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:

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


- 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.
- Silicone 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