chiller shutdown, or other HVAC limitation.)
3. Fixed units may be used in laboratory spaces, corridors, lobbies, and other specialty spaces.
4. While double-hung, single-hung, casement or awning units for academic and administrative spaces are acceptable, double-hung are preferred.

D. Academic and Administrative Window Screening:

1. Sliding Insect Screen Frames: Manufacturer's standard aluminum alloy complying with SMA 1004. Fabricate frames with mitered or coped joints or corner extrusions, concealed fasteners, and removable PVC spline/anchor concealing edge of frame.
2. Compression type frames mounted in continuous aluminum side channels so they may be easily opened by the occupant.
3. Screens shall be mounted on the interior on all core campus non-residential buildings. Exterior screens shall cover only the bottom sash on other buildings.
4. Aluminum Wire Fabric: 18-by-16 (1.1-by-1.3 mm) mesh of 0.011- (0.28-mm) diameter, coated aluminum wire; with black wire-fabric finish.

1.8 GLAZING

- A. Glass and Glazing Materials: Refer to Chapter 5, Division 08, Section 088000 for glass units and glazing requirements applicable to glazed aluminum window units.

1.9 HARDWARE

- A. General: Provide manufacturer's standard hardware fabricated from aluminum, stainless steel, carbon steel complying with AAMA 907, or other corrosion-resistant material compatible with aluminum; designed to smoothly operate, tightly close, and securely lock aluminum windows, and sized to accommodate sash or ventilator weight and dimensions. Do not use aluminum in frictional contact with other metals.

1.10 ALUMINUM FINISHES

- A. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
- B. High-Performance Organic Finish (3-Coat Fluoropolymer): AA-C12C40R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: conversion coatings; Organic Coating: manufacturer's standard 3-coat, thermocured system consisting of



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specialty formulated inhibitive primer, fluoropolymer color coat, and clear fluoropolymer topcoat, with both color coat and clear topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight). Prepare, pretreat, and apply coating to exposed metal surfaces to comply with AAMA 2605 and with coating and resin manufacturers' written instructions.

END OF SECTION 08 5113