SECTION 08 52 00

WOOD WINDOWS

(ANDERSEN® 400 SERIES CASEMENT, AWNING AND PICTURE WINDOWS)

PART 1 - GENERAL

SPECIFIER NOTE: DATA CONTAINED IN THIS GUIDE SPEC IS ACCURATE AS OF AUGUST 2007. DUE TO ONGOING PRODUCT CHANGES, THIS DATA MAY CHANGE OVER TIME. CONSULT MANUFACTURER FOR COMPLETE PRODUCT DETAILS.

1.1 SUMMARY

A. Section Includes:
   1. Casement windows.
   2. Awning windows.
   3. Casement and awning picture windows.
   4. Glazing.
   5. Accessories.

SPECIFIER NOTE: ARTICLE BELOW SHOULD BE RESTRICTED TO STATEMENTS DESCRIBING DESIGN OF PERFORMANCE REQUIREMENTS AND FUNCTIONAL (NOT DIMENSIONAL) TOLERANCES OF A COMPLETE SYSTEM. LIMIT DESCRIPTIONS FOR COMPOSITE AND OPERATIONAL PROPERTIES REQUIRED TO LINK COMPONENTS OF A SYSTEM TOGETHER AND TO INTERFACE WITH OTHER SYSTEMS.

1.2 SYSTEM DESCRIPTION

SPECIFIER NOTE: MANUFACTURER RECOMMENDS REFERRING TO WEBSITE FOR MOST CURRENT PRODUCT PERFORMANCE DATA. RETAIN, EDIT, OR DELETE LANGUAGE BELOW TO SUIT PROJECT REQUIREMENTS. REFER TO WWW.ANDERSENWINDOWS.COM FOR PERFORMANCE INFORMATION.

A. Performance Requirements: Provide products/systems that have been manufactured, fabricated, and installed to the following performance criteria:
   1. Comply with ANSI/AAMA/NWWDA 101/I.S.2.
   2. Performance Class: <Specify performance class.>
   3. Performance Grade: <Specify performance grade.>
   4. U-Factor (NFRC 100): <Specify U-Factor.>
   5. Solar Heat Gain Coefficient (SHGC) (NFRC 200) : <Specify SHGC.>
   6. Outdoor-Indoor Transmission Class (OITC) (ASTM E90) : <Specify OITC.>
   7. Sound Transmission Class (STC) (ASTM E90) : <Specify STC.>

SPECIFIER NOTE: MANUFACTURER RECOMMENDS REFERRING TO WEBSITE DESIGN PRESSURE ESTIMATOR FOR ADDITIONAL WIND LOAD INFORMATION. RETAIN, EDIT, OR DELETE LANGUAGE BELOW TO SUIT PROJECT REQUIREMENTS

B. Structural Requirements: Provide products/systems capable of withstanding wind loads based on testing units representative of those indicated for Project that pass AAMA/NWWDA 101/I.S.2/NAFS, Uniform Structural Load Test:
   1. Design Wind Loads: Determine design wind loads applicable to Product from basic wind speed indicated in miles per hour (meters per second) at 33 feet (10 meters) above grade, according to ASCE, Section 6, based upon mean roof heights indicted on Drawings.
      a. Basic Wind Speed: <Specify wind speed.>

b. Importance Factor: <Specify importance factor.>
c. Exposure Category: <Specify exposure category.>
d. Wind Load Requirement: <Specify design pressure requirement.>

C. Large Missile Impact: Provide glazing systems capable of withstanding large missile impact and air pressure cycling without failure as required by the Large Missile Test for ASTM E 1996 or comparable test acceptable to authorities have jurisdiction.

SPECIFIER NOTE: ARTICLE BELOW INCLUDES SUBMITTAL OF RELEVANT DATA TO BE FURNISHED BY CONTRACTOR BEFORE, DURING OR AFTER CONSTRUCTION. COORDINATE THIS ARTICLE WITH THE ARCHITECT'S AND CONTRACTOR'S DUTIES AND RESPONSIBILITIES IN CONDITIONS OF THE CONTRACT AND DIVISION 01 SUBMITTAL PROCEDURES SECTION.

1.3 SUBMITTALS

A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 01 Submittal Procedures Section.

B. Product Data: Submit manufacturer's product data and installation guides.

C. Shop Drawings: Provide drawings indicating direction of operable parts, typical jamb, head and sill conditions, and special mullion reinforcement details.

D. Color Samples: Submit selection and verification samples, including the following:
1. Hardware: Submit Sample indicating typical finish on hardware.
2. Cladding: Submit color samples of exterior cladding.

E. Quality Assurance/Control Submittals: Submit the following:
1. Performance Data: Provide manufacturer's published performance data for specified products.

F. Contract Closeout Submittals: Submit the following:
1. Warranty documents specified herein.
2. Owner's Manual: Bound manual clearly identified with project name, location, and completion date. Identify type and size of units installed. Provide recommendations for periodic inspections, care, and maintenance. Identify common causes of damage with instructions for temporary repair.

SPECIFIER NOTE: ARTICLE BELOW SHOULD INCLUDE STATEMENTS OF PREREQUISITES, STANDARDS, LIMITATIONS AND CRITERIA THAT ESTABLISH AN OVERALL LEVEL OF QUALITY FOR PRODUCTS AND WORKMANSHIP FOR THIS SECTION. COORDINATE ARTICLE BELOW WITH DIVISION 01 QUALITY ASSURANCE SECTION.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Utilize an installer having demonstrated experience on projects of similar size and complexity.

SPECIFIER NOTE: PARAGRAPH BELOW SHOULD LIST OBLIGATIONS FOR COMPLIANCE WITH SPECIFIC CODE REQUIREMENTS PARTICULAR TO THIS SECTION. GENERAL STATEMENTS TO COMPLY WITH A PARTICULAR CODE ARE TYPICALLY ADDRESSED IN CONDITIONS OF THE CONTRACT AND DIVISION 01 REGULATORY REQUIREMENTS SECTIONS. REPETITIVE STATEMENTS SHOULD BE AVOIDED.

B. Regulatory Requirements and Approvals: <Specify applicable requirements of regulatory agencies.>

C. Certifications:
1. Insulating Glass Units: Provide insulating glass units permanently marked with certification label of Insulating Glass Certification Council (IGCC) indicating compliance with ASTM E2190.

SPECIFIER NOTE: RETAIN CERTIFICATION LABEL REQUIREMENTS PARAGRAPH ABOVE OR BELOW.

2. Insulating Glass Units: Provide insulating glass units permanently marked with certification label of Insulating Glass Manufacturers Association of Canada (IGMAC) indicating compliance with CAN/CGSB or ASTM E2190.

SPECIFIER NOTE: RETAIN PARAGRAPH BELOW.IF IMPACT RESISTANT PRODUCTS ARE REQUIRED.

D. Windborne-Debris Resistance: Provide glazed units capable of resisting impact from windborne debris, based on pass/fail criteria as determined from testing glazed units per ASTM E1886 and ASTM E1996.

SPECIFIER NOTE: RETAIN PARAGRAPH BELOW IF PREINSTALLATION MEETING IS REQUIRED.

E. Preinstallation Meetings: <Specify requirements for preinstallation meeting.>

SPECIFIER NOTE: ARTICLE BELOW SHOULD INCLUDE SPECIFIC PROTECTION AND ENVIRONMENTAL CONDITIONS REQUIRED DURING STORAGE. COORDINATE ARTICLE BELOW WITH DIVISION 01 PRODUCT REQUIREMENTS SECTION.

1.5 DELIVERY, STORAGE, AND HANDLING

A. General: Comply with Division 01 Product Requirements Section.

B. Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.

C. Delivery: Deliver materials in manufacturer's original unopened, undamaged containers with identification labels intact.

D. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

E. Store materials and accessories off ground, under cover, and protected from weather and construction activities.

SPECIFIER NOTE: IN ARTICLE BELOW, STATE PHYSICAL OR ENVIRONMENTAL LIMITATIONS OR CRITERIA FOR INSTALLATION SUCH AS WEATHER, TEMPERATURE, HUMIDITY, VENTILATION OR ILLUMINATION REQUIRED FOR PROPER INSTALLATION OR APPLICATION.

1.6 PROJECT CONDITIONS

A. Field Measurements: Verify actual dimension of openings by field measurement before fabrication. Record measurements on shop drawings. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.

B. Install units in strict accordance with manufacturer's safety and weather recommendations.

SPECIFIER NOTE: COORDINATE ARTICLE BELOW WITH CONDITIONS OF THE CONTRACT AND WITH DIVISION 01 CLOSEOUT SUBMITTALS (WARRANTY) SECTION. USE THIS ARTICLE TO REQUIRE SPECIAL OR EXTENDED WARRANTY OR BOND COVERING THE WORK OF THIS SECTION.

1.7 WARRANTY

A. Project Warranty: Refer to Conditions of the Contract for project Warranty provisions.

SPECIFIER NOTE: COORDINATE ARTICLE BELOW WITH MANUFACTURER'S WARRANTY REQUIREMENTS. VISIT THE ANDERSEN WEBSITE FOR A COMPLETE DESCRIPTION OF THE STANDARD LIMITED WARRANTY INCLUDING EXCLUSIONS AND LIMITATIONS.

B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard limited warranty document. Manufacturer's limited warranty is in addition to, and not a limitation of, other rights Owner may have under contract documents.

PART 2 - PRODUCTS

SPECIFIER NOTE: RETAIN ARTICLE BELOW FOR PROPRIETARY METHOD SPECIFICATION. ADD PRODUCT ATTRIBUTES, PERFORMANCE CHARACTERISTICS, MATERIAL STANDARDS, AND DESCRIPTIONS AS APPLICABLE. USE OF SUCH PHRASES AS "OR EQUAL" OR "OR APPROVED EQUAL" OR SIMILAR PHRASES MAY CAUSE AMBIGUITY IN SPECIFICATIONS. SUCH PHRASES REQUIRE VERIFICATION (PROCEDURAL, LEGAL AND REGULATORY) AND ASSIGNMENT OF RESPONSIBILITY FOR DETERMINING "OR EQUAL" PRODUCTS.

2.1 MANUFACTURER

A. Provide products from the following manufacturer:
1. Andersen Windows, Inc.
2. 100 4th Ave. N.
3. Bayport, MN 55003-1096.
4. Phone: (800) 299-9029.
5. Fax: (800) 752-9230.
6. E-mail: technicalsupport@andersenwindows.com.
7. www.andersenwindows.com.
8. Local Contact: <Specify contact information provided by local Andersen representative.>

2.2 MANUFACTURED UNITS

A. Proprietary Product/Systems: Wood windows, including the following:
1. Andersen® 400 Series Casement Windows.
2. Andersen® 400 Series Awning Windows.
3. Andersen® 400 Series Casement and Awning Picture Windows.

SPECIFIER NOTE: EDIT ARTICLE BELOW TO SUIT PROJECT REQUIREMENTS. IF SUBSTITUTIONS ARE PERMITTED, EDIT TEXT BELOW. ADD TEST TO REFER TO DIVISION 01 PROJECT REQUIREMENTS (PRODUCT SUBSTITUTIONS PROCEDURES) SECTION.

4. Substitutions: No substitutions permitted.

SPECIFIER NOTE: SPECIFY MATERIALS TO BE FURNISHED. THIS ARTICLE MAY BE OMITTED AND THE MATERIALS CAN BE INCLUDED WITH THE DESCRIPTION OF A MANUFACTURED UNIT, EQUIPMENT, COMPONENT, OR ACCESSORY.

2.3 MATERIALS

A. Frame and Sash: Fabricated from wood species approved in WDMA Industry Standard I.S.2.

B. Vinyl Cladding: Rigid vinyl (PVC) complying with requirements of ASTM D4216, in the following color:

SPECIFIER NOTE: RETAIN PROJECT REQUIRED COLOR BELOW. DELETE COLOR NOT REQUIRED.

1. Color: White.
2. Color: Sandtone.
3. Color: Terratone®.
4. Color: Forest Green.

SPECIFIER NOTE: CASEMENT/AWNING PICTURE WINDOWS HAVE A SASHLESS DESIGN AND DO NOT REQUIRE WEATHERSTRIPPING. IMPACT RESISTANT UNITS USE EPDM FOAM WEATHERSTRIPPING IN LIEU OF TUBULAR FLEXIBLE VINYL.

C. Weatherstripping:
   1. Venting Sash: Weatherstripped with the following material:
      a. Tubular flexible vinyl.
      b. Flexible EPDM foam.
   2. Stationary Casement/Awning Sash: Weatherstripped with foamed PVC gaskets or tubular flexible vinyl.

D. Interior Stops:

SPECIFIER NOTE: RETAIN THE PROJECT REQUIRED INTERIOR STOP BELOW. DELETE OPTIONS NOT REQURED. CHECK WITH YOUR ANDERSEN REPRESENTATIVE FOR AVAILAIBITY OF PAINTED WOOD STOPS.

   1. Unfinished pine.
   2. Vinyl wrapped wood.
   3. White painted wood.

2.4 GLAZING

A. General: Insulating glass units certified through the Insulating Glass Certification Council as conforming to the requirements of IGCC. Provide dual sealed units consisting of polyisobutylene primary seal and silicone secondary seal. Provide metal spacers with bent or soldered corners.

SPECIFIER NOTE: RETAIN CERTIFICATION REQUIREMENTS PARAGRAPH ABOVE OR BELOW.

B. General: Insulating glass units certified through the Insulating Glass Manufacturers Association of Canada (IGMAC) conforming to the requirements of Canadian General Standards Board CAN/CGSB 12.8 or ASTM E2190. Provide dual sealed units consisting of polyisobutylene primary seal and silicone secondary seal. Provide metal spacers with bent or soldered corners.

SPECIFIER NOTE: SELECT BETWEEN THE FOLLOWING STANDARD GLAZING OPTIONS. CONSULT AN ANDERSEN REPRESENTATIVE FOR ADDITIONAL GLAZING OPTIONS. IN ADDITION TO COMPLYING WITH SAFETY GLAZING REQUIREMENTS, TEMPERED GLASS MAY BE REQUIRED BECAUSE OF WINDOW SIZE AND WIND LOAD. CONSULT ANDERSEN CORPORATION FOR ASSISTANCE IN SPECIFYING THE APPROPRIATE GLAZING TYPE.

C. High-Performance™ Low-E4™ Glass Argon Blend Filled Insulating Glass Units:
   1. Glass – Operating Units: Insulating glass units consisting of an outboard lite of clear annealed glass conforming to ASTM C1036, Type 1, Class 1, q3 and an inboard lite of clear, heat strengthened glass conforming to ASTM C1048, Type 1, Class 1, q3, Kind HS.

SPECIFIER NOTE: RETAIN SUBPARAGRAPH ABOVE FOR HEAT STRENGTHENED INSULATING GLASS UNITS. SELECT SUBPARAGRAPH BELOW FOR TEMPERED INSULATING GLASS UNITS.

   2. Glass – Operating Units: Tempered insulating glass units consisting of an outboard and inboard lite of clear tempered glass conforming to ASTM C1048, Type 1, Class 1, q3, Kind FT.
   3. Glass - Fixed Units: Insulating glass units consisting of an outboard and inboard lite of clear annealed glass conforming to ASTM C1036, Type 1, Class 1, q3.

SPECIFIER NOTE: RETAIN SUBPARAGRAPH ABOVE FOR NON-TEMPERED INSULATING GLASS UNITS. SELECT SUBPARAGRAPH BELOW FOR TEMPERED INSULATING GLASS UNITS.

   4. Glass - Fixed Units: Tempered insulating glass units consisting of an outboard and inboard lite of clear tempered glass conforming to ASTM C1048, Type 1, Class 1, q3, Kind FT.
   5. Magnetron sputtering vapor deposition (MSVD) TiO2 coating applied to the No. 1 surface.

6. High-Performance™ Low-E4™ Coating: Magnetron sputtering vapor deposition (MSVD) Low-E coating applied to the No. 2 surface.
7. Filling: Fill space between glass lites with argon gas blend.
8. Protective removable polyolefin film applied to glass surfaces No. 1 and No. 4.

D. High-Performance™ Low-E4™ Sun Glass, Low SHGC, Argon Blend Filled Insulating Glass Units:
1. Glass – Operating Units: Insulating glass units consisting of an outboard lite of clear annealed glass conforming to ASTM C1036, Type 1, Class 1, q3 and an inboard lite of clear, heat strengthened glass conforming to ASTM C1048, Type 1, Class 1, q3, Kind HS.

SPECIFIER NOTE: RETAIN SUBPARAGRAPH ABOVE FOR HEAT STRENGTHENED INSULATING GLASS UNITS. SELECT SUBPARAGRAPH BELOW FOR TEMPERED INSULATING GLASS UNITS.

2. Glass – Operating Units: Tempered insulating glass units consisting of an outboard and inboard lite of clear tempered glass conforming to ASTM C1048, Type 1, Class 1, q3, Kind FT.
3. Glass - Fixed Units: Insulating glass units consisting of an outboard and inboard lite of clear annealed glass conforming to ASTM C1036, Type 1, Class 1, q3.

SPECIFIER NOTE: RETAIN SUBPARAGRAPH ABOVE FOR NON-TEMPERED INSULATING GLASS UNITS. SELECT SUBPARAGRAPH BELOW FOR TEMPERED INSULATING GLASS UNITS.

4. Glass - Fixed Units: Tempered insulating glass units consisting of an outboard and inboard lite of clear tempered glass conforming to ASTM C1048, Type 1, Class 1, q3, Kind FT.
5. Magnetron sputtering vapor deposition (MSVD) TiO2 coating applied to the No. 1 surface.
6. High-Performance™ Low-E4™ Sun Glass Coating: Magnetron sputtering vapor deposition (MSVD) Low-E coating applied to the No. 2 surface.
7. Filling: Fill space between glass lites with argon gas blend.
8. Protective removable polyolefin film applied to glass surfaces No. 1 and No. 4.

SPECIFIER NOTE: SELECT BETWEEN THE TWO IMPACT RESISTANT GLASS TYPES IF IMPACT RESISTANT GLAZING REQUIRED.

E. Monolithic Impact Glass:
1. Glass: Impact-resistant glass consisting of two (2) lites of clear annealed glass conforming to ASTM C1036, Type 1, Class 1, q3, Kind LA, laminated with 0.090 inch (2.3 mm) polyvinyl butyral interlayer in the following color:

SPECIFIER NOTE: RETAIN PROJECT REQUIRED COLOR BELOW. DELETE COLORS NOT REQUIRED.

2. Color: Clear.
3. Color: Gray tinted.
4. Protective removable polyolefin film applied to glass surfaces No. 1 and No. 2.

SPECIFIER NOTE: EDIT PARAGRAPH BELOW TO SUIT PROJECT REQUIREMENTS “SENTRYGLAS” IS A REGISTERED TRADEMARK OF E.I. DUPONT DE NEMOURS AND COMPANY. CONSULT MANUFACTURER FOR COMPLETE PRODUCT DETAILS.

F. Insulating Impact Resistant Glass:
1. Glass: Insulating glass units consisting of an outboard lite of clear annealed glass conforming to ASTM C1036, Type 1, Class 1, q3 and a laminated inboard lite of cleared annealed glass conforming to ASTM C1036, Type 1, Class 1, q3, Kind LA, laminate with a 0.090 inch (2.29 mm) SentryGlas® Plus interlayer.
2. Magnetron sputtering vapor deposition (MSVD) TiO2 coating applied to the No. 1 surface.
3. High-Performance™ Low-E4™ Coating: Magnetron sputtering vapor deposition (MSVD) Low-E coating applied to the No. 2 surface.
4.

SPECIFIER NOTE: RETAIN SUBPARAGRAPH ABOVE FOR STANDARD LOW-E COATING. RETAIN SUBPARAGRAPH BELOW FOR LOW-E SUN COATING.

5. High-Performance Sun™ Low-E Coating: Magnetron sputtering vapor deposition (MSVD) Low-E coating applied to the No. 2 surface.
6. Filling: Fill space between glass lites with argon gas blend.
7. Protective removable polyolefin film applied to glass surfaces No. 1 and No. 4.

2.5 HARDWARE

A. Venting Casement Hardware:
1. Hardened steel operator arm stamped with a gear ring. Set arm gear between nylon bushing and nylon spacer. Encase drive shaft and worm gear assemblies in zinc die cast base and removable polycarbonate cover.
   a. Maximum Clear Opening Dimensions in Full Open Position:
      1) Units with Split Arm Operator:
         a) CR Series: 7-5/16 inch (186 mm).
         b) CN Series: 10-13/16 inch (275 mm).
         c) C Series: 14-7/16 inch (367 mm).
         d) CX Series: 21-13/15 inch (554 mm).
         e) CW Series: 20 inch (508 mm) (18-11/16 inch (475 mm) for CW12, CW125 and CW13).
         f) CXW Series: 26-1/4 inch (667 mm).
      2) Units with Straight Arm Operator:
         a) C Series; 18-5/16 inch (465 mm).
         b) CX Series: 25-11/16 inch (653 mm).
         c) CW Series: 22-5/16 inch (567 mm).
         d) CXW Series: 30-1/8 inch (765 mm).
2. Hinges: Stainless steel and heavy gauge steel arms. Stainless steel reinforcing insert in low friction shoe for rectangle units. 2-knuckle stainless steel butt hinges for shaped units. Apply hinges to venting sash indicated on Drawings.

SPECIFIER NOTE: SELECT ONE OF THE FOLLOWING 3 HANDLE STYLES AND DELETE THOSE NOT REQUIRED ON PROJECT.

3. Operator Handle and Covers:
   a. Andersen Classic™ zinc die cast handle with powder coated painted finish and polycarbonate operator cover with integral color in the following finish.

SPECIFIER NOTE: RETAIN PROJECT REQUIRED STYLE BELOW. DELETE STYLES NOT REQUIRED.

      1) Style: Standard.
      2) Style: Compact.
      3) Style: Easy Grip.
      4) Color: White

SPECIFIER NOTE: RETAIN PROJECT REQUIRED COLOR ABOVE OR BELOW.

      5) Color: Stone.
   b. Folding Handle: Zinc die cast handle with powder coated painted finish and polycarbonate operator cover with integral color in the following style and finish.
      1) Style: Traditional.

SPECIFIER NOTE: RETAIN PROJECT REQUIRED FOLDING HANDLE STYLE ABOVE OR BELOW.

2) Style Contemporary.
3) Color: White

SPECIFIER NOTE: RETAIN PROJECT REQUIRED COLOR ABOVE OR BELOW.

4) Color: Stone.

c. Estate™ forged brass handle and operator cover available in the following finish:

SPECIFIER NOTE: RETAIN ONE OF THE FOLLOWING HARDWARE LOCK COLORS BELOW. DELETE COLORS NOT REQUIRED.

1) Finish: Solid Bright Brass.
2) Finish: Solid Antique Brass.
3) Finish: Polished Chrome.
4) Finish: Brushed Chrome.
5) Finish: Oil Rubbed Bronze.
6) Finish: Satin Nickel.
7) Finish: Distressed Bronze.
8) Finish: Distressed Nickel.

4. Lock Handle and Bezel: Universal lock handle of die cast zinc with powder coated paint finish and polycarbonate bezel with the following integral color:

a. Color: White

SPECIFIER NOTE: RETAIN PROJECT REQUIRED COLOR ABOVE OR BELOW.

b. Color: Stone.

c. Estate™ Lock Handle and Stamped Bezel: Forged brass handle and operator cover available in the following finish:

SPECIFIER NOTE: RETAIN ONE OF THE FOLLOWING HARDWARE LOCK COLORS BELOW. DELETE COLORS NOT REQUIRED.

1) Finish: Solid Bright Brass.
2) Finish: Solid Antique Brass.
3) Finish: Polished Chrome.
4) Finish: Brushed Chrome.
5) Finish: Oil Rubbed Bronze.
6) Finish: Satin Nickel.
7) Finish: Distressed Bronze.
8) Finish: Distressed Nickel.

5. Sash Locks: Single actuation lock concealed by trim stops. Die cast zinc, galvanized steel link and engineered polymer components.

SPECIFIER NOTE: RETAIN THE FOLLOWING TWO PARAGRAPHS FOR IMPACT RESISTANT PRODUCTS.

6. Sash Stiffener: Prefinished aluminum sash stiffeners for impact resistant units over 54 inches (1372 mm) tall.

7. Full Length Exterior Snugger: Provide full height prefinished aluminum exterior snugger for ventilating impact resistant units.

SPECIFIER NOTE: LIMITED VENTILATION CONTROL ADAPTERS AND OPERATOR STUD COVERS SHOULD NOT BE USED ON WINDOWS INTENDED OR DESIGNED FOR EMERGENCY ESCAPE AND RESCUE. CONSULT LOCAL BUILDING CODE FOR EGRESS REQUIREMENTS.

8. Limited Ventilation Control Adapters: Stainless steel limited ventilation control adapters designed to limit casement opening and projection. Adapters to work with the existing hinge hardware.

9. Operator Stud Cover: Baked enamel finish to match operator handle finish. Provide operator stud cover where operator handle is removed for controlled access.

SPECIFIER NOTE: ADD THE FOLLOWING FOR USE WHEN EXPOSED TO SALT AIR OR OTHER SEVERE ENVIRONMENTAL OR INDUSTRIAL AREAS CALLING FOR HIGHER LEVELS OF CORROSION PROTECTION.

10. Corrosion Resistant Hardware:
    a. Hinges: 304 stainless steel arms and track; 302 stainless steel rivets and screws; and 301 stainless steel shoe insert.
    b. Operators: 304 stainless steel gear arm link and clip; 302 stainless steel gear arm rivet; Zinc plated steel bottom plate. Other parts plated and powder coated steel or zinc.

B. Awning Hardware:
1. Operator: Rotary-type operator attached to plated steel rod applied to bottom rail of sash. Single steel operator arm stamped with gear ring. Set arm gear assembly between nylon bushing and nylon spacer. Encase drive shaft and worm gear assembly in zinc die cast base.

SPECIFIER NOTE: SELECT ONE OF THE FOLLOWING 3 HANDLE STYLES AND DELETE THOSE NOT REQUIRED ON PROJECT.

2. Operator Handle and Covers:
    a. Andersen® Classic Series™ zinc die cast handle with powder coated painted finish and polycarbonate operator cover with integral color in the following finish.

SPECIFIER NOTE: RETAIN PROJECT REQUIRED STYLE BELOW. DELETE STYLES NOT REQUIRED.

        1) Style: Standard.
        2) Style: Compact.
        3) Style: Easy Grip.
        4) Style: T-Handle.
        5) Color: White.

SPECIFIER NOTE: RETAIN PROJECT REQUIRED COLOR ABOVE OR BELOW.

        6) Color: Stone.
    b. Folding Handle: zinc die cast folding handle with powder coated painted finish and polycarbonate operator cover with integral color in the following style and finish.
        1) Style: Traditional.

SPECIFIER NOTE: RETAIN PROJECT REQUIRED FOLDING HANDLE STYLE ABOVE OR BELOW.

        2) Style Contemporary
        3) Color: White.

SPECIFIER NOTE: RETAIN PROJECT REQUIRED COLOR ABOVE OR BELOW.

        4) Color: Stone.
    c. Estate™ forged brass handle and operator cover available in the following finish:

SPECIFIER NOTE: RETAIN ONE OF THE FOLLOWING HARDWARE LOCK COLORS BELOW. DELETE COLORS NOT REQUIRED.

        1) Finish: Solid Bright Brass.
        2) Finish: Solid Antique Brass.
        3) Finish: Polished Chrome.
        4) Finish: Brushed Chrome.
        5) Finish: Oil Rubbed Bronze.
        6) Finish: Satin Nickel.

7) Finish: Distressed Bronze.
8) Finish: Distressed Nickel.

SPECIFIER NOTE: OMIT SASH LOCKS WHERE REMOTE WINDOW OPERATORS ARE REQUIRED. OMITTING SASH LOCKS WILL DECREASE WINDOW PERFORMANCE. LEVEL 20 FORCED ENTRY RESISTANCE IS NOT AVAILABLE WHEN ELECTRIC OPERATOR IS SPECIFIED.

3. Sash Locks: Single actuation lock concealed by trim stops. Die cast zinc, galvanized steel link and engineered polymer components in finishes to match handle options.
4. Hinges: Stainless steel hinges with brass shoe that has nylon block for screw adjustment of friction.

SPECIFIER NOTE: ADD THE FOLLOWING FOR USE WHEN EXPOSED TO SALT AIR OR OTHER SEVERE ENVIRONMENTAL OR INDUSTRIAL AREAS CALLING FOR HIGHER LEVELS OF CORROSION PROTECTION.

5. Corrosion Resistant Hardware:
   a. Hinges: 316 stainless steel arms, rivets, track, screws and shoe insert.
   b. Operators: 302 stainless steel gear arm rivet; Zinc plated steel bottom plate. Other parts plated and powder coated steel or zinc.

2.6 JOINING SYSTEMS

SPECIFIER NOTE: ANDERSEN WINDOWS STRONGLY RECOMMENDS CONSULTATION WITH AN EXPERIENCED STRUCTURAL ENGINEER, ARCHITECT, OR CONTRACTOR AND A LOCAL ANDERSEN REPRESENTATIVE WHEN SPECIFYING ANDERSEN JOINING SYSTEMS. CONSULT AN ANDERSEN REPRESENTATIVE FOR JOINING OPTIONS WHEN JOINING IMPACT RESISTANT WINDOW PRODUCTS.

A. Wood Non-Reinforced Joining:
   1. Non-reinforced join with wood spacer.
   2. Gusset Plates: Galvanized metal gusset plates.

B. Aluminum Reinforced Joining.
   1. Reinforcing: Extruded aluminum profile of 6061-T6 aluminum with pre-drilled holes.
   2. End Plate: 0.080 inch (2.03 mm) 6061 T-5 stamped aluminum end plate with yellow chromate conversion coating and 1/2 inch (12.7 mm) stud that engages into aluminum profile.

C. Steel Reinforced Joining:
   1. Reinforcing: Provide 4 inch by 3/16 inch (100 mm by 4.8 mm) thick hot rolled steel plate conforming to ASTM A36 with zinc plating and yellow chromate conversion coat. Pre drill holes for attachment to window frames and end brackets.
   2. End Brackets: Predrilled steel end brackets that attach to each end of steel reinforcement member for attachment to rough opening.

D. LVL Reinforced Joining: 1-way.
   1. Reinforcing: 4-9/16 inch (116 mm).

SPECIFIER NOTE: RETAIN SUBPARAGRAPH ABOVE FOR 4-9/16 INCH REINFORCING. RETAIN PARAGRAPH BELOW FOR 6-9/16 INCH REINFORCING.

   2. Reinforcing: 6-9/16 inch (167 mm).
      a. Engineered laminated veneer lumber, 3/4 inch (19 mm) thick, with extruded aluminum end cap.
      b. End Brackets: 18 gage (1.3 mm) galvanized preformed metal gusset plates.
   3. Jamb Clips: Stainless steel jamb clips.

E. LVL Reinforced Joining: 2-way:

1. Reinforcing: 6-9/16 inch (167 mm).
   a. Engineered laminated veneer lumber 3/4 inch (19 mm) thick with extruded aluminum end cap.
   b. End Brackets: 14 gage (2.3 mm) galvanized end brackets with zinc dichromate finish.
   c. Intersection Brackets: 14 gage (2.3 mm) galvanized brackets with zinc dichromate finish.
2. Jamb clips: Stainless steel jamb clips.

F. Fasteners: Corrosion resistant screws and bolts as provided by window manufacturer for fastening reinforcement members to wood frame and fastening end brackets to reinforcement members. Other fasteners provided by window installer.

G. Provide silicone sealant recommended by window manufacturer.

H. Provide vinyl trim strips as recommended by window manufacturer for each joining method used.
   1. Color: Match window unit exterior color.

I. Provide Head Flashing: 6 inch (152 mm) long sheet vinyl.
   1. Color: Match window unit exterior color.

J. Jamb clips: Stainless steel.

K. Inside Mull Casing: Provide mull casings in the following species.

SPECIFIER NOTE: RETAIN PROJECT REQUIRED FINISH BELOW. DELETE FINISH NOT REQUIRED.

1. Casing Species: Pine.
2. Casing Species: Oak.
3. Casing Species: Maple.
4. Casing Species: Prefinished White.

SPECIFIER NOTE: SPECIFY SUBORDINATE OR SECONDARY ITEMS THAT AID AND ASSIST PRIMARY PRODUCTS SPECIFIED ABOVE OR ARE NECESSARY FOR PREPARATION OR INSTALLATION OF THOSE ITEMS.

2.7 ACCESSORIES

SPECIFIER NOTE: SELECT BETWEEN STANDARD OR TRUSCENE® INSECT SCREEN OPTIONS.

A. Insect Screens: Provide venting sash with an insect screen, including attachment hardware.
   1. Frames: 0.024 inch (0.61 mm) rolled aluminum frame with chromate conversion coating. Provide matching corner locks and latch retainers.
      a. Insect Screen Cloth: 18 by 16 aluminum mesh, gunmetal finish.
      b. Frame Finish: High-bake polyester finish in the following color:

SPECIFIER NOTE: RETAIN PROJECT REQUIRED FRAME FINISH SUBPARAGRAPH BELOW. DELETE SUBPARAGRAPHS NOT REQUIRED.

1) Frame Finish: White.
2) Frame Finish: Stone.

B. TruScene® Insect Screen: Provide venting sash with an insect screen, including attachment hardware.
   1. Frames: 0.024 (0.61 mm) inch rolled aluminum frame with chromate conversion coating and polyester painted finish.

SPECIFIER NOTE: RETAIN PROJECT REQUIRED COLOR SUBPARAGRAPH BELOW. DELETE SUBPARAGRAPHS NOT REQUIRED.

a. Color: White.
b. Color: Stone.

SPECIFIER NOTE: RETAIN PROJECT REQUIRED INTERIOR VENEER. WOOD VENEER INTERIOR ONLY AVAILABLE WITH TRUSCENE® INSECT SCREENS.

c. Interior Finish: Pine veneer.

2. Insect Screen Cloth: 25 by 25 micro fine stainless steel wire with a polyester non-reflective coating.

SPECIFIER NOTE: COORDINATE SPECIFICATIONS FOR GRILLE MATERIAL OF ADJACENT UNIT FOR JOINED UNITS OF DIFFERENT TYPES. STANDARD GRILLE WIDTH IS 3/4 INCH (19 MM). HARDWOOD MAPLE GRILLES ARE PROVIDED FOR PICTURE WINDOWS AND ARE AVAILABLE FOR OTHER WINDOW TYPES ON SPECIAL ORDER. CONSULT AN ANDERSEN REPRESENTATIVE FOR ADDITIONAL GRILLE OPTIONS. POLYCARBONATE GRILLES ARE NOT AVAILABLE FOR IMPACT RESISTANT PRODUCTS.

C. Grilles:

SPECIFIER NOTE: REFER TO *ANDERSEN® DIVIDED LIGHT PATTERN GUIDE* FOR AVAILABLE DIVIDED LIGHT PATTERNS AND DETAILS. EXTERIOR AND INTERIOR COLORS CAN BE DIFFERENT. RETAIN PROJECT REQUIRED GRILLE PATTERN SUBPARAGRAPH BELOW AND DELETE SUBPARAGRAPHS NOT REQUIRED. FULL DIVIDED LIGHT AND FINELIGHT GRILLES ARE NOT AVAILABLE FOR IMPACT RESISTANT GLAZED PRODUCTS.

1. Full Divided Light Grilles: Fixed exterior and interior grilles with an anodized aluminum muntin bar, 1/2 inch (12.7 mm) wide, to match spacer within insulated glass unit where indicated on Drawings.
   a. Exterior Grille: Provide Fibrex® material exterior grilles where indicated on Drawings. Install grilles on exterior of glass with adhesive tape to simulate true divided light muntin bars in the following color:
      1) Color: White.
      2) Color: Stone.
      3) Color: Sandtone.
      4) Color: Forest Green.
   b. Interior grille: Provide profiled wood grilles applied with adhesive tape to interior glass surface.
      1) Grille Type: Unfinished Maple.
      2) Grille Type: Unfinished Oak.
      3) Grille Type: Unfinished Pine
      4) Grille Type: White Fibrex® material.

SPECIFIER NOTE: RETAIN PROJECT REQUIRED GRILLE WIDTH SUBPARAGRAPH BELOW. DELETE SUBPARAGRAPHS NOT REQUIRED.

   c. Width: 3/4 inch (19.1 mm).
   d. Width: 7/8 inch (22 mm).
   e. Width: 1-1/8 inch (29 mm).
   f. Width: 2-1/4 inch (57mm)
   g. Pattern as indicated on Drawings.

2. Simulated Divided Light Grilles: Fixed exterior grilles with fixed or removable interior grilles where indicated on Drawings.
   a. Exterior Grille: Provide Fibrex® material exterior grilles where indicated on Drawings. Install grilles on exterior of glass with continuous adhesive tape to simulate true divided light muntin bars in the following color:
      1) Color: White.
      2) Color: Terratone®

3) Color: Sandtone.
4) Color: Forest Green.

SPECIFIER NOTE: RETAIN PROJECT REQUIRED INTERIOR GRILLE SUBPARAGRAPH BELOW. DELETE SUBPARAGRAPHS NOT REQUIRED.

b. Fixed Interior Grille: Provide profiled wood grilles applied with adhesive tape to interior glass surface.
   1) Grille Type: Unfinished Maple.
   2) Grille Type: Unfinished Oak.
   3) Grille Type: Unfinished Pine
   4) Grille Type: White Fibrex® material.
c. Removable Interior Grilles: Provide removable, hardwood maple divided light grilles where indicated on Drawings. Install removable grilles against interior glass, attached with metal fasteners or integral tabs to sash.
   1) Grille Type: Unfinished Maple.
   2) Grille Type: Unfinished Oak.
   3) Grille Type: Prefinished Maple.
      a) Color: White.
      b) Color: Terratone®
      c) Color: Sandtone.
      d) Color: Forest Green.

SPECIFIER NOTE: RETAIN PROJECT REQUIRED GRILLE WIDTH SUBPARAGRAPH BELOW. DELETE SUBPARAGRAPHS NOT REQUIRED.

d. Width: 3/4 inch (19.1 mm).
e. Width: 7/8 inch (22 mm).
f. Width: 1-1/8 inch (29 mm).
g. Width: 2-1/4 inch (57mm
h. Pattern as indicated on Drawings.

3. Removable Interior Grilles: Provide removable, hardwood maple divided light grilles where indicated on Drawings. Install removable grilles against interior glass, attached with metal fasteners or integral tabs to sash. Provide dual face profile to give muntin bar appearance from both interior and exterior.

SPECIFIER NOTE: RETAIN PROJECT REQUIRED EXTERIOR FACING SUBPARAGRAPH BELOW. DELETE SUBPARAGRAPHS NOT REQUIRED.

a. Exterior Facing: Maple grille with White color painted finish.
b. Exterior Facing: Maple grille with Sandtone color painted finish.
c. Exterior Facing: Maple grille with Terratone® color painted finish.
d. Exterior Facing: Maple grille with Forest Green color painted finish.

SPECIFIER NOTE: RETAIN PROJECT REQUIRED INTERIOR FACING SUBPARAGRAPH BELOW. DELETE SUBPARAGRAPHS NOT REQUIRED.

e. Interior Facing: Unfinished Maple.
f. Interior Facing: White Painted maple interior.

SPECIFIER NOTE: RETAIN PROJECT REQUIRED GRILLE WIDTH SUBPARAGRAPH BELOW. DELETE SUBPARAGRAPHS NOT REQUIRED.

g. Width: 3/4 inch (19.1 mm).

h. Width: 7/8 inch (22 mm).
i. Width: 1-1/8 inch (29 mm).
j. Pattern as indicated on Drawings.

4. Finelight™ Grilles: Provide contour profile aluminum muntin bars permanently mounted within insulating glass unit where indicated on Drawings.
   a. Grille Intersections: ABS concealed plastic connectors with nylon end keepers.

SPECIFIER NOTE: RETAIN PROJECT REQUIRED FINISH SUBPARAGRAPH BELOW. DELETE SUBPARAGRAPHS NOT REQUIRED. SPECIFY IF INTERIOR COLOR IS DIFFERENT THAN EXTERIOR COLOR.

b. Exterior and Interior Surface: White painted finish.
c. Exterior and Interior Surface: Sandtone color painted finish.
d. Exterior and Interior Surface: Terratone® color painted finish.
e. Exterior and Interior Surface: Forest Green painted finish.
f. Width: 3/4 inch (19.1 mm).

SPECIFIER NOTE: RETAIN REQUIRED GRILLE WIDTH ABOVE OR BELOW. DELETE SUBPARAGRAPHS NOT REQUIRED.

g. Width: 1 inch (25.4 mm).
h. Pattern as indicated on Drawings.

SPECIFIER NOTE: IF EXTERIOR TRIM AND CASING IS REQUIRED FOR PROJECT, RETAIN SUBPARAGRAPH ABOVE FOR 1/2 INCH (13 MM) OR SUBPARAGRAPH BELOW FOR 3/4 INCH (19 MM).

D. Exterior Trim and Casing: Where indicated on Drawings, provide 3/4 inch (19 mm) vinyl sheathed plywood conforming to NIST Voluntary Product Standards PS1 and rigid vinyl channels.
   1. Color: Match window framing.
   2. Andersen® Vinyl Trim Board: 0.043 inch (1.09 mm) thick vinyl with lightly textured surface laminated with adhesive to 3/4 inch (19.1 mm) thick plywood.
      a. Trim Channels: Rigid vinyl extrusions supplied by window manufacturer for use on same product line.

SPECIFIER NOTE: IF TRIM BOARD IS REQUIRED FOR PROJECT, RETAIN PARAGRAPH AND SUBPARAGRAPH ABOVE FOR VINYL TRIM BOARD OR PARAGRAPH AND SUBPARAGRAPH BELOW FOR VINYL LAMINATED BOARD.

   3. Vinyl Laminated Board: 0.045 inch (1.14 mm) thick vinyl with smooth surface laminated with adhesive to 1/2 inch (13 mm) thick plywood.
      a. Trim Channels: Rigid vinyl extrusions supplied by window manufacturer for use on same product line.
   4. Support Mullion Trim: 2 inch (51 mm) wide wood filler and vinyl trim strip. Color to match window unit exterior color.

SPECIFIER NOTE: ANDERSEN® BAY WINDOWS CAN BE WALL SUPPORTED OR SUSPENDED. THE CABLE SUPPORT SYSTEM IS REQUIRED WHEN UNITS ARE TO BE SUSPENDED. EACH CABLE IS CAPABLE OF SUPPORTING A MAXIMUM LOAD OF 500 LB (227 KG). ADDITIONAL SUPPORT IS NECESSARY IF THE SECTION OF THE WINDOW UNIT REQUIRING SUPPORT EXCEEDS 500 LB (227 KG).

   5. Cable Support System: 1/8 inch (3.2 mm) diameter braided steel cable with hardware required for complete installation.

SPECIFIER NOTE: 7-9/16 (192 MM) INCH EXTENSION JAMBS NOT PREDRILLED.

E. Extension Jambs: Wood members machined from clear material or veneered finger joined clear material approved in WDMA Industry Standard I.S.4. Pre-drill extension jambs for application.

F. Remote Awning Window Operator: Provide electric window opener for remote operation of venting unit where indicated on Drawings consisting of a 16 volt power operator, power supply (converting 120 V AC to 16 V DC), pushbutton command center, rain sensor that will signal power operator to close unit, and necessary mounting hardware. Provide safety connector that will not permit operation of electric window opener unless insect screen is in place. Do not provide sash locks on windows equipped with remote awning window operator.

SPECIFIER NOTE: CONTACT AN ANDERSEN REPRESENTATIVE FOR CUSTOM DESIGN CAPABILITIES. ANDERSEN® ART GLASS IS NOT AVAILABLE FOR IMPACT RESISTANT UNITS. "FRANK LLOYD WRIGHT" IS A REGISTERED TRADEMARK OF THE FRANK LLOYD WRIGHT FOUNDATION.

G. Andersen® Art Glass Panels: Hand assembled, stained glass panels sized to match unit glass opening. Art Glass panels are designed exclusively for application to Andersen products. Art Glass Panels shall be constructed of steel reinforced zinc "Y" edge cames, rigid zinc "H" cames with welded seams, and flexible zinc alloy "H" cames. Join came joints with lead-free solder.

1. Panel Glazing: Machine rolled glass and mouth-blown colored design glass. Glazing is fitted into cames using vinyl gaskets and silicone sealant. Secure panels with fixed and snap-lock polypropylene clips secured to the unit. Trim interior with wood stops.

SPECIFIER NOTE: RETAIN PROJECT REQUIRED PATTERN BELOW AND DELETE PATTERNS NOT REQUIRED FOR PROJECT.

2. Pattern: Frank Lloyd Wright® Series Colonnade.
3. Pattern: Frank Lloyd Wright® Series Prairie Rhythm.
4. Pattern: Frank Lloyd Wright® Wichita.
5. Pattern: Frank Lloyd Wright® Eucalyptus.
6. Pattern: Artisan Series Harmonics.
7. Pattern: Artisan Series Affinity.
8. Pattern: Classic Series Victoria.
9. Pattern: Classic Series Regency.
10. Pattern: Classic Series Lotus.
11. Pattern: Classic Series Taos.
12. Pattern: Classic Series Diamond Lights.
13. Background Glass: Clear Antique color.

SPECIFIER NOTE: RETAIN CLEAR ANTIQUE BACKGROUND GLASS ABOVE OR SEMI-PRIVATE BACKGROUND GLASS BELOW.

14. Background Glass: Semi-Privacy color.
15. Design Glass: Standard color palettes.

SPECIFIER NOTE: RETAIN DESIGN GLASS ABOVE OR BELOW.

16. Design Glass: Custom color combinations.

SPECIFIER NOTE: RETAIN ONE OF THE FOLLOWING CAMING TYPES BELOW.

17. Caming: Antique Bronze finish.
18. Caming: Gold tone (gold-plated) finish.
19. Caming: Silver tone (nickel-plated) finish.

2.8 FABRICATION

A. Preservative Treatment: Treat wood frame members after machining with a water repellent preservative in accordance with WDMA I.S.4.

B. Vinyl Cladding:

1. Sash Members: Completely encase sash members with seamless, 0.047 inch (1.19 mm) thick, rigid vinyl extrusions. Heat-weld corners.
2. Frame Units: Clad frame units with preformed rigid vinyl to provide joint-free cover. Provide integral flanges of 0.040 inch (1.02 mm) vinyl. Bond sheathing to wood frame with vinyl-to-wood adhesive.

C. Glazing: Factory glaze with high quality glazing sealant and snap-in rigid vinyl glazing bead.

D. Factory-apply weatherstripping.

E. Glazing Impact Resistant Units: Factory glaze with high performance glazing sealant as primary seal and removable interior wood stops. Backfill between glass edge and frame with high performance sealant. Apply high performance glazing sealant as secondary seal at glass opening perimeter.
1. Color of Secondary Sealant: Match window unit.

PART 3 - EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

A. Comply with the instructions and recommendations of the window manufacturer.

SPECIFIER NOTE: SPECIFY ACTIONS TO PHYSICALLY DETERMINE THAT CONDITIONS ARE ACCEPTABLE TO RECEIVE PRIMARY PRODUCTS OF THE SECTION.

3.2 EXAMINATION

A. Site Verification of Conditions: Verify that site conditions are acceptable for installation of units, including the following:
1. Concrete surfaces are dry and free of excess mortar, rocks, sand, and other construction debris.
2. Masonry openings are square and dimensions are correct.

SPECIFIER NOTE: RETAIN SUBPARAGRAPH BELOW FOR WOOD FRAMING. RETAIN SUBPARAGRAPH ABOVE FOR MASONRY CONSTRUCTION.

3. Rough openings are square and dimensions are correct.
4. Sill plates are level.

SPECIFIER NOTE: DELETE THE FOLLOWING SUBPARAGRAPH IS NO WOOD FRAMING ON PROJECT.

5. Wood frame walls are dry, clean, sound, and well nailed or glued, free of voids and without offsets at joints.
6. Nail heads are driven flush with surfaces in openings and within 3 inches (75 mm) of rough opening.

B. Do not proceed with installation of units until unacceptable conditions are corrected.

SPECIFIER NOTE: COORDINATE ARTICLE BELOW WITH MANUFACTURER'S RECOMMENDED INSTALLATION REQUIREMENTS.

3.3 INSTALLATION

A. General:
1. Remove unit components, parts, accessories, and installation guides from carton.
2. Inspect unit components and verify that components are not damaged and that parts are included before disposing of carton.

3. Shop-assemble multiple units before installation in accordance with manufacturer's installation guides.

SPECIFIER NOTE: RETAIN SUBPARAGRAPH ABOVE FOR SHOP-ASSEMBLED UNITS. RETAIN SUBPARAGRAPH BELOW FOR FIELD-ASSEMBLED UNITS.

4. Field-assemble multiple units before installation in accordance with manufacturer's installation guides.

B. Interface With Other Work:
1. Perform installation in accordance with Manufacturer's instructions.
2. Install units level, plumb, square, true to line, without distortion, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction.
3. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials.
4. Install insulation in shim space around unit perimeter to maintain continuity of building insulation. Do not overfill.
5. Hold back exterior siding or other finish materials from edge of unit to allow for expansion and contraction and installation of proper joint sealant with backing materials. Seal perimeter of unit after exterior finish is applied per requirements of Division 07 "Joint Sealants" Section.
6. Finish interior units per requirements specified in related sections. Refer to, and comply with, additional requirements in manufacturer's installation guides.
7. Install optional hardware and unit accessories after cleaning.

SPECIFIER NOTE: SPECIFY ALLOWABLE VARIATIONS BELOW.

C. Site Tolerances:
1. Adjust operation, insect screens, hardware, and accessories for a tight fit at contact points and weatherstripping for smooth operation and weathertight closure.

SPECIFIER NOTE: SPECIFY THE FINAL ACTION REQUIRED TO CLEAN INSTALLED EQUIPMENT OR OTHER COMPLETED WORK TO PROPERLY FUNCTION OR PERFORM. COORDINATE ARTICLE BELOW WITH DIVISION 01 EXECUTION REQUIREMENTS (CLEANING) SECTION AND SPECIFIC PROJECT REQUIREMENTS.

3.4 CLEANING

A. Clean units using cleaning material and methods specifically recommended by window manufacturer.

B. Remove excess sealants, glazing materials, dirt, and other substances.

C. Avoid damaging protective coatings and finishes.

D. Protect unit surfaces from masonry cleaning solution that could damage insulation glass panels or hardware.

E. Remove debris from work site and properly dispose of debris.

SPECIFIER NOTE: SPECIFY PROVISIONS FOR PROTECTING WORK AFTER INSTALLATION BUT PRIOR TO ACCEPTANCE BY THE OWNER. COORDINATE ARTICLE BELOW WITH DIVISION 01 EXECUTION REQUIREMENTS SECTION.

3.5 PROTECTION

A. Protect installed work from damage due to subsequent construction activity on the site.

END OF SECTION