SECTION 085300 - PLASTIC WINDOWS

This Section specifies low- and high-quality residential and commercial extruded plastic (PVC) windows with fixed or operable sashes, glass and glazing, operating hardware, and insect screens. Plastic windows can provide excellent air and vapor seal characteristics and a natural thermal break.

This Section may be edited to use AAMA standards, may be edited for proprietary products, or may be used as a basis for monumental or other very high-quality windows.

Glass and glazing is specified in Section 088000.

Air barrier and vapor retarder continuity from tubular plastic windows frames to adjacent construction is critical to successful building air tightness; specify compatible materials in conjunction with Sections 072600 and 072700.

1. GENERAL
   * + 1. SUMMARY
          1. Section Includes:

Factory fabricated tubular, extruded plastic windows.

Factory glazing [**, including infill panels**].

Forced entry [**window**] [**windows**].

Operating hardware.

Insect screens.

* + - 1. REFERENCE STANDARDS

List reference standards included within text of this Section, with designations, numbers, and complete document titles.

LEED requires compliance with specific editions of referenced standards. Consider including publication dates for referenced standards in this Section to ensure the correct standard is used for LEED compliance.

* + - * 1. American Architectural Manufacturers Association:

AAMA 101 - NAFS - North American Fenestration Standard/Specification for windows, doors, and skylights.

AAMA 303 - Voluntary Specification for Rigid Polyvinyl Chloride (PVC) Exterior Profiles.

AAMA 501 - Methods of Test for Exterior Walls.

AAMA 503 - Voluntary Specification for Field Testing of Newly Installed Storefronts, Curtain Walls, and Sloped Glazing Systems.

AAMA 1503 - Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections.

* + - * 1. American Society of Civil Engineers:

ASCE 7 - Minimum Design Loads for Buildings and Other Structures.

* + - * 1. ASTM International:

ASTM C1172 - Standard Specification for Laminated Architectural Flat Glass.

ASTM D3656 - Standard Specification for Insect Screening and Louver Cloth Woven from Vinyl-Coated Glass Yarns.

ASTM D4726 - Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Exterior-Profile Extrusions Used for Assembled Windows and Doors.

ASTM E283 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.

ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.

ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.

ASTM E547 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference.

ASTM E1105 - Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls, by Uniform or Cyclic Static Air Pressure Difference.

ASTM E1886 - Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.

ASTM E1996 - Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes.

ASTM F588 - Standard Test Methods for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact.

* + - * 1. Glass Association of North America:

GANA Glazing Manual.

* + - * 1. 2020 Building Code of New York State
        2. National Fenestration Rating Council:

NFRC 100 - Procedure for Determining Fenestration Product U-factors.

* + - 1. PREINSTALLATION MEETINGS
         1. Convene minimum [**one week**] [**<\_\_\_\_\_\_\_\_> weeks**] prior to commencing Work of this Section.
      2. SUBMITTALS

Only request submittals needed to verify compliance with Project requirements.

* + - * 1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
        2. Manufacturer’s installation instructions shall be provided along with product data.
        3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
        4. Product Data: Submit component dimensions, anchorage and fasteners, glass, internal drainage, and typical details.
        5. Shop Drawings: Indicate opening dimensions, framed opening tolerances, affected related Work, and installation requirements.

Include following paragraph to submit physical samples to select finish, color, texture, and other properties.

* + - * 1. Samples:

Submit [**two**] <**\_\_\_\_\_\_\_\_**> samples, 12 by 12 inches in size, illustrating window frame [**mullion section**] [**screen and frame**], finished surfaces [**, glass**] [**, glass units**] [**, infill panels**] [**, and**] [**glazing materials**].

Submit [**two**] <**\_\_\_\_\_\_\_\_**> samples of operating hardware.

* + - * 1. Manufacturer's Certificates:

Certify that products meet or exceed specified requirements.

Certify product performance ratings by independent third party such as AAMA or NFRC as meeting or exceeding [**specified requirements**] [**performance criteria tests**].

Include separate paragraphs for additional certifications.

* + - * 1. Manufacturer Instructions: Submit detailed instructions on installation requirements, including storage and handling procedures.
        2. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.
        3. Qualifications Statements:

Coordinate following subparagraphs with requirements specified in QUALIFICATIONS Article.

Submit qualifications for manufacturer and installer.

Submit manufacturer's approval of installer.

* + - 1. SUSTAINABLE DESIGN SUBMITTALS
         1. Manufacturer's Certificate:

Certify that products meet or exceed specified sustainable design requirements.

Insert material certifications list below to suit products specified in this Section and Project sustainable design requirements. Specific certificate submittal and supporting data requirements are specified in Section 018113.

Materials Resources Certificates:

Certify recycled material content for recycled content products.

Certify source for regional materials and distance from Project Site.

* + - * 1. Product Cost Data:

Submit cost of products to verify compliance with Project sustainable design requirements.

Exclude cost of labor and equipment to install products.

Provide cost data for following products:

Edit list of material cost data below to suit products specified in this Section and Project sustainable design requirements. Specific cost data requirements are specified in Section 018113.

Products with recycled material content.

Regional products.

<**\_\_\_\_\_\_\_\_**>.

* + - 1. QUALITY ASSURANCE

Include this Article to specify compliance with overall reference standards affecting products and installation included in this Section.

Consider requiring windows to be labeled if relying on AAMA 101 for window design pressure ratings.

* + - * 1. PVC Windows: Fabricate [**and label**] window assemblies according to AAMA 101 for types of required windows.
        2. Insulated Glass: Fabricate insulated glass units according to GANA Glazing Manual.

In following paragraph insert "State of \_\_\_\_\_\_\_\_ Department of Transportation," "Municipality of \_\_\_\_\_\_\_\_ Department of Public Works," or other agency as appropriate.

* + - * 1. Perform Work according to <**\_\_\_\_\_\_\_\_**> standards.

Include following paragraph only when cost of acquiring specified standards is justified.

* + - * 1. Maintain <**\_\_\_\_\_\_\_\_**> [**copy**] [**copies**] of each standard affecting Work of this Section on Site.
      1. QUALIFICATIONS

Coordinate following paragraphs with requirements specified in SUBMITTALS Article.

* + - * 1. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum [**three**] <**\_\_\_\_\_\_\_\_**> years' [**documented**] experience.
        2. Installer: Company specializing in performing Work of this Section with minimum [**three**] <**\_\_\_\_\_\_\_\_**> years' [**documented**] experience [**and approved by manufacturer**].
      1. DELIVERY, STORAGE, AND HANDLING
         1. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.
         2. Handling: Jig, brace, and box window frame assemblies for transport to minimize flexing of members and joints.
         3. Store materials according to manufacturer instructions.
         4. Protection:

Protect finished surfaces with [**wrapping**] [**strippable coating**].

Do not use adhesive papers or sprayed coatings that bond when exposed to sunlight or weather.

Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.

Provide additional protection according to manufacturer instructions.

* + - 1. AMBIENT CONDITIONS
         1. Section 015000 - Construction Facilities Temporary Controls: Requirements for ambient condition control facilities for product storage and installation.
         2. Minimum Conditions: Do not install glazing materials when ambient temperature is less than 40 deg. F.
         3. Subsequent Conditions: Maintain above minimum temperature during and immediately after installation of sealants.
      2. WARRANTY

This Article extends warranty period beyond one year. Extended warranties may increase construction costs and Director’s Representative enforcement responsibilities. Specify warranties with caution.

* + - * 1. Furnish [**five**] <**\_\_\_\_\_\_\_\_**>-year manufacturer's warranty for insulated glass units from seal failure, interpane dusting or misting, and replacement of same.
        2. Furnish [**five**] <**\_\_\_\_\_\_\_\_**>-year manufacturer's warranty for degradation of plastic color finish.

1. PRODUCTS
   * + 1. TUBULAR PLASTIC WINDOWS
          1. [Manufacturers](http://www.specagent.com/LookUp/?ulid=7776&mf=04&src=wd):

\*\*\*\*\*\* [OR] \*\*\*\*\*\*

In following subparagraph insert "State of New York Department of Transportation," "Municipality of \_\_\_\_\_\_\_\_ Department of Public Works," or other agency as appropriate.

Furnish materials according to <**\_\_\_\_\_\_\_\_**> standards.

Insert descriptive specifications below to identify Project requirements and to eliminate conflicts with products specified above. Include configuration, size, color, material composition, and other properties needed to describe product.

* + - * 1. Description:

Tubular plastic window frames [**and intermediate mullions**] of extruded tubular plastic with [**spigoted**] [**bracketed**] [**welded**] corner construction, sash, glass and glazing, [**infill panels,**] [**insect screens,**] and operating hardware.

Window Configuration: Comply with AAMA 101.

* + - * 1. Performance and Design Criteria:

Many proprietary window products are marketed without performance data in their literature and therefore may not have been tested for performance characteristics. Consider potential costs of requiring following performance criteria.

Following subparagraph is method of specifying performance criteria for products of this Section. If this subparagraph is selected, delete or carefully edit subsequent subparagraphs. Refer to AAMA 101 and manufacturer's literature for available systems. Listing below is limited to most commonly available types. Verify availability of CW-Commercial and AW-Architectural before specifying.

Primary Performance Requirements: Comply with AAMA 101, Designation [**R15, Residential**] [**LC25, Light Commercial**] [**CW30, Commercial Window**] [**AW40, Architectural Window**] or better.

\*\*\*\*\*\* [OR] \*\*\*\*\*\*

Following subparagraphs are suggested listing of performance criteria. If more stringent criteria are being considered, refer to ASTM test methods and associated documents for guidance. Consider using applicable building code or ASCE 7 to determine wind loads.

AAMA 101 caps design pressure for R-Residential, LC-Light Commercial, and CW at 100 psf. There is no limit set for AW.

Wind Loads: Design and size components to withstand dead loads and live loads caused by positive and negative wind loads acting normal to plane of window [**as calculated according to applicable code**] [**as calculated according to ASCE 7**] [**to design pressure of <\_\_\_\_\_\_\_\_> psf**] [**and**] as tested according to ASTM E330/E330M.

Consider including following subparagraph for exterior glazed openings located in windborne debris areas, unless openings are protected as permitted by applicable code or unless building is designed as open structure. The Uniform Code permits exceptions to small-missile impact resistance for glass more than 60 feet above grade. Retain option in following subparagraph only when project complies with code permitted exceptions.

Design Consultant to review code references and verify that referenced sections/tables are current. Note that code references shall be based on the current version of the Uniform Code.

Delete following subparagraph if not used.

Windborne Debris Loads: Design and size glass [**located less than 60 feet above grade**] to withstand following loads:

Glass within 30 Feet of Grade:

Comply with ASTM E1886 and E1996.

Test: Large-missile impact.

Glass Greater Than 30 Feet above Grade:

Comply with ASTM E1886 and E1996.

Test: Small-missile impact.

Windows tested according to AAMA 101 have required wind-load deflection limits based on performance class.

Wind-Load Deflection: [**Comply with AAMA 101**] [**Limit member deflection to flexure limit of glass with full recovery of glazing materials**] [**Limit member deflection to 1/175 of longer dimension with full recovery of glazing materials**].

Assembly: Without damage to components or deterioration of seals, accommodate movement between window and perimeter framing, and deflection of lintel.

Air and Vapor Seal:

Maintain continuous air barrier and vapor retarder throughout assembly, primarily in line with [**inside**] pane of glass and heel bead of glazing compound.

[**Position thermal insulation on exterior surface of air barrier and vapor retarder.**]

System Internal Drainage: Drain to exterior by weep drainage network water entering joints, condensation occurring in glazing channels, and migrating moisture occurring within system.

Extruded plastic windows typically have a high coefficient of linear expansion; therefore, cold climates usually result in greater movement (day/night cycling) of members. Consider this effect on other affected conditions. Tubular plastic windows are typically fixed at sills, have adjustable jamb fasteners, and head sections are left free to move.

Thermal Movement: Design sections to permit movement caused by thermal expansion and contraction of plastic to suit glass, infill, and perimeter opening construction.

\*\*\*\*\*\* [OR] \*\*\*\*\*\*

Design Temperature: [**120**] [**160**] deg. F.

AAMA 101 allows 0.3 cfm/sq. ft. of frame area at 1.57 psf for R, LC, and CW, and 0.1 cfm/sq. ft. at 6.24 psf for AW grade windows.

Maximum Air Infiltration:

[**0.3**] [**0.1**] cfm/sq. ft. of wall area, measured at reference differential pressure across assembly of [**1.57**] [**6.24**] psf.

Testing: Comply with ASTM E283.

Vapor Seal:

40 percent relative humidity without seal failure.

Conditions: Interior atmospheric pressure of 1 inch s.p., and 72 deg. F.

\*\*\*\*\*\* [OR] \*\*\*\*\*\*

Condensation-Resistance Factor (CRF):

Minimum [**45**] [**50**].

Measurement: Comply with AAMA 1503.

\*\*\*\*\*\* [OR] \*\*\*\*\*\*

Thermal Performance:

Condensation-Resistance Factor (CRF) Class: Minimum [**C45**] [**C50**] when measured according to AAMA 1503.

Thermal Transmittance of Assembly: Maximum U-value of [**0.69**] [**0.45**] Btu/sq. ft. x h x deg. F when measured according to [**AAMA 1503**] [**NFRC 100**].

\*\*\*\*\*\* [OR] \*\*\*\*\*\*

Comply with ICC IECC for climate zone in which Project is located, as measured according to [**AAMA 1503**] [**NFRC 100**].

Test-pressure differential for water penetration testing should be 15 percent of design pressure for windows except those intended for monumental use or installation in conjunction with curtain walls where pressure differential should be 20 percent. Minimum differential of 2.86 psf and maximum of 12.00 psf are recommended.

Water Leakage:

None.

Measurement: Comply with ASTM [**E331**] [**E547**], with test pressure difference as defined by AAMA 101.

In following paragraph, identify ASTM F588 type as applicable to specified windows:

- Type A: Horizontal or vertical sliding window units.

- Type B: Hinged window units.

- Type C: Pivoted window units.

- Type D: Fixed window units.

Grades are used to define magnitude and time for force resistance. Consider using Grade 10 for least resistance and Grade 40 for greatest resistance.

* + - * 1. Forced Entry Resistance:

Comply with ASTM F588, Type <**\_\_\_\_\_\_\_\_**>.

Grade: [**10**] [**20**] [**30**] [**40**].

* + - 1. SUSTAINABILITY CHARACTERISTICS

Insert sustainable design characteristics in this Article to suit content of this Section and Project sustainable design requirements as specified in Section 018113.

* + - * 1. Material and Resource Characteristics:

Recycled Content Materials: Furnish materials with maximum available recycled content [**including:**] [**.**]

Insert list of materials specified in this Section required to have recycled content.

<**\_\_\_\_\_\_\_\_**>.

Regional Materials: Furnish materials extracted, processed, and manufactured within 500 miles of Project Site [**including:**] [**.**]

Insert list of materials specified in this Section required to be regional materials.

<**\_\_\_\_\_\_\_\_**>.

* + - 1. MATERIALS

This Article identifies nominal dimensions of primary members. If performance specifying, ensure that no conflict exists.

* + - * 1. Extruded PVC:

Description: Hollow, multi-chambered sections of extruded PVC, with [**integral**] [**surface-applied**] UV degradation resistance.

Comply with [**AAMA 303**] [**ASTM D4726**].

PVC windows are not typically furnished without glazing.

* + - * 1. Insulating Glass:

Description: Sealed [**double**] [**triple**]-pane units as specified in Section 088000 - Glazing.

Outer Pane: [**Clear**] [**Gray tinted**] [**Bronze tinted**] [**Low-E**] float glass.

Inner [**and Middle**] Pane: Clear float glass.

Pane Thickness: Minimum [**1/8**] [**1/4**] inch.

\*\*\*\*\*\* [OR] \*\*\*\*\*\*

Pane Thickness: As determined by size or wind and suction loads.

Minimum Total Unit Thickness: [**5/8**] [**1**] inch.

Glazing Materials: Manufacturer's standard as specified in Section 088000 - Glazing.

\*\*\*\*\*\* [OR] \*\*\*\*\*\*

For forced-entry windows specify assembly in Section 088000 - Glazing as noted in following paragraph, or add required assembly information with thickness and interlayer.

* + - * 1. Laminated Glass: Comply with ASTM C1172 and as specified in Section 088000 - Glazing.

Glazing Materials: Manufacturer's standard forced entry glazing assembly to meet grade specified.

\*\*\*\*\*\* [OR] \*\*\*\*\*\*

* + - * 1. Single-Pane Glass:

Description:

[**Clear**] [**Gray-tinted**] [**Bronze-tinted**] [**Low-E**] float glass.

Furnish fixed single pane with additional [**outer-**] [**inner-**] framed and removable pane.

Pane Thickness: Minimum [**1/8**] [**1/4**] inch.

\*\*\*\*\*\* [OR] \*\*\*\*\*\*

Pane Thickness: As determined by size or wind and suction loads.

As specified in Section 088000 - Glazing.

Glazing Materials: Manufacturer's standard as specified in Section 088000 - Glazing.

Do not specify thickness of aluminum sheets in following paragraph if thickness is to be determined by wind and associated loads.

* + - * 1. Infill Panel:

Description: Internally reinforced, with glazing edge [**sealed**] [**unsealed**] permitting internal air movement to glazing space, outside air barrier line.

Panel Sheet: Minimum [**1/4**] [**1**]-inch-thick [**aluminum**] [**aluminum-faced sandwich panel**].

* + - * 1. Hardware:

Sash Lock:

Description: Lever handle with cam lock.

Furnish pole handle of size to allow access to sash locks and operable windows if more than 5 feet above floor.

\*\*\*\*\*\* [OR] \*\*\*\*\*\*

Operator: [**Lever-action handle**] [**Geared rotary handle**] fitted to projecting sash arms with limit stops.

Projecting Sash Arms: [**Cadmium**] [**Zinc**]-plated steel, friction pivot joints with nylon bearings, and removable pivot clips for cleaning.

Pulls: [**Manufacturer's standard**] [**As selected**].

Sash Lock: Lever handle with cam lock.

Edit following subparagraph for sliding windows.

Bottom Rollers: [**Stainless steel**] [**Nylon**]; adjustable.

* + - * 1. Sills:

Description: Tubular plastic sloped for positive wash.

Placement: Fit under sash to 1/2 inch beyond wall face.

Configuration: One piece, full width of opening.

* + - * 1. Stools:

Description: Tubular plastic sloped for positive wash.

Placement: Fit under sash to project 1/2 inch beyond interior wall face.

Configuration: One piece, full width of opening.

* + - * 1. Operable Sash Weather Stripping:

Material: [**Wool pile**] [**Nylon pile**] [**Resilient PVC**].

Type: Permanently resilient.

Profile: To effect weather seal.

* + - * 1. Insect Screens:

Frame:

Description: PVC of rectangular sections.

Hardware: Adjustable.

Nominal Size: Similar to operable glazed unit.

[**Design framed screens to be rescreened.**]

Screens:

Comply with ASTM D3656, Class 2.

Mesh Size: 18 by 14.

Color: [**Charcoal**] [**Gray**].

* + - 1. FABRICATION
         1. Framing, Mullions, and Sash Members:

Fusion-weld corners and joints in rigid jig.

Supplement frame sections with internal reinforcement as required for structural rigidity.

* + - * 1. Sills:

Form sills [**and stools**] in one piece.

Slope sills for wash.

* + - * 1. Form snap-in glass stops, closure molds, weatherstops, and flashings of extruded PVC for tight fit into window frame section.
        2. Form weatherstop flange to perimeter of unit.
        3. Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet enabling installation and dynamic movement of perimeter seal.
        4. Arrange fasteners to be concealed from view.
        5. Drainage:

Permit internal drainage weep holes and channels to migrate moisture to exterior.

Furnish internal drainage of glazing spaces to exterior through weep holes.

* + - * 1. Insect Screens:

Assemble insect screen frame, and miter and reinforce frame corners.

Fit mesh taut into frame and secure.

Fit frame with four spring-loaded steel pin retainers.

* + - * 1. [**Double**] [**Single**] weather-strip operable units.
        2. Glazing:

Factory glaze window units.

Furnish glass [**and infill panels**] as specified in Section 088000 - Glazing.

Method: [**As required to achieve performance criteria**] [**Exterior wet/dry**].

* + - 1. FINISHES

Following finishes presume acceptance of manufacturer's standard finishes. Verify availability of colors other than white.

* + - * 1. Exterior Surfaces: Manufacturer's standard white.
        2. Interior Surfaces: Manufacturer's standard white.
        3. Screens: White frames with light screening.
        4. Pull Handles and Exposed Hardware: [**White with aluminum brackets**] [**Anodized aluminum to medium bronze color**] [**Anodized aluminum to dark bronze color**] [**Baked-enamel color as selected**].
        5. Locks: Baked-enamel color as selected.
      1. ACCESSORIES
         1. Fasteners and Anchors: [**Stainless**] [**Galvanized**] steel.
         2. Visual Glass Dividers: Formed plastic, fitted against interior of glazed surface, and secured with [**spring-loaded**] steel pins into plastic sockets.
         3. Visual Glass Muntins: Formed plastic, applied to [**interior**] [**exterior**] glass surface.
         4. Bituminous Paint: Fibered asphaltic type.
         5. Aprons:

Material: PVC.

Internally reinforced, edged, and sealed.

Thickness: [**1/2**] [**3/4**] inch.

* + - * 1. Limit Stops: Resilient [**rubber**] <**\_\_\_\_\_\_\_\_**>.

1. EXECUTION
   * + 1. EXAMINATION
          1. Verify that wall openings and adjoining air and vapor seal materials are ready to receive Work of this Section.
       2. INSTALLATION
          1. Attach window frame and shims to perimeter opening; accommodate construction tolerances and other irregularities.
          2. Align window plumb and level, free of warping or twisting.
          3. Maintain dimensional tolerances and alignment with adjacent Work.
          4. Install sill[**, stool,**] [**and aprons**].
          5. Forced Entry Window: According to manufacturer instructions.
          6. Thermal Barrier:

Provide thermal isolation where components penetrate or disrupt building insulation.

Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.

* + - * 1. Coordinate attachment and seal of perimeter air and of vapor retarder materials.
        2. Install operating hardware.
      1. TOLERANCES
         1. Maximum Variation from Level or Plumb: 1/16 in./3 ft. noncumulative, or 1/8 in./10 ft., cumulative, whichever is less.
      2. FIELD QUALITY CONTROL
         1. Inspection: Monitor quality of installation and glazing.

Select one or more test reference standard options in following paragraph.

* + - * 1. Testing: Comply with [**AAMA 501**] [**AAMA 503**] [**ASTM E1105**].
        2. Equipment Acceptance: Adjust, repair, modify, or replace components failing to perform as specified and rerun tests.
      1. ADJUSTING
         1. Adjust hardware for smooth operation and to ensure weathertight closure.
      2. CLEANING
         1. Remove protective material from prefinished surfaces.
         2. Washing:

Wash surfaces by method recommended by sealant and window manufacturer.

Rinse and wipe surfaces clean.

* + - * 1. Remove excess sealant by moderate use of mineral spirits or other solvent acceptable to sealant manufacturer.
      1. ATTACHMENTS

When relying on separate schedules, tables, illustrations, or forms to specify product requirements, include list of each attachment. Include identical list of attachments in Project Manual table of contents.

Consider including schedule if variety of wall opening sizes or configuration warrants description, if glass types vary, or if finishes differ. Include Drawing reference number if any.

Insert attachments following END OF SECTION. Consider following examples when developing Project schedule.

* + - * 1. West Elevation (Opening No. W2): White finish; 36-by-60-inch nominal size including arch; bronze tinted single pane glass.
        2. Other Elevations (Opening No. W3, W4, and W5): Brown finish; 42-by-42-inch nominal size; clear insulating glass.

END OF SECTION 085300