SECTION 08 43 00

FIELD APPLIED DIVIDED LITE SYSTEM

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\*\* NOTE TO SPECIFIER \*\* ZippyGrid; Storefront window restoration and replacement divided lite grid products.
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This section is based on the products of ZippyGrid, which is located at:105 Ramona St.Smithville, TX 78957Toll Free Tel: 801-532-3106 Fax: 801-532-0930Email: [request info (sales@zippygrid.com)](https://arcat.com/rfi?action=email&company=ZippyGrid&message=RE%253A%2520Spec%2520Question%2520(08590zip)%253A%2520&coid=50297&spec=08590zip&rep=&fax=801-532-0930)
Web: <https://www.zippygrid.com>
 [ [Click Here](https://arcat.com/company/zippygrid-50297) ] for additional information.
ZIPPY GRID is a field applied grid system created to simulate true-divided steel sash windows, using extruded aluminum materials at an affordable price. Zippy Grid can be used both for new center set or offset storefront and for remodeling existing storefront system. Zippy Grid can also be used with new or existing stock aluminum fixed and operable casement window profiles provided by others.
When matched with the between glass grid pattern (supplied and installed with glazing by glazier) ZIPPY GRID simulates true-divided steel sash windows to enhance any storefront.
ZIPPY GRID components consist of of high quality extruded aluminum and are available with a wide range of finishes. The ZIPPY GRID system is comprised of two shapes, Perimeter Grid and Intermediate Grid. The PERIMETER GRID is designed to cover the seal around any typical storefront profile. The INTERMEDIATE GRID forms the pre-designed grid pattern.

1. GENERAL
	1. SECTION INCLUDES

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

* + 1. Field Applied Divided Lite System.
	1. RELATED SECTIONS

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

* + 1. Section 05 50 00 - Metal Fabrications.
		2. Section 07 90 00 - Joint Protection.
		3. Section 08 30 00 - Specialty Doors and Frames.
		4. Section 08 43 13 - Aluminum-Framed Storefronts.
		5. Section 08 42 36 - Balanced Door Entrances.
		6. Section 08 83 13 - Mirrored Glass Glazing.
		7. Section 08 44 23 - Structural Sealant Glazed Curtain Wall.
		8. 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. ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
		2. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
		3. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum.
		4. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels.
		5. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.
	1. DESCRIPTION
		1. Windows: Aluminum sections, factory fabricated, factory finished, factory glazed vision glass, related flashings, anchorage and attachment devices.
		2. Configuration: Conform with AAMA 101 Designations for windows required for Project; C-casement, P-projected, HP-horizontally pivoted, F-fixed non-operable sash.
	2. DESIGN / PERFORMANCE REQUIREMENTS
		1. System Design: Provide Field Applied True Divided Lite System to the configuration indicated on the Drawings.
			1. Requirements shown by details are intended to establish basic dimension of units, sight lines and profiles of members with type of grid called out.
			2. Provide for expansion and contraction within system components without detriment to appearance or performance.
			3. Assemblies shall be free from rattles, wind whistles and noise due to thermal and structural movement and wind pressure.
			4. Drain water entering joints, or route moisture occurring within system, to exterior.
			5. Not Permitted: Vibration harmonics, wind whistles, noises.
	3. 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. Preparation instructions and recommendations.
			2. Storage and handling requirements and recommendations.
			3. Installation methods.
		3. Shop Drawings: Drawings showing layout, profiles, typical detail and product components, including anchorage, accessories, finish colors and textures.
		4. Verification Samples: For each profile specified, two samples, minimum size 2 inches (51 mm) square, representing actual product, color, and finish specified.
	4. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum 3 years documented experience.
		2. Installer Qualifications: Company specializing in performing work similar to that of this section with minimum 3 years documented experience.

\*\* 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 and color are approved by Architect.
			3. Refinish mock-up area as required to produce acceptable work.
		2. Pre-Installation Meeting: Convene minimum two weeks prior to starting work of this section. Conduct pre-installation meeting to verify project requirements, substrate conditions, and manufacturer's installation instructions.
	1. DELIVERY, STORAGE, AND HANDLING
		1. Deliver materials in manufacturer's original, unopened, undamaged packaging with identification labels intact.
		2. Store products under cover in manufacturer's unopened packaging until ready for installation.
		3. Protect against damage from elements, construction activities, and other hazards before, during and after entrance installation.
	2. SEQUENCING
		1. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.
	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 absolute limits.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: ZippyGrid, which is located at:105 Ramona St.Smithville, TX 78957Toll Free Tel: 801-532-3106 Fax: 801-532-0930Email: [request info (sales@zippygrid.com)](https://arcat.com/rfi?action=email&company=ZippyGrid&message=RE%253A%2520Spec%2520Question%2520(08590zip)%253A%2520&coid=50297&spec=08590zip&rep=&fax=801-532-0930);Web: <https://www.zippygrid.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.

\*\* NOTE TO SPECIFIER \*\* Edit the following paragraphs as required and applicable to project.

* 1. MATERIALS
		1. Extruded aluminum shall be 6063-T5 alloy and temper with a minimum ultimate tensile strength of 22,000 psi. Comply with ASTM B 221.
		2. Sheet Aluminum: ASTM B 209; 5005 alloy, H15 or H34 temper.
		3. Mechanical Fasteners: Aluminum, stainless steel or other non-corrosive materials compatible with aluminum window members, trim, hardware, anchors and other components of the window units.
		4. Glazing: Coordinate with glass and glazing materials as follows:
			1. Insulated and sheet glass as specified in Section 08 83 13 - Mirrored Glass Glazing.
		5. Tape Fasteners: 3M VHB Tape. Ideal tape application range, 70 degrees F to 100 degrees F (21 degrees C to 38 degrees C). Minimum 24 hour surface and application temperatures shall be as follows:
			1. VHB 4905 clear tape 60 degrees F (15 degrees C) and rising. (Aluminum and acrylic or urethane painted surfaces)
			2. VHB 4941 gray tape 60 degrees F (15 degrees C) and rising. (Aluminum, galvanized steel, stainless steel, glass, PVC, polycarbonate, acrylic or urethane paint, polyester painted surfaces)
			3. VHB 5952 F black tape 60 degrees F (15 degrees C) and rising. (Aluminum, galvanized steel, stainless steel, glass, PVC, polycarbonate, acrylic or urethane paint, polyester painted surfaces).
			4. VHB 4943 F gray tape 32 degrees F (0 degrees C) and rising.
		6. Surface Treatment: XIAMETER OFS-6040 bifunctional silane for prepping the glass surface before application of grid system.
	2. COMPONENTS
		1. General: System is comprised of aluminum extrusions typically 1/16 inch thick and designed to cover the seal around most typical storefront and applicable casement window frames. Verify the grid required with the profiles to which it will be applied.
		2. Perimeter Grid: System is designed to cover the seal around any typical storefront, and provide a workable surface for termination of intermediate muntins and a unified appearance.
			1. P2 Perimeter: Discontinued.
			2. Perimeter: Modified Parallelogram Shape 3/4 inch wide and 11/16 inch deep.
		3. Intermediate Grid: Intermediate Grid forms the pre-designed grid pattern and is available in four shapes:
			1. Boxer: Extruded tube 1 inch wide by 1/2 inch high.
			2. Original: Trapezoid extrusion 1 inch at the base 1/4 inch at the top and 11/16 inch high
			3. IL Presidente: Trapezoid extrusion 1-1/4 inch at the base 1/2 inch at the top and 11/16 inch high
			4. Generalisimo: Trapezoid extrusion 1-1/2 inch at the base 3/4 inch at the top and 11/16 inch high
		4. Specialized Profiles:
			1. Mr. T Bar: Extruded T - 1 inch high at the base and 1/2 inch high.
			2. Flat Bar: 1inch (25mm) wide and 1/8 inch thick
	3. FINISHES

\*\* NOTE TO SPECIFIER \*\* Select one of the following color paragraphs and delete the ones not required. Note that colors required to match existing strorefront framing will require color samples provided by the Architect for matching.

* + 1. Colors:
			1. Color to match existing storefront framing sample provided by the Architect.
			2. Powdercoat color sample matching color sample provided by the Architect.
			3. Clear Anodized.
			4. Dark Bronze Anodized.
			5. Black Anodized.

\*\* NOTE TO SPECIFIER \*\* Select one or more of the following finish paragraphs and delete the ones not required.

* + 1. Shop finish aluminum window components as follows:
			1. Baked acrylic enamel organic finish electrostatically applied over pretreated aluminum. Finish shall be a one coat, one bake paint system with a .8 mil minimum overall dry film thickness and shall conform to AAMA 2603-98.
			2. High performance organic finish electrostatically applied over pretreated aluminum. Finish shall be based on 50 percent fluoropolymer resin and be applied as a two coat, two bake paint system with a 1.2 mil minimum thickness and shall conform to AAMA 2604-98. (Some colors may require a clear protective topcoat to protect the pigmented coating.
			3. High performance organic finish electrostatically applied over pretreated aluminum. Finish shall be based on 70 percent fluoropolymer resin and be applied as a two coat, two bake paint system with a 1.2 mil minimum thickness and shall conform to AAMA 2605-98. (Some colors may require a clear protective topcoat to protect the pigmented coating.
			4. Architectural Class II Anodic (204-R1) AA M12-C22-A31 Thickness to be .4 mil and shall conform to AAMA 611-98.
			5. Architectural Class I Anodic (215-R1) AA M12-C22-A41 Thickness to be .7 mil and shall conform to AAMA 611-98.
			6. Architectural Class I Anodic with electrostatically deposited color AA-M12-C22-A44. Thickness to be .7 mil and shall conform to AAMA 611-98.
1. EXECUTION
	1. EXAMINATION
		1. Do not begin installation until substrates have been properly prepared.
		2. Verify that conditions are dimensionally correct and within allowable tolerances.
		3. Verify that anchoring surface is in accordance with approved shop drawings.
		4. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
	2. PREPARATION
		1. Clean surfaces thoroughly prior to installation. Surfaces must be clean and dry.
		2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
		3. Surface Preparation:
			1. Clean overall storefront framing and glazing and dry thoroughly prior to grid installation.
			2. Immediately prior to grid installation use silane treatment for prepping the glass surface at contact surfaces before application of grid system.
			3. Mix silane concentrate with alcohol and water solution in accordance with the manufacturers instructions before application.
	3. INSTALLATION
		1. Install in accordance with manufacturer's instructions.
		2. Fabricate grid sections in accordance with the approved shop drawing.
		3. Install perimeter grid before the intermediate grid.
		4. Erection Tolerances:
			1. Limit variations from plumb and level:
				1. 1/8 inch (3 mm) in 10 feet (3 M) vertically.
				2. 1/8 inch (3 mm) in 20 feet (6 M) horizontally.
			2. Limit variations from theoretical locations: 1/4 inch (6 mm) for any member at any location.
			3. Limit offsets in theoretical end-to-end and edge-to-edge alignment: 1/32 inch (2 mm) from flush surfaces not more than 2 inches (51 mm) apart or out-of-flush by more than 1/4 inch (6 mm).
		5. Allow a tolerance of at least 1/32 inch (2 mm) at all profile intersections.
		6. Verify that glass surface is clean and uncontaminated.
		7. Apply the tape to the Perimeter Grid using 1/2 inch 3M VHB Tape. Dog-ear the backing of the tape on one end of the Grid. Apply the Grid to the glass where desired. Once in place, pull the backing of the tape off while holding the Grid in place. Using a roller, apply pressure to entire length of grid. To achieve a good bond, tape must be applied with a minimum of 15 psi of pressure. Note that grid may require 2 or 3 times that much pressure for the tape experience the required 15 psi minimum pressure required.
		8. After installing the Perimeter Grid, install the Intermediate Grid in accordance with the approved shop drawings. Apply Intermediate Grid using the same process as Perimeter Grid.
		9. Align grid sections plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent Work.
		10. Separate dissimilar materials at contact points, including metal in contact with masonry or concrete surfaces, with bituminous paint or pre- formed separators to prevent contact and corrosion.
		11. Adjust grid if required within 15 to 30 minutes of initial application with tape fasteners to glass substrate prior to curing of tape in accordance with the tape manufacturer's instructions.

\*\* NOTE TO SPECIFIER \*\* The following paragraph is optional, delete if not required.

* + 1. After Field Quality Control Inspection apply sealants between intersecting grid for tape applied grid. Sealant color to match muntins. Wipe off excess material and leave all exposed surfaces and joints clean and smooth.
	1. FIELD QUALITY CONTROL
		1. A senior experienced representative of the installer shall inspect muntins for firm adhesion of tape fasteners to glass substrate the same day as the installation and submit a written Certification of finding to the Architect.
			1. After application, the bond strength will increase as the adhesive flows onto the surface. This flow is faster at higher temperatures and slower at lower temperatures.
			2. Ultimate bond strength can be achieved more quickly (and in some cases bond strength can be increased) by exposure of the bond to elevated temperatures but not exceeding 150 degrees F (66 degrees C) for 1 hour.
	2. CLEANING
		1. Protect installed products until completion of project.
		2. After installation, remove all sealants, caulking, and other materials from all surfaces, including adjacent work.
		3. Remove temporary coverings and protection of adjacent work areas. Repair or replace damaged installed products.
		4. Thoroughly clean window frames, casings, and glass using materials and methods recommended by the window and glass manufacturer that do not cause defacement of work.
		5. Remove construction debris from project site and legally dispose of debris.
	3. PROTECTION
		1. Protect installed products until completion of project.
		2. Protect aluminum from damage from grinding and polishing compounds, plaster, lime, acid, cement, or other harmful contaminants.
		3. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION