

ALUMINUM ARCHITECTURAL WINDOWS

General

In general, follow the guidelines below when specifying aluminum architectural windows and related items. Unless otherwise indicated, these guidelines are not intended to restrict or replace professional judgment.

Related Sections

U-M Design Guideline Sections:

[SID-D Energy Conservation](#)

[SID-F Codes and Regulatory Agencies](#)

[08800 Glazing](#)

[Architectural Preferred Manufacturer List](#)

UM Master Specifications

[Section 08520 Aluminum Windows](#)

Design Requirements

Window Grade -

- Specify "monumental" windows, minimum 1/8-inch wall thickness for frame and ventilator extrusions.
- Consider non-monumental grade (AAMA commercial or heavy commercial grades) windows for units with relatively small ventilators, in locations not likely to be subjected to vandalism or other abuse; and where cost is a predominant factor.
Review with Design Manager

Standards - Specify windows based on AAMA GS-001, "Monumental" classification (preferred), or AAMA 101 "Heavy Commercial" classification modified to meet University standards.

Comply with AAMA specifications, and project requirements to determine the performance class of the window. Minimum performance class: HC-40.

Tests - Require submittal of test reports of an independent laboratory indicating compliance with requirements. Review field testing requirements with Design Manager.

Design - Coordinate visual design effects which do not correspond general design features stated in this guideline with Design Manager.

Construction - Include the following requirements:

- Specify thermally improved (thermal-break) construction without exception. The University accepts both poured and degridged thermal breaks and "insulbar" thermal breaks manufacturer Ensinger Corp. Specify "Insulbar" system where different finishes or colors and desired interior and exterior sides of window frames.
- Wall Thickness: Comply with the following:
 - Monumental Window Extrusions: Minimum 0.125-inches. If you are preparing specifications based on AAMA 101, this requirement must be stated clearly as a modification of HC class specifications.
 - Heavy Commercial or Commercial Grade Window Extrusions: Per AAMA 101.
- Frame Depth: Size ventilators to permit 2-1/2 inch maximum frame depths for appearance. Where larger ventilators are required comply with the following:
 - Inswing Ventilators: Where ventilator size exceeds 15 square feet, require frame depth of not less than a 3-1/8 inch frame depth.
 - Outswing Ventilators: Where ventilator size exceeds 12 square feet, require frame depth of not less than a 3-1/8 inch frame depth.

Glazing - Specify units for inside glazing wherever practicable. Require glass surfaces to be within 3/16" of the frame exterior surface and that adjacent glass, spandrel or filler panels be located in the same plane, with a tolerance of 1/8".

Finish - Comply with the following:

- Match existing adjacent units to the greatest extent possible, whenever doing patch or in-fill type work.
- For most new and replacement work, specify a polyvinylidene fluoride coating based on either Kynar 500 or Hylar 5000, and marketed under a variety of trade names such as Duranar and Nubelar.
- Color: In general, specify non-metallic dark bronze. Coordinate other color selections with Design Manager.
- Specify two-coat application technique; or three-coat for applicable colors/metallics.
- Siliconized polyester and similar coatings are not acceptable.
- Where window finish is a dark bronze color, specify oxidized bronze finish on handles; otherwise specify chrome finish.
- When an anodized finish is judged appropriate, specify NAAM Class 1 finish, natural or color anodized, as suited to project.

Accessories - Comply with the following:

- Specify ventilator units with full weather-stripping.
- Specify continuous trim anchor clips where trim length exceeds 36-inches.
- Determine requirements for type of latching and locking hardware with Design Manager.
- Except for Housing projects and for food preparation areas, insect screens are generally not required for University projects.

Warranty - No special warranty is required for window frames.

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