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THERMAL WINDOWS TECHNICAL DETAILS

THURSDAY, JANUARY 20, 2011

SIZE FORMULAS

MINIMUM PANEL CUT-OUT:

(NOMINAL WINDOW WIDTH - 2 3/4") x (NOMINAL WINDOW HEIGHT + 0)

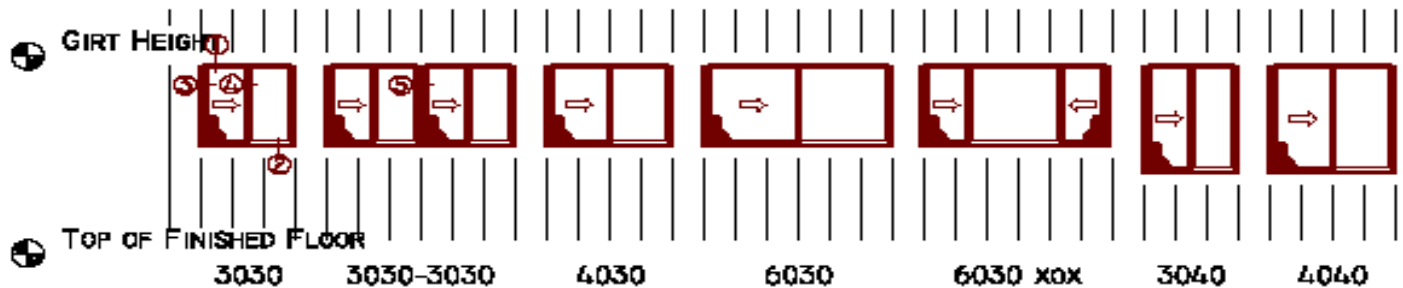
ACTUAL WINDOW DIMENSION:

(NOMINAL WINDOW WIDTH - 3 1/4") x (NOMINAL WINDOW HEIGHT - 3/8")

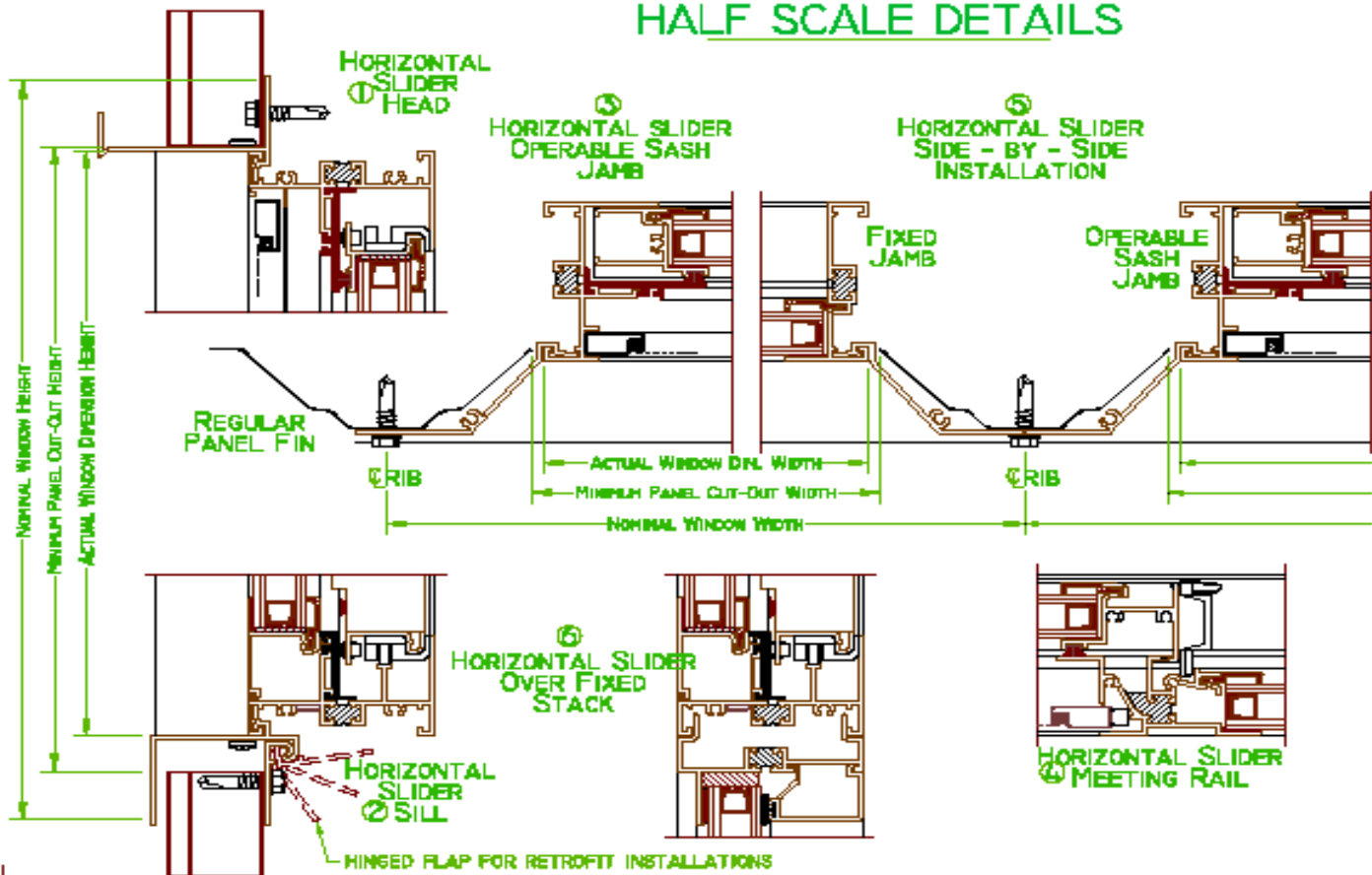
SIZES SHOWN ON ELEVATIONS ARE NOMINAL WIDTH BY NOMINAL HEIGHT

(IE. 3040 = 3'-0" WIDE X 4'-0" HIGH).

NOMINAL WINDOW WIDTHS MUST BE IN WHOLE FEET (IE. 2'-0", 3'-0", 4'-0", ETC).

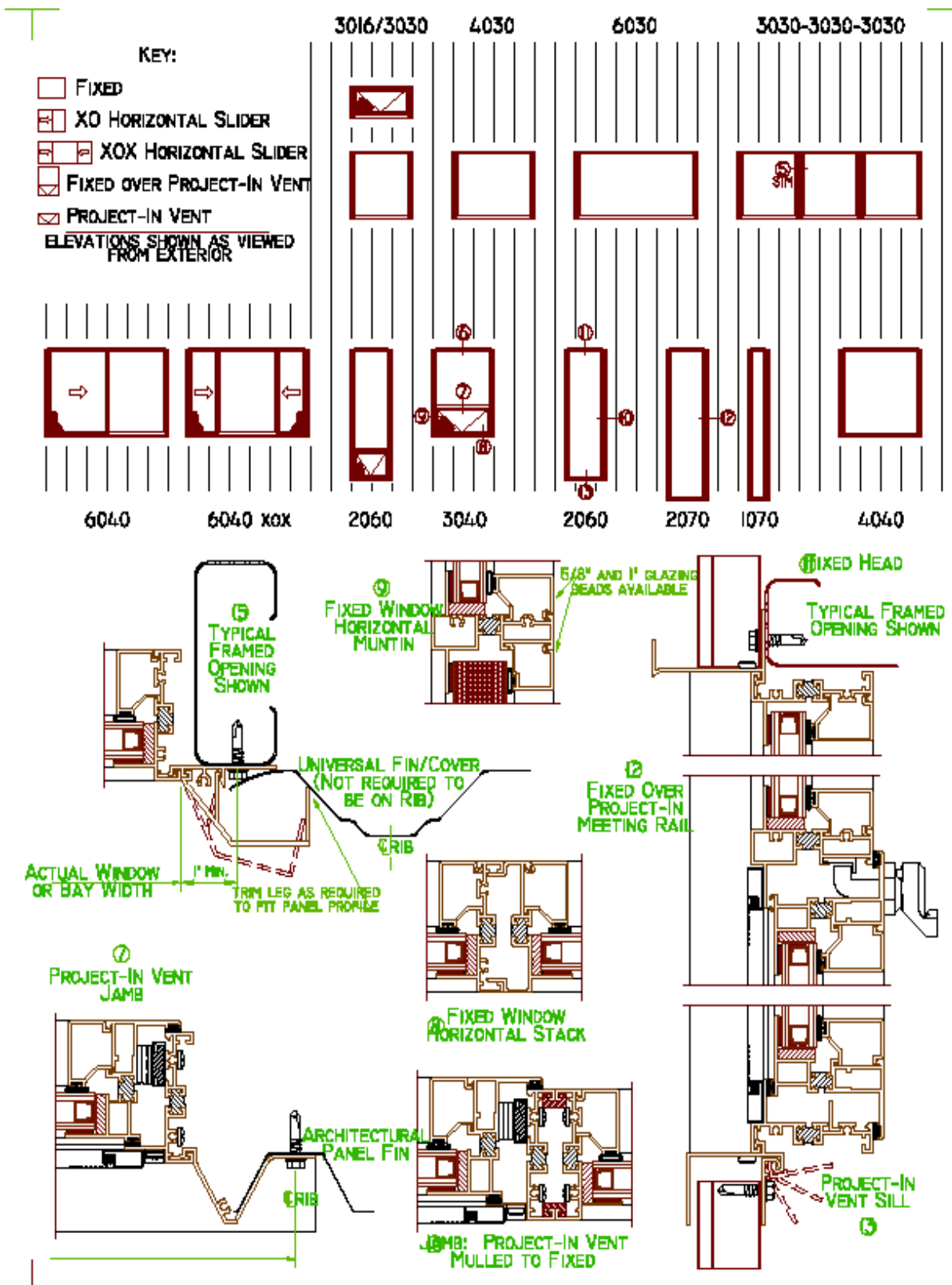


HALF SCALE DETAILS



THERMAL WINDOWS TECHNICAL DETAILS

THURSDAY, JANUARY 20, 2011



SPECIFICATION MBS THERMAL FIN

The WinTech Series 2255 **MBS (Metal Building System) THERMAL FIN** is a 2 1/4" window family designed specifically for metal siding applications. Horizontal slider, single hung, 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 side lines maximize the glass day lite opening and sash ventilation. Jamb fins 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 WinTech Series 2255 **MBS THERMAL FIN** (state configuration: horizontal slider, single hung/single tilt sash, fixed, fixed over project-in hopper vent or single project-in hopper vent).
- C. Glass and Glazing: All windows shall be factory glazed.

1.02 Testing and Performance Requirements

- 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 confirm to HS-C25 (horizontal slider), H-C30 (single hung), 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 samples, test reports and warranties as required.

1.05 Warranty

- A. The window manufacturer 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/single hung 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 steel strike.
3. Projected windows shall have 4 bar stainless steel operating arms. Aluminum or carbon steel arms shall not be permitted.
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/single hung shall be weatherstripped with medium density polypropylene pile with mylar fin.
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 DuraSeal hot melt insulating glass edge seal system. Glass unit overall thickness shall not be less than 5/8". 1" also available for fixed and projected lights.

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/single hung sash shall not be less than 7/8", and projected vents shall not be less than 1 7/8" in depth.
 4. All aluminum window frame and sash extrusions shall have a minimum wall thickness of .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. Mesh shall be 18x16 fiberglass.
2. Horizontal Slider/Single Hung: 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.
3. Projected: Spring loaded plungers 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/single hung) and 1/2" (fixed/projected).
2. Horizontal slider/single hung sizes (fixed and operating) shall be the same size to simplify field reglazing and equal the glass day lite openings.
3. Glass lites shall be glazed with a neutral cure liquid silicone back bedding compound. Film thickness shall not be less than .040".
5. Glazing beads shall be rigid extruded PVC (horizontal slider/single hung) and snap-in aluminum (fixed/projected). Color to match the aluminum finish.

- F. 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.

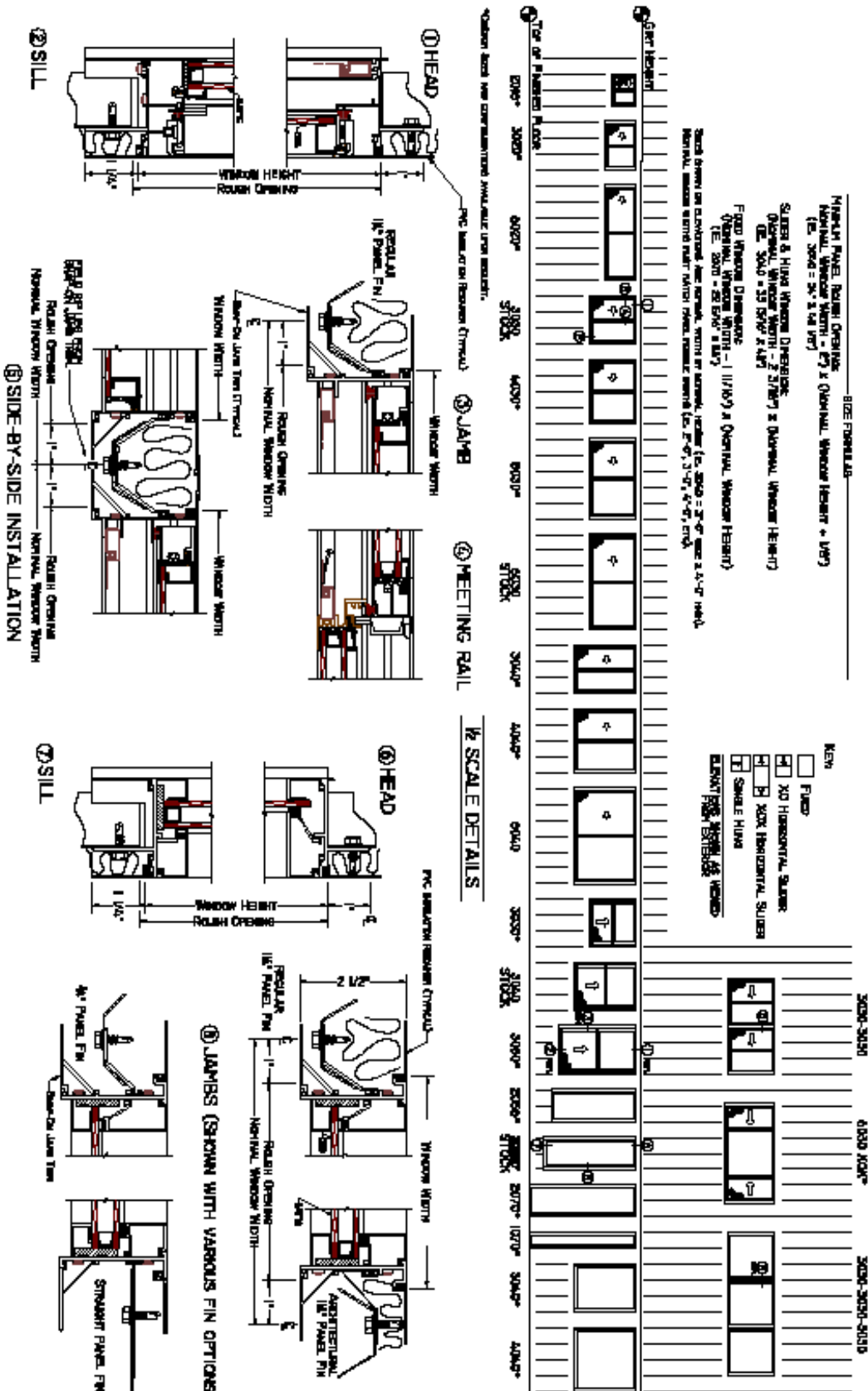
Adequately anchor to metal siding to maintain position permanently when subjected to normal thermal and building movement and specified wind loads.

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.

NON-THERMAL WINDOWS TECHNICAL DETAILS

THURSDAY, JANUARY 20, 2011



WINDOW SPECIFICATIONS

The Series C225 is a 2 1/2" window family of horizontal slider, fixed and single hung windows designed specifically for metal siding applications. The windows and fins can be installed as the metal siding is erected or retrofitted by cutting holes in the metal siding at a later time. Extremely narrow metal site lines maximize the glass day lite opening and sash ventilation. Fins are available for regular, architectural and agricultural metal siding panels. Straight nailing fins, snap-on exterior trim and interior insulation retainers are also available.

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 C225 (state configuration: horizontal slider, fixed 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), F-HC40 (fixed) and DH-C25 (single hung).

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 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 integrity.

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. All windows shall have a painted zinc die cast sweep latch which mechanically retains the frame meeting rail. Spring loaded latches shall not be permitted. The sweep shall lock into an extruded pocket in the frame meeting rail - applied lock keepers shall not be permitted.

2. 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. Rollers shall ride on a raised track in the sill extrusion.

3. Single hung window shall be side load type using one pair of block and tackle balances. Window sash and balances must be easily removable in the field with no special tools.

C. Weatherstrip

1. Horizontal slider and single hung shall be weather striped with medium density polypropylene pile with mylar fin.

D. Glass and Glazing

1. Glass shall be SSB (2mm) or DSB (3mm) clear, bronze/gray 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".

2.02 Fabrication

A. General

1. Head and sill extrusions shall have integral fins. Jamb fins shall field install in specially designed aluminum raceways in the frame jambs. 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).

2. Depth of frame shall not be less than 2 1/2". Horizontal slider and single hung sash shall not be less than 7/8".

3. All aluminum frame and sash extrusions shall have a minimum wall thickness of not less than .055".

B. Frame

1. Window frame components shall be square cut and mechanically fastened with zinc plated sheet metal screws in extruded aluminum ports.

2. Closed cell foam gaskets shall be used on all four frame corners of all window types to seal against air and water penetration. The use of small joint sealant alone shall not be permitted.

C. Sash

1. Sash shall be square cut and mechanically fastened with zinc plated sheet metal screws. A telescoping corner design shall be incorporated into the sash to provide rigid corner construction.

2. No pull handle or rail of any sort shall protrude beyond the interior plane of the window.

D. Screens

1. Frames shall be mill or painted, roll-form aluminum. Mesh shall be 18x18 fiberglass.

2. Totally concealed leaf springs shall secure the screen. Plungers, clips or screws retaining the screen shall not be visible from the exterior or interior. Two (2) nylon pulls per screen shall be provided to aid in screen removal and installation.

3. The screen shall be retained entirely within the 2 1/2" frame dimension and not protrude beyond the exterior of the window plane.

E. Glazing

1. All glass shall be inside glazed and have a minimum glazing rabbet of 3/8". No outside glazed frame or sash shall be permitted.

2. Horizontal slider and single hung glass sizes (both fixed and operating) shall be the same to simplify field reglazing and equal the glass day lite openings.

3. Fixed lites shall be tempered glass regardless of square foot size to assure compliance with safety glazing codes.

4. All glass lites shall be glazed with a neutral cure liquid silicone back bedding compound.

F. Finish (specify mill or painted)

1. Paint: All exposed areas of aluminum windows and fins shall be painted with a Bronze or White baked enamel which meets or exceeds AAMA 603.8. Custom color paints 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.

2/98

Window Subframe System
16 Gauge Galvanized Steel
12 Gauge Anchors

