

A RECOMMENDED SPECIFICATION

Section 08510 – Heavy Intermediate Steel Windows

PART 1 – GENERAL

1.01 DESCRIPTION

- A. The work under this section shall consist of furnishing all labor and materials for the fabrication of the Heavy Intermediate Steel Windows as shown in the contract drawings and as specified hereinafter, including all operating hardware, mullions, screens (if specified), window related material, factory applied finish and the installation of the windows and screens.
- B. RELATED WORK SPECIFIED ELSEWHERE
 - 1. Glass & Glazing – Section 08800
 - 2. Perimeter Caulking – Section 07920
 - 3. Embedded Items – Section (enter)
 - 4. Final Cleaning – Section (enter)

1.02 QUALITY ASSURANCE

- A. Windows shall be a product of a recognized manufacturer of steel windows with not less than 5 years experience in the fabrication of hot rolled steel windows.
- B. Standard manufacturing tolerance shall be $\pm 1/16"$.
- C. The window manufacturer shall submit copies of test reports from an independent and certified testing laboratory for the following:
 - 1. AIR INFILTRATION TEST (ASTM E-283)
Maximum air infiltration shall not exceed 0.3 cfm per foot of crack length at a static pressure of 6.24 psf.
 - 2. WATER RESISTANCE TEST (ASTM E-331)
There shall be no water penetration for 15 minutes when window is subjected to a rate of flow of 5 gallons/hr/sq. ft. with the differential pressure across the window unit of 6.24 psf.
 - 3. UNIFORM LOAD TEST (ASTM E-330)
The unit shall be subjected to a uniform positive and negative load of 60 psf for 10 seconds. After each load is applied, the window shall be inspected and operated. There shall be no failure of the hardware or any other damage that would cause the window to be inoperable or permanent deformation of the frame or ventilator members in excess of 0.4% of its span.
- D. Meet or exceed the Steel Window Institute (SWI) specifications as included and/or as modified by the specifications herein.

1.03 SUBMITTALS

- A. SHOP DRAWINGS: Submit shop drawings with elevations of all windows, dimensions, construction information, installation and anchorage details, hardware, screens and all other pertinent information required for a complete installation.
- B. TEST REPORTS: Copies of air infiltration, water resistance and uniform load tests.

1.04 PRODUCT DELIVERY, STORAGE & HANDLING

- A. All material shall be unloaded and stored off the ground in a protected area designated by the General Contractor, which is secure and convenient to the area of installation.

1.05 WARRANTY

- A. Warranty for a period of 1 year from date of final acceptance or substantial completion, whichever may be earlier, all windows and related materials furnished to be free from defects in material and workmanship. Under this Warranty, upon receipt of written request, promptly repair or replace at manufacturer's option, any of the materials found to be defective under conditions of normal use during this period, with the explicit understanding and express agreement that this Warranty shall not form the subject of a claim for labor or other expenditures incurred by the Purchaser in consequence of defect.

PART 2 – PRODUCT

2.01 STEEL WINDOWS

- A. The details used in the drawings and specified herein are the products of Coast To Coast Manufacturing, and have been used to establish construction details and a standard of quality. Manufacturers of products believed to be equal in construction and design who desire to bid shall submit full size samples, catalogs, test reports and drawings including details of construction to the Architect at least ten days prior to bid date. Approval will be by addendum ONLY.

2.02 MATERIALS AND FABRICATION

- A. All members shall be hot rolled new billet steel. Frames and ventilator sections shall have weathering baffles rolled integrally in the bar profiles to provide parallel double contact surfaces around the perimeter of each ventilator when closed.
- B. FABRICATION: Corners of the frames and ventilators shall be coped or mitered and electrically welded; exposed welds shall be dressed smooth. Muntin bars (when required) shall be attached to frame or ventilator members by means of mortise and tenon joints, with the intersections interlocked and welded with flush interior surfaces. If screens are required, frames shall be prepared for screen installation at vents.
- C. WEATHERSTRIPPING: Ventilators shall be continuously double weatherstripped around the entire perimeter of the ventilator except at the exterior pressure equalization slots. Joints of intersections of the weatherstripping shall butt tightly. Weatherstripping shall be closed cell neoprene.
- D. PLATES, MULLIONS AND IMPOSTS: Fabricate to the dimensions, profiles and material thickness indicated on the drawings.

E. OPERATION:

1. Projected ventilators shall be mounted on special stainless steel heavy-duty 4-bar hinges so that the weatherstripping is continuous and uninterrupted as in a casement vent. Stops that limit the amount of opening are available and recommended for large or heavy vents. Project-out ventilators shall have a cam-type locking handle engaging a bronze strike. (Pole ring hardware is available for vent out of reach.) (Underscreen push bar hardware is available for vents with fixed screens.) Project-in ventilators within reach of the floor shall have a cam-type locking handle engaging a concealed keeper. Project-in ventilators out of reach from the floor shall be furnished with a spring catch for pole operation. (Specify number of poles required.) Stops can be provided to limit the opening (Specify the number of degrees of opening.)
2. Casement ventilators shall be hung on heavy steel extended or close-up hinges (select which). They shall be prepared for roto (crank) operation for out-swing, or simplex operation for either in-swing or out-swing operation. Casement ventilators over 64 inches in height shall have an intermediate hinge, and be provided with double locking handles.
3. Heavy or oversize projected and casement ventilators shall be hung on butt hinges.

F. HARDWARE: Exposed operating hardware shall be solid bronze in a US25D (White Bronze) finish. (For other available finishes, please consult the factory.)

G. GLAZING: Windows shall be designed for glazing from the inside or outside (select one) with either glazing compound or bead glazing as follows:

1. With continuous aluminum snap on glazing beads.
2. With continuous aluminum screw on glazing beads.
3. With continuous steel screw on glazing beads. (U/L - ¼" wire glass)
4. With spring wire glazing clips and glazing compound. (Clips and glazing compound by others.)

NOTE: Glass, panels and glazing material by others.

H. FACTORY FINISHING:

1. After fabrication, all windows and mullions shall be sand blasted for uniformity and then, if specified, receive an electro-galvanized coating. (Hot dip galvanizing is optional)
2. Following galvanizing, all windows, etc. shall be phosphate treated in a multiple stage process, as a preparation for receiving paint.
3. Following pretreatment, all windows, etc. shall be prime painted.
4. If specified, all windows, etc. shall then be given a standard color coat of acrylic polyurethane paint. (Please furnish color selection)
(Other finishes and non-standard colors are available – please call)

I. SEALANTS: All exterior metal to metal contacts and/or joints between members of windows, frames, mullions and trim shall be set in a mastic sealant of the type recommended by the window manufacturer.

PART 3 – EXECUTION

3.01 ERECTION

- A. All windows shall be installed into openings prepared by others in accordance with the final approved shop drawings. Prior to installation, all openings shall be inspected by the Erector to verify that openings are square and have been prepared to sizes and details in the approved drawings. Windows shall not be installed into any opening until the conditions are correct.
- B. Set all windows plumb, level, true and properly braced to prevent distortion and/or misalignment. Windows not properly set shall be removed and reinstalled correctly by the Erector.
- C. Attach all related material. Remove all excess sealants.
- D. After installation and prior to glazing, the Erector shall adjust all ventilators to ensure proper weathering and check all operating hardware to ensure proper operation.
- E. Following erection of the windows and related material, the Erector shall clean all abraded areas or damaged surfaces and apply air-dry touch-up supplied by the window manufacturer for field application.

3.02 PROTECTION AND FINAL CLEANING

- A. The General Contractor shall be responsible for protecting the windows and related material during storage on the job and during and after installation.
- B. The General Contractor shall be responsible for the final cleaning of the windows and related material.