

Specifications – Thermal Frame Windows

The Series 2255 MBS (Metal Building System) Thermal Fin is a 2 ¼" window family designed specifically for metal siding applications. Horizontal slider, project-in hopper and fixed window configurations are available with a poured-in-place polyurethane thermal barrier. The windows and the head/sill channel and jamb fins can be installed as the metal siding is erected or retrofitted by cutting holes in the siding at a later time. Extremely narrow metal site lines maximize the glass day lite opening and sash ventilation. Jamb fins installed on the rib are available for regular and architectural metal siding panels. A universal fin allows installation off the rib of the metal panel. Windows may also be used without the head/sill channels and jamb fins for traditional installations in masonry or wood/metal stud conditions.

SECTION 08520 ALUMINUM WINDOWS

PART 1 – GENERAL

1.01. Work Included

- A. Furnish and install aluminum windows complete with hardware, fins and related components as shown on drawings and/or specified in this section.
- B. All windows shall be Series 2255 MBS Thermal Fin (state configuration: horizontal slider, fixed, fixed over project-in hopper vent or single hung).
- C. Glass and Glazing: All windows shall be factory glazed.

1.02. Testing and Performance

- A. Air, water and structural test unit sizes and configurations shall be in general conformance to requirements set forth in ANSI/AAMA 101-93.
- B. Windows shall conform to HS-C25 (horizontal slider), P-C30 (project-in vent) and F-HC40 (fixed).

1.03. Quality Assurance

- A. Provide test reports from AAMA accredited laboratory certifying the performance as specified in 1.02.
- B. Test reports shall be accompanied by the window manufacturer's letter of certification stating that the tested window meets or exceeds the referenced criteria for the appropriate ANSI/AAMA 101-93 window type.

1.04. Submittals

- A. Contractor shall submit section details; finish sample, test reports and warranties as required.

1.05. Warranty

- A. The window manufacturer's shall assume full responsibility and warrant for one (1) year (five [5] years for insulated glass seal only) the satisfactory performance of the factory fabricated window unit including sash operation hardware and glazing as it relates to air, water and structural adequacy.
- B. The metal building erector shall be responsible for the window and fin anchorage, flashing and sealing.

PART 2 – PRODUCTS

2.01. Materials

- A. Extruded aluminum shall be 6063-T5 alloy and temper
- B. Hardware
 1. Horizontal slider shall have a painted zinc die cast sweep latch, which mechanically retains the frame meeting rail. Spring-loaded latches shall not be permitted.
 2. Projected vents shall have a cam handle with a concealed pawl painted to match the window finish and a steal strike
 3. Projected windows shall have Bronze Craft Defender Series stainless steel operating arms. Aluminum or carbon steel arms shall not be permitted.

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4. Horizontal slider roller system shall consist of an injection-molded nylon housing with brass tire on a stainless steel axle. Nylon or one-piece brass roller/axle assemblies shall not be permitted.
 5. Single hung sash shall be balanced with spiral type balances which are field adjustable.
- C. Weatherstrip
1. Horizontal slider shall be weather-stripped with Amesbury WINDO-FIN GLIDEFIT medium density polypropylene pile with Mylar fin or equal.
 2. Projected vent weatherstripping shall be a co-extruded Santoprene bulb with a polypropylene backer or equal.
- D. Glass and Glazing
1. Glass shall be SSB (2mm) or DSB (3mm) clear, tinted, obscure and/or tempered as required.
 2. Insulated glass shall have an "A" level rating with a five (5) year warranty against seal failure. Glass sealant shall be polysulfide. Glass unit overall thickness shall not be less than 5/8". 1" also available for fixed and projected lites.
- E. Thermal Barrier
1. All aluminum exposed to the exterior shall be thermally separated from aluminum on the interior by either a poured-in-place polyurethane thermal barrier or a rigid PVC extrusion.
 2. Thermal short circuits shall not be permitted in the design of the perimeter frame, sash and glazing components.

2.02. Fabrication

- A. General
1. Window head/sill and jamb extrusions shall have specially designed aluminum raceways to accept the head/sill channel and the jamb fins. Sheet metal screws at each corner shall keep the channel and fins from sliding once installed in the window and to maintain corner alignment.
 2. Head/sill channel and jamb fin system shall permit window installation either as the metal siding is being erected or as a retrofit (cutting a hole after the fact in the siding).
 3. Depth of frame shall not be less than 2 1/4". Horizontal slider sash shall not be less than 7/8", and projected vents shall not be less than 1 7/8" in depth.
 4. All aluminum frame and sash extrusions shall have a minimum wall thickness of not less than .055".
 5. The head/sill channels and the jamb fins shall have a minimum wall thickness of .062".
- B. Frame components shall be square cut and mechanically fastened with zinc plated sheet metal screws.
- C. Sash
1. Horizontal slider sash shall be square cut and mechanically fastened with zinc plated sheet metal screws. A specially designed pull rail shall be recessed into the sash lock rail. No pull of any sort shall protrude beyond the interior plane of the window. Rollers shall ride on a raised extruded track.
 2. Projected vents and frame meeting rail shall be hollow extrusions. Vents shall be mitered and mechanically staked with two solid aluminum keys per corner. Each vent shall have two (2) rows of a co-extruded Santoprene bulb on a polypropylene backer.
- D. Screens
1. Frames shall be painted, roll-form aluminum. Mash shall be 18 x 16 fiberglass.
 2. Horizontal Slider: Totally concealed leaf springs shall secure the screen. Two (2) nylon pulls per screen shall be provided to aid in screen removal and installation. The screen shall be retained entirely within the 2 1/4" frame dimension and not protrude beyond the exterior of the window plane.

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3. Projected: "Z" clips shall be factory attached to the window frame. Spring loaded plungers and post pins attached to the insect screen shall make for easy removal of the screen from the building interior.
- E. Glazing
1. All glass shall be inside glazed and have a minimum glazing rabbet of 3/8" (horizontal slider) and 1/2" (fixed/projected).
 2. Horizontal slider glass sizes (fixed and operating) shall be the same size to simplify field re-glazing and equal the glass day lite openings.
 3. Horizontal slider glass lites shall be glazed with a neutral cure liquid silicone back bedding compound. Film thickness shall not be less than .040"
 4. Fixed and project-in glass lites shall be glazed with PVC foam tape and cap sealed with silicone.
 5. Glazing beads shall be rigid extruded PVC (horizontal slider) and snap-in aluminum (fixed/projected). Color to match the aluminum finish.
 6. Finish all exposed areas of aluminum windows and fins with bronze baked enamel, which meets or exceeds AAMA 603.8. Bronze and white paint are standard. Other custom paint colors and anodized finishes are also available.

PART 3 – EXECUTION

- 3.01.** Plumb and align windows. Adequately anchor to metal siding to maintain position permanently when subjected to normal thermal and building movement and specified window loads.
- 3.02.** Adjust windows for proper operation after installation.
- 3.03.** Furnish and apply sealants to provide a weather tight installation at all joints and intersections of the metal siding, fins and windows. Wipe off excess material and leave all exposed surfaces and joints clean and smooth.