

SPECIFICATIONS

The Wintech Series 2000 consists of 3 1/4" frame residential vinyl windows with fusion welded sash and frame corners for added strength. This Series of Windows is available in double hung, horizontal sliding, hopper, and fixed window styles for all remodeling and new construction applications. Twin or triple double hung windows may be pre-assembled with special structural vinyl H-Mullions. Special J-Channel nailing flanges attach the windows to the frame casing along with capturing the siding in newly constructed houses. These windows are supplemented with aluminum panning, trim and other accessories.

SECTION 08560 VINYL WINDOWS

PART 1 - GENERAL

1.01 GENERAL PROVISIONS:

- A. All Contract Documents and Drawings apply to the Work in this Section.
- B. The Work shall be coordinated with that of all construction contractors affected by this Contract to assure the steady progress of the project.
- C. All bids shall be based on pre-qualified products. To qualify, the bidder must furnish one complete window unit and additional information as shown below prior to the bid date.
 - 1. This sample shall be identical to the model of the window on which the bid is based, with the finish being the only exception.
 - 2. The prospective bidder shall include the following in the qualification package.
 - a. The independent laboratory test reports, which certify that the proposed window products meet or exceed respective classifications H-R40, HS-R35, and F-R70 for residential windows.
 - b. A Notice of Product Certification from the Administrator/Validator of a Certification Program. This certification shows continuing compliance of the window with the specification requirement.
 - c. An independent laboratory test report indicating that the insulated glass units have been tested to the CBA level.

1.02 DESCRIPTION OF WORK

- A. The Work of this Section includes all labor, materials, tools, and equipment needed to furnish and install vinyl windows as shown in the Drawings and as specified.
- B. The building shall be kept dry, secure, and weather tight throughout the Work.
- C. The Work shall include:
 - 1. Field observation and measurements of existing openings and conditions. Replacement of all remaining deteriorated structures.
 - 2. Removal and disposal of existing window components and construction materials.
 - 3. Installation of new factory glazed vinyl windows and accessories in existing rough openings. Application of treated wood blocking, shims, and nailers, as required for a secure installation.
 - 4. Insulation of fiberglass between window frames and adjacent construction.
 - 5. Proper sealing of the exterior of window units, including any required vinyl closures and trim, after installation per AAMA 808.

1.03 RELATED WORK:

- A. The Contract Documents for requirements, which affect the Work of this Section, shall be carefully examined. All stated functions shall be performed.
- B. The Work includes the following related Sections.

- 1. Section 13280 – Hazardous Material Remediation
- 2. Section 06100 – Rough Carpentry
- 3. Section 06200 – Finish Carpentry
- 4. Section 07460 – Vinyl Siding and Trim

1.04 ITEMS FURNISHED BUT NOT INSTALLED:

- A. Architect and/or Specifier should add any applicable requirements to this Section as deemed necessary.

1.05 ITEMS INSTALLED BUT NOT FURNISHED:

- A. Architect and/or Specifier should add any applicable requirements to this Section as deemed appropriate.

1.06 TESTING AND PERFORMANCE REQUIREMENTS:

- A. Standards: Except as otherwise indicated, requirements for all vinyl windows, terminology and standards of performance, and fabrication workmanship are those specified and recommended in AAMA 101/I.S.2-97 and published by AAMA.
- B. Performance and Testing: Except as otherwise indicated, air infiltration test, water resistance test and applicable load tests shall meet the applicable AAMA 101/I.S.2-97 requirements for type, rating and classification of the window units.
- C. Testing: For manufacturer's standard window units, independent certification shall be provided to indicate compliance with specified test procedures.
 - 1. Test reports shall be no more than four years old.
 - 2. Windows submitted for testing shall represent manufacturer's standard construction.
 - a. Test windows shall comply to the following structural requirements.

Product Type	Test Window Size	Rating
Double Hung	3'8" x 5'0"	DH-R40
Horizontal Slider	5'9" x 4'0"	HS-R35
Fixed	5'0" x 5'0"	F-R70

- D. Specific Requirements: Windows shall conform to specified AAMA 101/I.S.2-97 standards or those specified herein, whichever are the more stringent:

1. Operating Force: The sash shall be adjusted to operate in either direction, with a force not exceeding the following pounds, after the sash is in motion. No further adjustment affecting the operating force shall be made for the balance of the tests.

Double Hung	12 lbs
Horizontal Slider	14 lbs
Fixed	N/A

2. Air Infiltration Test: With the sash in a closed and locked position, the window shall be subjected to an air infiltration test in accordance with ASTM E 283-91. Air infiltration shall not exceed the following, cubic feet per minute, per foot of crack length, when tested at 1.57 psf.

Double Hung	0.21 cfm/ft
Horizontal Slider	0.27 cfm/ft
Fixed	0.01 cfm/ft

3. Water Resistance Test: With the sash in the fully closed and locked position, the window unit shall be subjected to a water resistance test in accordance with ASTM E 547. At the following water test pressures, no water shall pass the interior plane of the window frame as defined in the ASTM E 547 test procedure.

Double Hung	6.00 psf
Horizontal Slider	5.25 psf
Fixed	10.50 psf

4. Uniform Structural Load Test: The following minimum exterior and interior uniform loads shall be applied to the entire surface of the test units.

<u>Product Type</u>	<u>Test Window Size</u>	<u>Load</u>
Double Hung	3'8" x 5'0"	60.0 psf
Horizontal Slider	5'9" x 4'0"	52.5 psf
Fixed	5'0" x 5'0"	105.0 psf

Tests shall be conducted in accordance with ASTM E 330. At the conclusion of tests, there shall be no glass breakage, permanent damage of fasteners, hardware, or any other damage causing the window to be inoperable.

5. Welded Corner Test: The weld seam shall be tested in the condition existing in the produced window, with the exception that all reinforcing shall be removed prior to the test. When loaded to failure, the entire break shall not extend along the weld.

6. Thermal Transmittance "U-Factor" Test: Thermal Transmittance shall be tested to AAMA 1503.1-98 and shall produce a U - Factor no greater than 0.50 for clear glazed and 0.34 for Low-E/Argon glazed double hung windows.

1.07 QUALITY ASSURANCE:

- A. The standards set forth in AAMA 101/I.S.2-97 and other referenced standards shall be met.
- B. Test Reports shall be provided from an independent laboratory certifying that the performance for air infiltration, water resistance, uniform structural load, and thermal transmittance have been met or exceed the criterion required by the standards.

1.08 REFERENCES:

- A. American Architectural Manufacturers Assoc. (AAMA)
American Society for Testing and Materials (ASTM)
American National Standards Institute (ANSI)

1.09 SUBMITTAL REQUIREMENTS:

- A. General: The following submittals shall be furnished.
 - 1. Product Data: Manufacturer's specifications, recommendations and standard product details for vinyl window units, including independent laboratory certified test reports as necessary to show compliance with requirements.
 - 2. Shop Drawings: Shop drawings that include typical unit elevations, details of the head, jamb and sill of each product and typical installation features. Drawings are to show anchor locations, type of glazing, screening, and window finish that will be supplied.
 - 3. Samples: Representative samples of vinyl extrusions, showing the full range of finish and color variations. Additional samples, as requested by Architect, to show fabrication techniques, workmanship, component parts and design of hardware.

1.10 PRODUCT DELIVERY, STORAGE AND HANDLING:

- A. Windows, hardware and all related items shall be stored and handled in strict compliance with the manufacturer's instructions.
- B. Windows, accessories and related materials shall be adequately protected against damage from the elements, construction activities and other hazards before, during and after installation.

1.11 PROJECT WARRANTIES:

- A. Manufacturer's Warranties: Written warranties from window manufacturer shall be submitted for the following:
 - 1. Windows: Windows furnished shall be certified as fully warranted against any defects in material or workmanship, under normal use and service, for a period of one year from date of installation.
 - 2. Weather Stripping: All weather stripping shall be warranted for a period of one year from date of installation.
 - 3. Finish: White and sandstone vinyl frame and sash profiles in the windows shall comply with the requirements of AAMA 303. Vinyl profiles are to be fully warranted against chipping, peeling, chalking, fading, abnormal aging and failure to meet specified performance requirements under normal use and service, for a period of five years from date of installation.
 - 4. Glazing: Insulated glass units shall be warranted from visual obstruction, due to internal moisture, for a period of five years from date of installation.

1.12 EXTRA MATERIAL

- A. Specified extra material shall be furnished and delivered to Owner at the project location for potential future maintenance or replacement.

PART 2 – PRODUCTS

2.01 GENERAL:

A. Manufacturer: Subject to compliance with Contract Documents and Specifications, the welded vinyl window products are to be manufactured by Window Tech Systems, Inc.

1. **Products:** Wintech Welded Vinyl Model 2000 Double Hung, Model 2200 Horizontal Slider, and Model 2500 Fixed Windows.

B. Window Construction: Manufacturer's standard construction, which has been tested to the thermal conductance, and strength requirements of this application, shall be supplied.

2.02 MATERIALS:

A. Frame and Sash Members: Rigid 100% virgin uPVC extrusions to meet requirements of AAMA 303.

B. Reinforcing Members: Aluminum, zinc plated steel to ASTM B 63, or other corrosion resistance material compatible with rigid PVC.

C. Hardware:

1. **Lock & Keeper:** Painted cast zinc sweep lock and keeper.
2. **Sash Release Tilt Mechanisms:** High impact nylon housing and latch units.
3. **Tilt Pivot Bar:** Zinc plated steel with high strength and rigidity.

D. Fasteners:

1. Stainless steel flat, hexagon, pan or oval head screws.
2. Stainless steel tamper proof tri-wing screws.

E. Weather Stripping:

1. Silicone-treated pile with a polypropylene center fin to AAMA 701.
2. Closed cell bulb weather seal to AAMA 702.

F. Balance Systems:

1. Alumina-Tilt spiral balances.
2. Block and tackle balances.

G. Screens: Aluminum alloy 6063-T5 frame half or full screens with aluminum 18 x 16 mesh or fiberglass mesh.

H. Glazing: Marine glazed 7/8" thick sealed insulating glass, consisting of clear or Low-E annealed or tempered flat glass, hot melt butyl sealant, molecular sieve desiccant, anodized aluminum spacers and plastic corner keys. Insulated glass units with CBA level certification.

I. Grid Muntins:

1. Internal: Painted aluminum rolled rectangular bars.
2. External: Painted aluminum extruded trapezoidal bars.

J. Anchors, Clips and Window Accessories:

1. Fabricated aluminum or stainless steel.
2. Fabricated zinc plated or cadmium plated steel to ASTM B 633 and B 766 respectively.

K. Compression Glazing Strips: Extruded neoprene gaskets and polyethylene foam sealant tape to AAMA 810.

L. Sealant: Permanently elastic, non-shrinking, and non-migrating sealant to ASTM 803.

M. Insulation: Fiberglass to ASTM C 665 Type 1.

2.03 WINDOW CLASSIFICATION:

A. AAMA 101/I.S.2-97 DH-R40 Double Hung, HS-35 Horizontal Slider, and F-R70 Fixed Windows complying with Classification "R" for "Residential" type windows.

2.04 WINDOW CONFIGURATION:

A. General: Operating arrangements for types of sash required in window units and the minimum provision for each type are hereby specified.

1. Double hung vinyl windows shall have vertically sliding sash, with two spiral balancing mechanisms, which appropriately hold the sash in a stationary position when opened to any distance. Balances are accessible and replaceable.

Both sash units shall have latch release mechanisms, which permit the sash to tilt into the building for cleaning of interior and exterior surfaces.

The top sash stiles shall be fitted with two security latches, which when extended, shall prevent the bottom sash from being opened more than four inches.

2. Horizontal sliding windows consist of two operable sash in a sealing frame. The two adjacent sash of the double slider by-pass.

3. Fixed windows consist of a glazed stationary sash and frame, which are not operable.

2.05 FABRICATION AND ACCESSORIES:

A. General manufacturer's standard fabrication + accessories, which comply with the specifications indicated, shall be provided.

B. Window members shall be made of vinyl. Secondary members such as friction tabs, shoes, and weather stripping guides, shall also be made of a compatible material.

C. Construction Assembly: Frame and sash shall be assembled in a secure and workmanlike manner to perform as specified herein.

1. **Frame:** Frame profile shall contain integral nailing fin and siding return or be fitted with head and sill expanders as job conditions require. Window main frames shall be miter cut and fusion welded at the corners. Excess weld residue are mechanically removed from the corners.

2. **Sash:** Sash members shall be miter cut and fusion welded at the corners, which are mechanically cleaned. Each welded sash shall have recessed heavy wall pivot bars attached at the bottom sash corners with stainless steel screws.

3. **Lock & Keeper:** A heavy duty sweep lock and keeper shall be fastened on the meeting rails to provide a watertight seal and maximum security. Windows over 28" in width shall have two locking assemblies.

4. **Sash Release Tilt Mechanisms:** A self-aligning spring loaded sash release latch shall be concealed in the weld sash top rail. The latches afford positive lock into the jamb profile. In a tilted position, the sash shall be removed to the interior.

5. **Structural Members:** To meet the structural requirement of DH-R40, galvanized steel reinforcements shall be employed in the sash members of the double hung window. For multiple windows to be installed in an opening, specially designed vinyl mullions shall be used to connect the assembly.

6. **Weather Stripping:** Weather stripping shall be capable of meeting the environmental exposure and performance requirements. A minimum of two rows of solid barrier fin-type weather stripping shall be applied between the sash and frame.

The bottom sash rail shall include one row of non-rigid bulb weather seal, which will compress onto the sill when the sash is closed.

7. Balances: Balances of appropriate size and capacity to ensure proper operation and to hold operable sash stationary in any open position shall be used. Sash balances shall be easily accessible and replaceable in the field without use of special tools. Balances shall comply with the requirements of AAMA Specification 902.

8. Glazing: All glazing units shall be assembled at the factory. The dimension of the dehydrated air space is dependent on the glass thickness and aluminum spacer used to produce the overall minimum thickness of 7/8" for the sealed insulated glass unit. Glazing shall be secured in the sash with a dual durometer snap-in glazing bead positioned along the interior perimeter of the sash.

9. Grid Muntins: Colonial or diamond internal muntins are available to instill a decorative appearance. These painted aluminum muntins, when installed between the glass panes, improve the ease of cleaning. Colonial exterior muntins may be applied on the outer surface of the insulated glass units to meet historical standards.

10. Screens: Either half or full insect screens for operable window sections shall be supplied. Half screens slide in an external window frame channel and are removable from the inside. Full screens, which are removable to the outside, are secured in the window jamb channel with springs clips. Aluminum or fiberglass mesh screen shall be provided.

2.06 CUSTOM COVER SYSTEM:

A. Exterior Panning: Painted aluminum panning sections shall be of a one-piece design, which locks around the entire window frame to form a weather-tight connection. The aluminum panning is back joint sealed per AAMA Spec 803 to the vinyl window frames. Panning extrusions may be either plant or site assembled and secured at the corners with stainless steel screws in integral screw boss. Assembly shall allow unrestricted expansion and contraction of the panning and frames. Due to the difference in expansion/contraction of vinyl and aluminum during the more drastic seasonal temperature changes, Wintech cannot guarantee the performance of the sealant joining the vinyl and aluminum members.

B. Interior Trim: Painted aluminum trim shall be made from extruded profiles. Snap trim shall be supplied in required lengths and attached with clips within 24" space intervals. No exposed screws are allowed.

2.07 VINYL WINDOW FINISHES:

A. Manufacturer's standard color of solid vinyl in white and sandstone or paintable and stainable interior finishes, as selected by the Architect, shall be supplied.

B. Windows shall match profiles and appearance shown on the Drawings. All window types shall have matching profiles and be from the same product line of the lineal manufacturer.

PART 3 – EXECUTION

3.01 PREPARATION: **A.** For replacement applications, existing windows shall not be removed until new windows are on site and ready for immediate installation. All openings shall be protected at the end to the work day, or for extended periods during wind-driven rains or excessively cold weather.

For new construction applications, new windows shall be supplied in sufficient quantities in advance of contractor's building schedule to permit orderly installations.

B. Replacement work shall be removed carefully, avoiding damage to remaining structures.

C. All other functions shall be performed as necessary to prepare openings for proper installation and operation of new windows.

D. Any shipping damages to windows shall be reported to manufacturer within 72 hours of receipt of delivery.

3.02 DISPOSAL:

A. Existing window debris and other materials shall be removed from the site and disposed by the Contractor.

B. Contractors shall comply with applicable laws, regulations, and governing specifications for proper disposal of all debris.

3.03 INSTALLATIONS:

A. Contractor installers shall comply with manufacturer's specifications without causing damage to adjacent materials and surfaces. New windows are to be installed as detailed on Drawings specified herein and recommended by manufacturer.

B. Existing window frames, jambs, sash stop and parting strip shall be removed without causing damage to adjacent materials and surfaces. New windows are to be installed as detailed on Drawings specified herein and recommended by manufacturer.

C. Window finish shall be protected to prevent damage during the course of the construction operations. The finish protection shall be removed before final inspection of the windows.

D. Insulation shall be fitted solid in sill, jamb, head, stool, and mullion areas before the window assemblies are installed.

3.04 SETTING AND ANCHORING:

A. Window frames shall be anchored at jambs, head, and sill as detailed on Drawings and as recommended by window manufacturer.

B. Window units shall be set plumb, level and true to line, without warp or rack of frames or sash and anchored securely in place. The window is to be adequately anchored to maintain positions permanently when subjected to normal thermal and building movement and specified wind loads.

C. Window panning and trim shall be properly anchored in a plumb and level condition.

3.05 ADJUST AND CLEAN:

A. Operating sash and hardware shall be adjusted to provide a tight fit at contact points and at weather stripping to attain smooth operation and weather-tight closure.

B. All vinyl and glass surfaces shall be cleaned properly after installation, exercising care to avoid damage to protective coatings and finishes.

C. All protection and precautions shall be initiated to ensure that the window systems will be free of damage or deterioration, other than normal weathering, until time of acceptance by Owner

**END OF SECTION
10/30/01**