



[Note to Specifier: Options are indicated by brackets [], or to be filled in _____ based on project requirements; edit for project requirements or delete in final copy. Check state and local building codes for compliance requirements.]

CSI MASTERFORMAT SECTION NUMBERS:

08 15 80 PLASTIC DOORS & WINDOWS: VINYL WINDOWS – NATIONAL

08 53 00 PLASTIC WINDOWS & GLASS DOORS

08 53 13 VINYL WINDOWS

Window Tech Systems: #11300 – AW RATED WINDOW SYSTEM

PART 1 GENERAL

- A. Window Tech Systems' #11300 windows are structurally strong and thermally efficient and are optimized for new construction and replacement applications in mid-rise, high-rise buildings.

1.01 SUMMARY

- A. Section includes:
1. Vinyl Tilt and Turn Windows
 2. Vinyl Casement Windows
 3. Vinyl Awning Windows
 4. Vinyl Fixed (Picture) Windows
 5. Vinyl Specialty Shape Windows

1.02 RELATED SECTIONS:

Section 01 33 00 – Submittal Procedures.

Section 01 62 00 – Product Options.

Section 01 25 00 – Substitution Procedures.

Section 01 65 00 – Product Delivery Requirements.

Section 01 65 00 – Product Storage and Handling Requirements.

Section 01 73 00 – Execution.

Section 01 74 00 – Cleaning and Waste Management.

Section 01 76 00 – Protecting Installed Construction.

Section 06 10 00 – Rough Carpentry.

Section 06 20 00 – Finish Carpentry.

Section 07 21 00 – Thermal Insulation.

Section 07 92 00 – Joint Sealants.

Section 08 80 00 – Glazing.

Single Source Requirement: All products listed below shall be by the same manufacturer.

Section 08 53 13 Vinyl Windows



[Note to Specifier: Edit and delete the following Standards as they apply to the project. Check with issuing organization to determine compliance with most up to date release of standards.]

1.03 REFERENCES

- A. American Architectural Manufacturers Association (AAMA):
 - 1. AAMA 502 Voluntary Specification for Field Testing of Newly Installed Fenestration Products.
 - 2. AAMA 614-2005 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Plastic Profiles.
 - 3. AAMA 615-2005 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Plastic Profiles.
 - 4. AAMA 450-06 - Voluntary Performance Rating for Muller Window Assemblies.
 - 5. AAMA 701-92 - Voluntary Specification for Pile Weatherstrip.

- B. American Architectural Manufacturers Association/Window & Door Manufacturers Association/Canadian Standards Association (AAMA/WDMA/CSA):
 - 1. AAMA/WDMA/CSA 101/I.S.2/A440-05, 101/I.S.2/A440-08 North American Standard/Specification for Windows, Doors and Skylights.

- C. National Fenestration Rating Council (NFRC):
 - 1. NFRC 100-2004 & 2010 - Determining Fenestration Product U-Factor.
 - 2. NFRC 100-2004 & 2010 - Test Procedure for Thermal Transmittance of Fenestration Product.
 - 3. NFRC 200-2004 & 2010 Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence.
 - 4. NFRC 500-2010 Determining Fenestration Product Condensation Resistance.

- D. ASTM International (ASTM):
 - 1. ASTM D 4726 - Standard Specification for Rigid Polyvinyl chloride (PVC) Exterior-Profile Extrusions Used for Assembled Windows and Doors.
 - 2. ASTM E 283-2005 - Standard Test Method for Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors.
 - 3. ASTM E 330-2002 - Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
 - 4. ASTM E 547-2000 - Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Cyclic Static Air Pressure Differential.
 - 5. ASTM E 1425-2007 or AAMA 1801 - Certification of Acoustical Performance.
 - 6. ASTM E 1996-2006 - Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters Impacted by Windborne Debris in Hurricanes.
 - 7. ASTM E 1886-2005 - Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.
 - 8. ASTM E 2190-2008 - Standard Specification for Insulating Glass Unit Performance and Evaluation.



9. ASTM E 1423-2006 - Determining Thermal Transmittance of Fenestration Systems.
10. ASTM E 1332 - Standard Classification for Rating Outdoor-Indoor Sound Attenuation.
11. ASTM F 588-2007 or AAMA 1302.5 - Standard for Forced-Entry Resistance.

E. WDMA Hallmark Program.

1. WDMA Hallmark Program Procedural Guide C.S.-1.

F. Screen Manufactures Association (SMA)

1. SMA 1201 – Specifications for Insect Screens for Windows, Sliding Doors and Swinging Doors.

G. Window Tech Systems' #11300 Window System Technical Information.

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1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's product data in accordance with Section 01330 Submittal Procedures or Section 01 33 23 – Shop Drawings, Product Data, and Samples.
 1. Preparation instructions and recommendations.
 2. Storage and handling requirements and recommendations.
 3. Installation methods.
- B. Shop Drawings: Submit manufacturer's shop drawings in accordance with Section 01330 Submittal Procedures or Section 01 33 23 – Shop Drawings, Product Data, and Samples.
- C. Samples:
 1. Submit corner section in accordance with Section 01330 Submittal Procedures or Section 01 33 23 – Shop Drawings, Product Data, and Samples.
 2. Samples submitted shall be of production type and shall represent quality of finish to be furnished by manufacturer. No work represented by samples shall be fabricated until samples are accepted.
 3. Include glazing system, quality of construction, specified finish, and color.
- D. Test Reports:
 1. Submit certified test reports from an AAMA accredited, independent testing laboratory showing system has been tested and meets or exceeds specified requirements and indicating full compliance with specified performance criteria



1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
 - 1. Manufacturer regularly engages in manufacture of residential and commercial vinyl window and door systems similar to that specified.
 - 2. Manufacturer has a minimum 30 years documented experience.
 - 3. Manufacturer is member of AAMA, NFRC.
- B. Installer Qualifications:
 - 1. Installer regularly engaged, for past [10] years, in installation of vinyl windows and doors of similar type to that specified.
 - 2. Employ persons trained for installation of vinyl windows and doors.
- C. Quality Control:
 - 1. AAMA – American Architectural Manufacturers Association.
 - 2. WDMA Hallmark Program.
 - 3. IGMA- Insulating Glass Manufacturers Alliance
 - 4. IGMAC-Insulating Glass Manufacturer’s Association Canada.
- D. [If required: Mock Up: Provide sample installation for field testing window/unit performance requirements for approval - Contractor to perform tests in accordance with AAMA 502-02 using Method A and/or Method B.]

1.06 DELIVERY, STORAGE AND HANDLING

- A. Delivery and Acceptance Requirements: Deliver materials to site in manufacturer’s original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
 - 1. Proceed in accordance with Section 01650 – Product Delivery Requirements, Section 01660 – Product Storage and Handling Requirements, and Installation Instructions.
- B. Storage and Handling Requirements:
 - 1. Store and handle materials in accordance with manufacturer’s instructions.
 - 2. Deliver in original packaging, store in an upright position off the ground in a clean, dry area.
 - 3. Protect from weather and construction activities.
 - 4. Protect materials and finish during storage, handling, and installation to prevent damage.

1.07 WARRANTY

- A. Project Warranty: Refer to "Conditions of the Contract" for project warranty provisions.
- B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by an authorized company official.
- C. Warranty Period: Manufacturer's one (1) year standard warranty commencing on the substantial date of completion for the project provided that the warranty, in no event, shall start later than six (6) months from the date of shipment by [System Manufacturer].
- D. Glass: 5 Year Product Warranty for details and exclusions.



PART 2 PRODUCTS

2.01 MANUFACTURER

Window Tech Systems
15 Old Stonebreak Road
Malta, NY 12020
Telephone: (800) 999-9855; Fax: (518) 899-4104
www.windowtechsystems.net

- A. Substitutions: Not permitted.

2.02 VINYL WINDOWS

- A. Vinyl Tilt and Turn Windows: Window Tech Systems - #11300 System:
1. Performance Requirements: Provide products/systems that have been manufactured using the following performance criteria:
 - a. Comply with ANSI/AAMA/NWWDA 101/I.S. 2-97:
 2. Performance Class: AW
 3. Performance Grade: PG-65 (60" x 99")
 4. U-Factor (NFRC 100/200) : The windows including glass and vinyl framing shall have thermal transmittance (U-factor) of **[0.42 Btu/hr*ft²*°F down to 0.16]** when tested in compliance with NFRC 100
 5. Solar Heat Gain Coefficient (SHGC) (NFRC 100/200): The windows including glass and vinyl framing shall have thermal transmittance (U-factor) of **[0.51 down to 0.18]** when tested in compliance with NFRC 200
 6. Condensation Resistance: The windows including glass and vinyl framing shall have Condensation Resistance of **[46 up to 75]**
 7. Acoustic Performance (STC / OITC) (ASTM E 90): windows shall meet or exceed requirements of **[OITC 26, 27, 28, 31, 33, 34, 36, or 37]** , when tested according to ASTM E 1332 **or [STC 33, 34, 35, 39, 40, 42, or 43]**, when tested according to ASTM E 90.
 8. Pass a forced entry resistance test of at least Level 10 to meet requirements set forth in ASTM F 588.
- B. Vinyl Casement Windows: Window Tech Systems - #11300 System:
1. Performance Requirements: Provide products/systems that have been manufactured using the following performance criteria:
 - b. Comply with ANSI/AAMA/NWWDA 101/I.S. 2-97:
 2. Performance Class: AW
 3. Performance Grade: PG-90 (36" x 60")
 4. U-Factor (NFRC 100/200) : The windows including glass and vinyl framing shall have thermal transmittance (U-factor) of **[0.34 Btu/hr*ft²*°F down to 0.18]** when tested in compliance with NFRC 100



5. Solar Heat Gain Coefficient (SHGC) (NFRC 100/200): The windows including glass and vinyl framing shall have thermal transmittance (U-factor) of **[0.28 down to 0.11]** when tested in compliance with NFRC 200
 6. Condensation Resistance: The windows including glass and vinyl framing shall have Condensation Resistance of **[45 up to 75]**
 7. Acoustic Performance (STC/OITC) (ASTM E 90): windows shall meet or exceed requirements of **[OITC 26, 27, 28, 31, 33, 34, 36, or 37]** , when tested according to ASTM E 1332 **or [STC 33, 34, 35, 39, 40, 42, or 43]**, when tested according to ASTM E 90.
 8. Pass a forced entry resistance test of at least Level 10 to meet requirements set forth in ASTM F 588.
- C. Vinyl Awning Windows: Window Tech Systems - #11300 System:
1. Performance Requirements: Provide products/systems that have been manufactured using the following performance criteria:
 - c. Comply with ANSI/AAMA/NWWDA 101/I.S. 2-97:
 2. Performance Class: AW
 3. Performance Grade: PG-100 (60" x 36")
 4. U-Factor (NFRC 100/200) : The windows including glass and vinyl framing shall have thermal transmittance (U-factor) of **[0.35 Btu/hr*ft²*F down to 0.18]** when tested in compliance with NFRC 100
 5. Solar Heat Gain Coefficient (SHGC) (NFRC 100/200): The windows including glass and vinyl framing shall have thermal transmittance (U-factor) of **[0.28 down to 0.11]** when tested in compliance with NFRC 200
 6. Condensation Resistance: The windows including glass and vinyl framing shall have Condensation Resistance of **[44 up to 77]**
 7. Acoustic Performance (STC / OITC) (ASTM E 90): windows shall meet or exceed requirements of **[OITC 26, 27, 28, 31, 33, 34, 36, or 37]** , when tested according to ASTM E 1332 **or [STC 33, 34, 35, 39, 40, 42, or 43]**, when tested according to ASTM E 90.
 8. Pass a forced entry resistance test of at least Level 10 to meet requirements set forth in ASTM F 588.
- D. Vinyl Fixed (Picture) Windows: Window Tech Systems - #11300 System:
1. Performance Requirements: Provide products/systems that have been manufactured using the following performance criteria:
 - d. Comply with ANSI/AAMA/NWWDA 101/I.S. 2-97:
 2. Performance Class: AW
 3. Performance Grade: PG-100 (60" x 99")
 4. U-Factor (NFRC 100/200) : The windows including glass and vinyl framing shall have thermal transmittance (U-factor) of **[0.45 Btu/hr*ft²*F down to 0.14]** when tested in compliance with NFRC 100
 5. Solar Heat Gain Coefficient (SHGC) (NFRC 100/200): The windows including glass and vinyl framing shall have thermal transmittance (U-factor) of **[0.61 down to 0.22]** when tested in compliance with NFRC 200



6. Condensation Resistance: The windows including glass and vinyl framing shall have Condensation Resistance of **[46 up to 74]**
 7. Acoustic Performance (STC / OITC) (ASTM E 90): windows shall meet or exceed requirements of **[OITC 25, 26, 30, 31, 36, 38]** , when tested according to ASTM E 1332 or **[STC 30, 32, 36, 37, 38, 45, or 46]**, when tested according to ASTM E 90.
 8. Pass a forced entry resistance test of at least Level 10 to meet requirements set forth in ASTM F 588.
- E. Vinyl Specialty Shape Windows: Window Tech Systems - #11300 System:
1. Performance Requirements: Provide products/systems that have been manufactured using the following performance criteria:
 - e. Comply with ANSI/AAMA/NWDA 101/I.S. 2-97:
 2. Performance Class: AW
 3. Performance Grade: PG-100 (60" x 99")
 4. U-Factor (NFRC 100/200) : The windows including glass and vinyl framing shall have thermal transmittance (U-factor) of **[0.45 Btu/hr*ft²*°F down to 0.14]** when tested in compliance with NFRC 100
 5. Solar Heat Gain Coefficient (SHGC) (NFRC 100/200): The windows including glass and vinyl framing shall have thermal transmittance (U-factor) of **[0.61 down to 0.22]** when tested in compliance with NFRC 200
 6. Condensation Resistance: The windows including glass and vinyl framing shall have Condensation Resistance of **[46 up to 74]**
 7. Acoustic Performance (STC / OITC) (ASTM E 90): windows shall meet or exceed requirements of **[OITC 25, 26, 30, 31, 36, 38]** , when tested according to ASTM E 1332 or **[STC 30, 32, 36, 37, 38, 45, or 46]**, when tested according to ASTM E 90.
 8. Pass a forced entry resistance test of at least Level 10 to meet requirements set forth in ASTM F 588.

2.03 WINDOW MATERIALS

- A. Vinyl Frame Materials:
1. Frame members shall be manufactured from multi-chambered extruded polyvinylchloride (PVC).
 2. Multi-chambered frame corners shall be fusion welded and cleaned.
 3. Frame depth: 3-¼ inch overall.
 4. Frame outer wall thickness: .100 inch.
 5. Frame to have exterior and interior accessory groove.
 6. [Options: [Framing Reinforcement]



- B. Vinyl Sash Materials:
 - 1. Sash members shall be manufactured from multi-chambered extruded polyvinylchloride (PVC).
 - 2. Multi-chambered sash corners shall be fusion welded and cleaned.
 - 3. Sash depth: 3-5/16 inch overall.
 - 4. Sash outer wall thickness: .100 inch.
 - 5. Finish to match interior sash.

- C. Vinyl Frame and Sash Surface Finish:
 - 1. Standard Interior/Exterior Mill Finish:
 - a) [White].
 - b) [Adobe].
 - c) [Almond].
 - 2. Available Exterior/Interior Quanex SuperCapSR™ Spectrally Selective Color Finish:
 - a) [Architectural Bronze].
 - b) [Adobe].
 - c) [Black].
 - d) [Silver (clear anodized appearance)].

- D. Glass: Contact Window Tech Systems for approved glass types.
 - 1. Insulating glass IGCC certified to ASTM E 2190.
 - 2. Fixed and operable panels shall be glazed using factory glazed [1" - 1-5/8 inch] units.
 - 3. Low-E Coating, Gas Filled: [Air], [Argon Gas Filled].
 - 4. Glass Options: [Annealed Glass], [Tempered Glass], [Laminated Glass], [Other].

- E. Sealants: Refer to Division 7 Joint Treatment Section for sealant requirements.

2.04 ACCESSORIES

- A. Hardware:
 - 1. Operable Window Tech Systems' - #11300 Windows: Pistol grip handle with finish [to match interior sash]. [Friction limiter] [Security key]
- B. Weatherstrip:
 - 1. Woven pile weatherstrip with Mylar fin applied around full perimeter of sash.
- C. Fasteners:
 - 1. All fasteners to be AISI 300 Series (except for self-drilling which are to be AISI 400 Series) stainless steel.
- D. Sealant:
 - 1. Non-skinning type sealant, AAMA 803.3.
- E. Glazing Adhesive:
 - 1. Structural silicone adhesive.



2.05 FABRICATION

- A. Follow all requirements of the Window Tech Systems' - #11300 Windows Fabrication guidelines.

PART 3 EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS/RECOMMENDATIONS

- A. Compliance: Comply with manufacturer's product data, including product technical bulletins, installation instructions, and product carton instructions.
- B.

3.02 EXAMINATION

- A. Site Verification of Conditions:
 - 1. Examine rough opening to receive vinyl windows.
 - 2. Do not begin installation until substrates have been properly prepared.
 - 3. Notify Architect of conditions that would adversely affect installation or subsequent use.
 - 4. Do not proceed with installation until unsatisfactory conditions are corrected.

3.03 PREPARATION

- A. Prepare substrates in accordance with manufacturer's instructions.
- B. Clean substrates before window installation.
- C. Adjacent Surfaces Protection: Protect adjacent work areas and finish surfaces from damage during window installation.

3.04 INSTALLATION

- A. General: Install manufacturer's system in accordance with shop drawings, and within specified tolerances.
 - 1. Protect vinyl framing members in contact with masonry, steel, concrete, or dissimilar materials.
 - 2. Do not erect warped, bowed, deformed or otherwise damaged or defaced members. Replace materials that are damaged during installation as directed.
 - 3. Shim and brace window frame before anchoring to structure.
 - 4. Completed windows must allow water to be wept to the exterior. Verify weep holes are open.
 - 5. Seal window system joints using sealant recommended by system manufacturer.

3.05 FIELD QUALITY CONTROL



- A. Manufacturer's Field Services: Upon request, provide system manufacturer's field service consisting of site visit for inspection of product installation in accordance with manufacturer's instructions.

3.06 ADJUSTING AND CLEANING

- A. Adjusting: Adjust windows for operation in accordance with manufacturer's recommendations.
- B. Cleaning: The General Contractor shall clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance, and remove construction debris from project site. Legally dispose of debris.
- C. Protection: The General Contractor shall protect the installed product's finish surfaces from damage during construction.

END OF SECTION