

STANDARD SPECIFICATION
JANUARY 2010

DIVISION 8

SECTION 8CAPW ALUMINUM PROJECT-IN WINDOWS

8C-APW.01 GENERAL: Comply with all of the Contract Documents.

8C-APW.02 SCOPE OF WORK: Refer to “Division Scope of Work”

8-APW.03 WORK INCLUDED IN THIS SECTION

- A. Material: aluminum windows as shown on drawings and specified in this section.
- B. Installation of the windows.
- C. Glass and glazing.

8C-APW.04 WORK NOT INCLUDED

- A. Burglar bar window grilles.

8C-APW.05 WINDOW MATERIALS AND CONSTRUCTION

- A. Aluminum Project-In Windows; System description:
 - 1. AAMA Designation: AP-AW70 60x36
- B. Materials;
 - 1. All extrusions manufactured in USA shall be Prime Alloy 6063-T5 and shall be thermally broken by a high density and low thermal conductive material. Frame (head, jambs and sill) and sash (top, bottom and stile rails) has a main wall thickness extrusion of .125”. Mullions shall have .094 wall thickness. All sash shall be tubular profiles.
- C. Frame construction;
 - 1. All frame members are constructed of thermally broken extruded aluminum. All corners shall be coped, sealed and butt-joined mechanically fastened with two # 8 x 1 ¼” stainless steel type 18-8 non-magnetic self-tapping stainless screws. Frame depth shall be 2 ¼”.
- D. Sash construction;

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1. Sashes are constructed of thermally broken extruded aluminum members . All corners shall mitered, keyed, staked and sealed. Two rows of ¼” diameter hollow bulb type gasket shall be used around the sash perimeter to minimize air infiltration.
- E. Screen construction;
1. Standard screen shall be a full screen for entire window. The screen rails shall be extruded of aluminum with all corners keyed. The screen frame shall be fitted with 18 x 16 mesh aluminum screen wire or 18 x 16 charcoal fiberglass screen, and secured to the frame by a flexible PVC spline.
- F. Hardware;
1. Two (2) metal sweep white bronze locks and keeper sets shall be installed located 16” from each top rail end of the jamb. One (1) lock can be used if window width less then 30”. Four (4) bar HS/SS friction hinges are located at on each end of the jamb.

8C-APW.06 GLASS AND GLAZING

- A. Sash glazing: clear plate, double-glazed, 1” overall thickness insulating glass unit with 3/16” exterior lite, internal “intercept™” or desiccant-filled aluminum spacer, 3/16” interior lite. The glass shall be set from interior against a dual-sided adhesive tape, and secured with an aluminum snap-fit glazing bead and a wedge gasket.
- B. Insulating glass units; double-glazed insulating glass unit, which has a minimum 5/8” space between the glass lites.

8C-APW.07 WINDOW OPERATIONS

- A. Window shall open in from the top of the frame by means of handle assembly. Sash shall pivot at the bottom on two Four Bar HS/SS friction hinges located at each end of each jamb. The handle shall be the locking device located at the top sash rail and shall ensure tight sash to jamb weather-stripping compression.

8C-APW.08 FINISHES

- A. All exposed surfaces shall receive a powder coated finish with (0) zero VOC emission in accordance with AAMA Paint Specification 2604-02. Dry film thickness shall be 2-3 mils minimum, except inside corners and channels. The painting process is preceded by chrome or chrome-free coating for proper adherence.
- B. Color of paint shall be chosen from manufacturer’s standards or shall be as specified by Architect/Engineer.

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- C. As an option exposed aluminum surfaces may receive an anodized coating, finished in accordance with Aluminum Association designation AAC22A42 Architectural Class 1, minimum coating .7 mils in thickness, finish to be medium bronze.

8C-APW.09 MANUFACTURERS

- A. Window shall be the product of Crystal Window & Door Systems, LTM, Product Series Number CTR-8300 or equal approved by Architect/Engineer.

8C-APW.10 SUBMITTALS

- A. Manufacturer's shop drawings: typical window elevations; details of assemblies, hardware, and glazing details for factory-glazed units.
- B. Samples: aluminum window sample with specified finish, hardware, and sample of silicon caulking.
- C. Furnish a valid AAMA "Notice of Product Certification" indicating that the windows for project conform to AAMA/NWWDA 101/I.S.2-440-05.
- D. Furnish visible, permanent IGCC certification label for CBA rating level on insulating argon filled glass unit.
- E. "Product Certification" from aluminum extruder, indicating that aluminum extrusions produced in USA from commercial quality 60630T5 alloy, according Federal Specification QQ-A-274, with a guaranteed minimum ultimate tensile strength of 22,000 psi and yield of 16,000 psi. (AAMA standard and ASTM B 221).
- F. Manufacturer's warranties:
1. Windows; warrant all materials and hardware for two (2) year against defects in material or workmanship under normal use.
 2. Insulating units; warrant seal for (5) five years against visual obstruction from film formation or moisture collection between internal glass surfaces, excluding that caused by glass breakage or abuse.
 3. Paint; warrant paint finish for five (5) year against chipping, peeling, cracking or fading.

8C-APW.11 WINDOW FABRICATION

- A. Window frame must be measured to the fullest size with clearance requirements. Head, sill, and jambs of the window shall be straight and true.

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- B. Joints of the frames and sash members shall be square, neatly fitted to a hairline with no gaps and secured in a manner, which will develop the full strength of the connected members and absolutely weather tight. All four corner joints of the frame and each sash shall be mitered or butt-joined, securely assembled at each corner of frame with a minimum of one # 8 x 1 ¼” stainless steel type 18-8 non magnetic self-tapping screws, engaging continuous screw spline channels. Sash members must be telescoped to insure rigidity.
- C. All windows shall have, factory applied NFRC, AAMA label with manufacturer’s code number affixed on top, inside portion of the frame in such manner as to last the life of the window.

8C-APW.12 MEASUREMENTS VERIFICATION

- A. All openings to receive windows shall be field measured for verification of dimensions prior to fabrication.

8C-APW.13 WINDOW INSTALLATIONS

- A. The windows shall be installed square, plumb and level in a secure and workmanlike manner to assure neat and weather tight construction in accordance with the manufacturer's instructions. The windows shall be screwed to wood frame. Fasteners shall be spaced 2'-6" on center at head, jamb and sill. In addition, caulking shall be applied to entire perimeter of window frame to insure further weather tightness.
- B. Contractor shall carefully adjust sash hardware for all windows. All windows shall work freely and smoothly and the entire installation shall be in proper condition.
- C. The windows shall be installed so exposed surfaces are uniformly proportioned, both inside and outside, for attractive appearance. Proper tolerances must be allowed to install the windows square and aligned. Any window not installed in accordance with such requirements will be rejected and must be reinstalled in the proper manner.

8C-APW.14 WINDOW CAULKING

- A. Exterior caulking shall meet Federal Specification TT-S-00230. It shall be self-priming silicon. Caulking shall be applied in accordance with manufacturer’s instructions, including surface preparation but excluding any weep holes in the frame. Closed-cell polyethylene backer-rod must be used in all joints deeper or wider than ¼ inch; such joints shall be kept to a minimum in any event. Caulk shall be a guaranteed non-staining, non-sagging type capable of 100% elongation under ASTM D412-68. Caulk color shall match closely the finish of the newly installed windows.
- B. Interior caulking shall be paintable non-silicone caulk sealer.

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- C. Joints and spaces to be caulked shall be thoroughly clean, dry, free of paint, putty oils, grease, dust and other foreign matters, and shall be primed if necessary. All old caulking shall be removed from areas to receive new caulk. All surfaces to accept caulk shall be left broom clean before new application.
- D. Application of caulk to the masonry, plaster and metal surfaces shall be provided in a manner recommended by the manufacturer. Caulk beads should be smooth and slightly concave. Excess, messy, or convex caulking will not be permitted, nor beads in excess of 3/8" width.
- E. All caulking shall be done using approved type of caulking gun and applying the material under pressure, except where the use of gun is not practicable. Caulk joint shall be tooled immediately upon application to assure maximum adhesion and neat joint appearance.

8C-APW.15 FINAL CLEANING AND ADJUSTMENTS OF WINDOWS

- A. All broken and defective parts, hardware, glass shall be replaced, by this contractor
- B. Immediately prior to occupancy, all window components shall be cleaned on inside and outside of all mortar, plaster, paint, caulking, and other foreign matters to present a neat appearance and prevent from fouling of weathering surfaces and weather-stripping.
- C. Lubricate as necessary window components in accordance with manufacturer's recommendations.
- D. The contractor shall carefully adjust all sash and hardware. All window components shall work freely and smoothly and entire window installation shall be in proper working condition with AAMA identification label and manufacturer's Code number.

8C-APW.16 GUARANTEES

- A. Guarantee all items of work furnished and installed under this Section for (1) one year, in addition to manufacturer's standard warranties. All guarantees to be from the date, when **Final Certificate of Occupancy** is issued from Department of Buildings.

END OF SECTION