

DESIGN GUIDELINE 08520
ALUMINUM ARCHITECTURAL WINDOWS

Scope

Aluminum fixed and ventilating windows, including windows which are installed as part of a storefront or curtain wall system.

Related Sections

U-M Design Guideline Sections:

[SID-D - Energy and Water Conservation](#)

[08410 – Aluminum Entrance and Storefront Systems](#)

[08800 – Glazing](#)

[08911 – Glazed Aluminum Curtain Wall](#)

[Architectural Preferred Manufacturers List \(PML\)](#)

U-M Master Specification Sections:

[08410 – Aluminum Entrance and Storefront Systems](#)

[08520 – Aluminum Architectural Windows](#)

[08800 – Glazing](#)

Reference Documents:

ASHRAE 90.1-2007, "Energy Standard for Buildings Except Low-Rise Residential Buildings"

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.

Design Requirements

Standards: Comply with AAMA/WDMA/CSA 101.I.S.2/A440-08 specifications.

- Minimum performance class: Specify AW performance class windows for both fixed and ventilating units.
- Minimum performance grade: As required by calculated wind speed for location and exposure category.

Single Source Responsibility – Specify that windows, glazing and sealants be the sole responsibility of a single prime contractor regardless of the location within the specification.

Tests - Require submittal of test reports of a qualified independent laboratory indicating compliance with requirements. Review requirements for in-place field testing with Design Manager. Specify Owner's field testing for installations of more than 10 units.

Engineering:

- Indicate structural loads on drawings.
- Specify delegated design submittals, signed and sealed by an engineer registered in the State of Michigan.

Supplemental Performance Requirement: In addition to the requirements in SID-D and AAMA class AW, specify units tested to a minimum condensation resistance factor (CRF) based upon anticipated interior temperature and humidity conditions to ensure that there will be no condensation on the window surface.

Construction: Specify thermal-break construction without exception.

Glazing - Require glass surfaces to be located in the same plane, with a tolerance of 1/8 inch.

Finish - Comply with the following:

- For partial renovations and replacement projects, match existing adjacent units to the greatest extent possible.
- For most new and entire building replacement work, specify a 70% polyvinylidene fluoride coating. See PML for acceptable manufacturers.
- 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.
- When an anodized finish is judged appropriate, specify AAMA 611 Class 1 finish, clear or color anodized, as suited to project.

Requirements for Ventilators:

- General:
 - Specify ventilator units with full weather-stripping.
 - Specify insect screens for Housing projects and food preparation areas only.
- Office installations – UM standard practice is to provide a minimum of one ventilating unit per office. Review project requirements with Design Manager.
- Housing installations - Specify 6" sash limiters on all residential windows. Coordinate with Design Manager.

Warranty: Require a 10-year warranty on all components of window system.

End of U-M DG 08520