SECTION 08 90 00

LOUVERS

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\*\* NOTE TO SPECIFIER \*\* Wintech Inc.; commercial louvers.
This section is based on the products of Wintech Inc., which is located at:
201 Industrial Dr.
Monett, MO 65708
Toll Free Tel: 800-365-4924
Tel: 417-235-7821
Fax: 417-737-7140
Email: [request info (sales@wintechinc)](http://admin.arcat.com/users.pl?action=UserEmail&company=Wintech+Inc.&coid=44743&rep=&fax=417-737-7140&message=RE:%20Spec%20Question%20(10200wti):%20%20&mf=)
Web: [www.wintechinc.com](http://www.wintechinc.com)
 [ [Click Here](http://www.arcat.com/arcatcos/cos44/arc44743.html) ] for additional information.
WinTech produces cost-effective windows for the following industries: Commercial window; PTAC Louvers - Patent Pending; Metal building; Modular building and Foundation. WinTech also manufactures access doors, view ports and panels for the HVAC industry.
As a company, and as individuals, we value integrity and honesty, continuous improvement and the self-discipline to take on challenges and see them through. Our mission is simple, to build quality, cost-effective products and to strive each day to reach our full potential.

1. GENERAL
	1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete louver types below not required for project.

* + 1. Aluminum louvers.
		2. Aluminum impact louvers.

\*\* NOTE TO SPECIFIER \*\* Specify in this section if Louver assemblies are to be glazed by the Louver manufacturer. If glazing is to be done by a different contractor, glass and glazing should be specified in Section 08 83 13 - Mirrored Glass Glazing. WinTech recommends that the Louver manufacturer perform the glazing. Delete if not required.

* + 1. Factory glazed aluminum louvers.
	1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 08 83 13 - Mirrored Glass Glazing.
		2. Section 08 41 00 - Entrances and Storefronts.
		3. Section 08 41 00 - Entrances and Storefronts.
		4. Section 08 51 13 - Aluminum Windows.
		5. Section 08 44 23 - Structural Sealant Glazed Curtain Wall.
		6. Section 08 44 33 - Sloped Glazing Assemblies.
	1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. American Architectural Manufacturers Association (AAMA):
			1. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels.
			2. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels.
			3. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels.
		2. ASTM International (ASTM):
			1. 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".
			2. ASTM E330 - "Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights, and Curtain Walls by Uniform Static Air Pressure Difference".
			3. ASTM E331 - "Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference".
			4. ASTM E547 - "Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Differential".
			5. ASTM E 1886 - Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Storm Shutters Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.
			6. ASTM E 1996 - Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes.
		3. American National Standards Institute (ANSI):
			1. ANSI A58.1 - Minimum Design Loads For Buildings And Other Structures
		4. Insulating Glass Certification Council (IGCC).
		5. Safety Glazing Certification Council (SGCC):
			1. ANSI Z97.1 - "American National Standard for Safety Glazing Materials used in Buildings - Safety Performance Specifications and Methods of Test".
			2. 16 CFR 1201 "Consumer Product Safety Commission Safety Standard for Architectural Glazing Materials - codified at Title 16, Part 1201 of the Code of Federal Regulations 2011 Edition".
	1. SUBMITTALS
		1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
		2. Product Data: Manufacturer's data sheets on each product to be used, including:
			1. Provide test reports, and warranties.
			2. Preparation instructions and recommendations.
			3. Storage and handling requirements and recommendations.
			4. Installation methods.
		3. Shop Drawings: Provide elevations and installation details of each type and condition if different by size.
		4. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square representing actual product, color, and patterns.
	2. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Minimum 5 year experience manufacturing similar products.
		2. Installer Qualifications: Minimum 2 year experience installing similar products.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Provide test reports from ANSI accredited laboratories certifying the performance.
			1. Test reports shall be accompanied by the louver manufacturer's letter of certification, stating the tested Louver meets or exceeds the referenced criteria for the appropriate Louver type.

\*\* NOTE TO SPECIFIER \*\* Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
			1. Finish areas designated by Architect.
			2. Do not proceed with remaining work until workmanship is approved by Architect.
			3. Refinish mock-up area as required to produce acceptable work.
	1. PRE-INSTALLATION MEETINGS
		1. Convene minimum two weeks prior to starting work of this section.
	2. DELIVERY, STORAGE, AND HANDLING
		1. Deliver and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.
		2. Handling: Handle materials to avoid damage.
	3. PROJECT CONDITIONS
		1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
	4. SEQUENCING
		1. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.
	5. WARRANTY
		1. Installer's Total Louver Warranty:
			1. The responsible contractor shall assume full responsibility and warrant for one year the satisfactory performance of the total Louver installation which includes that of the Louvers, hardware, glass (including insulated units), glazing, anchorage and setting system, sealing, flashing, etc., as it relates to air, water, and structural adequacy as called for in the specifications and approved shop drawings.
			2. Further, the responsible contractor shall warrant for five years the seal integrity of the insulating glass.
			3. Any deficiencies during the warranty period due to such elements not meeting the specifications shall be corrected per the provisions of the warranty by the responsible contractor at his expense.
		2. Finish:

\*\* NOTE TO SPECIFIER \*\* Select for Anodic Finish: Standard warranty period is 3 years, or extended 5 years, or 10 years.

* + - 1. Anodic Finish Warranty period shall be for 3 years from the date of final shipment.

\*\* NOTE TO SPECIFIER \*\* OR Select for Organic Finish: Refer to manufacturer's literature for warranty period available.

* + - 1. Organic Finish Warranty period shall be for 5 years from the date of final shipment.
			2. Provide organic finish warranty based on AAMA standard 2603.

\*\* NOTE TO SPECIFIER \*\* OR Select for Organic Finish: Standard warranty period is 5 years, or extended 10 years, or 15 years.

* + - 1. Organic Finish Warranty period shall be for 5 years from the date of final shipment.
			2. Provide organic finish warranty based on AAMA standard 2604.

\*\* NOTE TO SPECIFIER \*\* OR Select for Organic Finish: Standard warranty period is 5 years, or extended 10 years, or 15 years, or 20 years.

* + - 1. Organic Finish Warranty period shall be for 5 years from the date of final shipment.
			2. Provide organic finish warranty based on AAMA standard 2605.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: Wintech Inc., which is located at: 201 Industrial Dr.; Monett, MO 65708; Toll Free Tel: 800-365-4924; Tel: 417-235-7821; Fax: 417-737-7140; Email: [request info (sales@wintechinc)](http://admin.arcat.com/users.pl?action=UserEmail&company=Wintech+Inc.&coid=44743&rep=&fax=417-737-7140&message=RE:%20Spec%20Question%20(10200wti):%20%20&mf=); Web: [www.wintechinc.com](http://www.wintechinc.com)

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
		2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.
			1. Other manufacturers requesting approval to bid their product as an equal shall submit the following information fifteen days prior to close of bidding.
				1. A sample Louver, 3 feet-0 inch x 2 feet-0 inch (914 mm x 610 mm) single unit, as per requirements of architect.
				2. Test reports documenting compliance with performance requirements.
	1. ALUMINUM LOUVER
		1. Louvers shall be WinTech Series H220 or H200 (108 inches x 32 inches (2743 mm x 813 mm) Packaged Terminal Air Conditioner (PTAC) louvers.
		2. Test Units:
			1. Air, water, and structural test unit shall conform to requirements set forth in by ASTM and ANSI standards
		3. Test Procedures and Performances:
			1. Louvers shall conform to all requirements for the Louver type. In addition, the following specific performance requirements shall be met.
			2. Air Infiltration Test:
				1. With Louver closed test unit in accordance with ASTM E 283 at a static air pressure difference of 6.24 psf (299 Pa).
				2. Air infiltration shall not exceed .10 cfm/square foot (0.012 cc per minute/square centimeter).
			3. Water Resistance Test
				1. With Louver sash closed and locked, test unit in accordance with ASTM E 331/ASTM E 547 at a static air pressure difference of 10.0 (478 Pa), 12.0 (575 Pa), or 15.0 (718 Pa) psf.
				2. There shall be no uncontrolled water leakage.
			4. Uniform Load Deflection Test
				1. With Louver secured, test unit in accordance with ASTM E 330 at a static air pressure difference of 50.0 psf (2394 Pa), positive and negative pressure.
				2. No member shall deflect over L/175 of its span.
			5. Uniform Load Structural Test
				1. With Louver sash closed and locked, test unit in accordance with ASTM E 330 at a static air pressure difference of 75.0 psf (3591 Pa), both positive and negative.
				2. At conclusion of test there shall be no glass breakage, permanent damage to fasteners, hardware parts, support arms or actuating mechanisms, nor any other damage that would cause the Louver to be inoperable.
			6. Free Air Flow Percentage
				1. PTAC blades shall allow for minimum 68% Free air flow percentage as shown by physical testing or using a Free Air Flow percentage calculation.
		4. Materials:
			1. Aluminum:
				1. Extruded aluminum shall be 6063-T5 or T6 alloy and tempered.
			2. Blades:
				1. Blades shall consist of a 42 degree angle that will allow for minimum 68% Free Air Flow Calculation
			3. Blank off:
				1. 1/2 inch (13 mm) Homosote insulation captured between two skins and mechanically fastened in place.
				2. Stainless steel casement arms.
			4. Decorative Exterior Grills:
				1. 16 gauge (1.29 mm) material cut by water jet technology to match specific pattern.

\*\* NOTE TO SPECIFIER \*\* WinTech recommends that the Louver manufacturer furnish and factory glaze the louver as specified by the architect. For this reason it is desirable that Glass and Glazing be made part of this section for louvers.

* + - 1. Glass:
				1. Insulating glass shall be 1 inch (25 mm) inch over all unit thickness, manufactured by WinTech consisting of :

(\_\_\_\_) Exterior lite.

Glass spacer to be the DuraSeal high performance flexible spacer system (as manufactured by TruSeal Corp) or equal

(\_\_\_) Interior lite.

* + - 1. Louver:
				1. Shall allow for glazing into a window system with 1 inch (25 mm) over all unit thickness manufactured by WinTech consisting of :

\*\* NOTE TO SPECIFIER \*\* Delete louver not required.

H200 PTAC louver.

H220 PTAC louver.

* + 1. Fabrication
			1. General:
				1. All aluminum frame and vent extrusions shall have a minimum wall thickness of .050 inch (1.27 mm).
				2. Mechanical fasteners and hardware items shall not bridge thermal barriers.
			2. Frame:
				1. Frame components shall be mechanically fastened. All Louver frame and meeting rail horizontal to vertical corners shall be sealed with closed cell polyethylene gaskets and silicone butt seals to prevent water migration.

\*\* NOTE TO SPECIFIER \*\* Applicable only to Louvers requiring screens.

* + - 1. Screens
				1. Half screens only shall be permitted. The screen shall not be surface mounted.
				2. Screen frames shall be extruded aluminum.

\*\* NOTE TO SPECIFIER \*\* Delete screen material not required.

* + - * 1. Screen mesh shall be aluminum.
				2. Screen mesh shall be fiberglass.
			1. Glazing
				1. All units shall be glazed with the manufacturer's standard sealant process provided the glass is held in place by a removable, extruded aluminum, glazing bead. The glazing bead must be isolated from the glazing material by a gasket.
	1. ALUMINUM IMPACT LOUVERS
		1. Louvers shall be WinTech Series H220I or H200I (108 inches x 32 inches (2743 mm x 813 mm)) Packaged Terminal Air Conditioner (PTAC) impact louvers.
		2. Test Units:
			1. Air, water, and structural test unit shall conform to requirements set forth in by ASTM and ANSI standards
		3. Test Procedures and Performances:
			1. Louvers shall conform to all requirements for the Louver type. In addition, the following specific performance requirements shall be met.
			2. Air Infiltration Test
				1. With Louver closed test unit in accordance with ASTM E 283 at a static air pressure difference of 6.24 psf (299 Pa).
				2. Air infiltration shall not exceed .10 cfm/square foot (0.012 cc per minute/square centimeter).
			3. Water Resistance Test:
				1. With Louver sash closed and locked, test unit in accordance with ASTM E 331/ASTM E 547 at a static air pressure difference of 10.0 (478 Pa), 12.0 (575 Pa), or 15.0 (718 Pa) psf.
				2. There shall be no uncontrolled water leakage.
			4. Uniform Load Deflection Test:
				1. With Louver secured, test unit in accordance with ASTM E 330 at a static air pressure difference of 50.0 psf (2394 Pa), positive and negative pressure.
				2. No member shall deflect over L/175 of its span.
			5. Uniform Load Structural Test:
				1. With Louver sash closed and locked, test unit in accordance with ASTM E 330 at a static air pressure difference of 75.0 psf (3591 Pa) psf, both positive and negative.
				2. At conclusion of test there shall be no glass breakage, permanent damage to fasteners, hardware parts, support arms or actuating mechanisms, nor any other damage that would cause the Louver to be inoperable.
			6. Free Air Flow Percentage:
				1. PTAC blades shall allow for minimum 68% Free air flow percentage as shown by physical testing or using a Free Air Flow percentage calculation.
		4. Materials:
			1. Aluminum:
				1. Extruded aluminum shall be 6063-T5 or T6 alloy and tempered.
			2. Blades:
				1. Blades shall consist of a 42 degree angle that will allow for minimum 68% Free Air Flow Calculation
			3. Blank off:
				1. 1/2 inch (25 mm) Homosote insulation captured between two skins and mechanically fastened in place
				2. Stainless steel casement arms.
			4. Decorative Exterior Grills:
				1. 16 gauge (1.29 mm) material cut by water jet technology to match specific pattern.

\*\* NOTE TO SPECIFIER \*\* WinTech recommends that the Louver manufacturer furnish and factory glaze the louver as specified by the architect. For this reason it is desirable that Glass and Glazing be made part of this section for louvers.

* + - 1. Glass:
				1. Insulating glass shall be 1 inch (25 mm) over all unit thickness, manufactured by WinTech consisting of :

(\_\_\_) Exterior lite.

Glass spacer to be the DuraSeal high performance flexible spacer system (as manufactured by TruSeal Corp) or equal.

(\_\_\_) Interior lite.

* + - 1. Louver:
				1. Shall allow for glazing into a window system with 1" over all unit thickness manufactured by WinTech consisting of :

\*\* NOTE TO SPECIFIER \*\* Delete louver not required.

H200 PTAC louver.

H220 PTAC louver.

* + 1. Fabrication
			1. General:
				1. All aluminum frame and vent extrusions shall have a minimum wall thickness of .050 inch (1.27 mm).
				2. Mechanical fasteners and hardware items shall not bridge thermal barriers.
			2. Frame:
				1. Frame components shall be mechanically fastened. All Louver frame and meeting rail horizontal to vertical corners shall be sealed with closed cell polyethelene gaskets and silicone butt seals to prevent water migration.

\*\* NOTE TO SPECIFIER \*\* Applicable only to Louvers requiring screens.

* + - 1. Screens
				1. Half screens only shall be permitted. The screen shall not be surface mounted.
				2. Screen frames shall be extruded aluminum.

\*\* NOTE TO SPECIFIER \*\* Delete screen material not required.

* + - * 1. Screen mesh shall be aluminum.
				2. Screen mesh shall be fiberglass.
			1. Glazing
				1. All units shall be glazed with the manufacturer's standard sealant process provided the glass is held in place by a removable, extruded aluminum, glazing bead. The glazing bead must be isolated from the glazing material by a gasket.
			2. Impact Resistance:
				1. With Louver closed, test unit in accordance with ASTM E 1886 Air Pressure cycling at a +/- 75% of design pressure.
				2. With Louver closed, test unit in accordance with ASTM E 1996 Large Missile Impact with 2 impacts Windzone 4.
	1. FINISH

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Anodic Coating:
			1. Finish all exposed areas of aluminum louvers and components with electrolytically deposited color in accordance with Aluminum Association Designation

\*\* NOTE TO SPECIFIER \*\* Available colors are clear, champagne, light bronze, medium bronze, dark bronze & black.

* + - 1. Anodized Finish:
				1. AA-M10-C22-A41, Clear Anodized, Class 1 per 611.
				2. AA-M10-C22-A44, Color Anodized, Class 1 per 611.

Color: Dark bronze.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Organic Coating:

\*\* NOTE TO SPECIFIER \*\* S250 series only. Reference the WINTECH color brochure for assistance in color and resin selection. Custom colors are available upon request.

* + - 1. Fluoropolymer Finish:
				1. AAMA 2603.

\*\* NOTE TO SPECIFIER \*\* Delete color not required.

* + - * 1. Color: Standard bronze.
				2. Color: Standard white.

\*\* NOTE TO SPECIFIER \*\* High performance 70% PVDF fluoropolymer Ultrapon™ and 50% PVDF fluoropolymer Ultraflur™ finishes are available in standard colors. Reference the WINTECH color brochure for assistance in color and resin selection. Custom colors are available upon request.

* + - 1. Fluoropolymer Finish:
				1. AA-M12-C42-R1X, 70% PVDF Ultrapon, per AAMA 2605.
				2. AA-M12-C42-R1X, 50% PVDF Ultraflur, per AAMA 2604.
			2. Color: As selected by Architect from manufacturer's full range.
1. EXECUTION
	1. INSPECTION
		1. Job Conditions
			1. Verify that openings are dimensionally within allowable tolerances, plumb, level, clean, provide a solid anchoring surface, and are in accordance with approved shop drawings.
			2. Verify that PTAC units types and models are relayed to WinTech for proper strut and bolt locations based on PTAC manufacturer and mechanical engineer guide lines.
	2. INSTALLATION
		1. Use only skilled tradesmen with work done in accordance with approved shop drawings and specifications.
		2. Plumb and align Louver faces in a single plane for each wall plane, and erect Louvers and materials square and true. Adequately anchor to maintain positions permanently when subjected to normal thermal movement, specified building movement, and specified wind loads.
		3. Adjust Louvers for proper operation after installation.
		4. Furnish and apply sealants to provide a weather tight installation at all joints and intersections and at opening perimeters. Wipe off excess material and leave all exposed surfaces and joints clean and smooth.
	3. ANCHORAGE
		1. Adequately anchor to maintain positions permanently when subjected to normal thermal movement, specified building movement, and specified wind loads.
	4. PROTECTION AND CLEANING
		1. After completion of Louver installation, Louvers shall be inspected, adjusted, put into working order and left clean, free of labels, dirt, etc. Protection from this point shall be the responsibility of the general contractor.

END OF SECTION