GUIDE SPECIFICATION

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CURTAIN WALL SERIES B2500

Inside Glazed Curtain Wall System (Shear Block)

Air Infiltration: (ASTM E283)	0.06 cfm/ft^2 of fixed wall area
Water Resistance: (ASTM E331)	No Leakage at 15.00 psf
Uniform Load Deflection: (ASTM E330)	Deflection under design load shall not exceed L/175 for spans less than 162” Deflection under design load shall not exceed L/240 +1/4” for spans greater than 162”
Thermal Break:	Yes
Sight line Main Frame Width:	2 1/2”
Glazing Thickness:	1” - Nominal

Boyd Manufacturing Company has prepared this guide specification in printed and electronic media, as an aid to specifiers in preparing written construction documents for commercial single hung aluminum windows. For specification assistance on specific product applications, please contact our offices. Boyd Aluminum Manufacturing Company reserves the right to modify these specifications and details at any time. Updates to these guide specifications and details will be posted to our web site and/or in printed matter as they occur. Boyd Aluminum Manufacturing Company makes no expressed or implied warranties regarding content, errors, or omissions in the information presented.

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SECTION 084413 – GLAZED ALUMINUM CURTAIN WALL
Boyd Series B2500 Inside Glazed Curtain Wall System

PART 1 – GENERAL

1.1 WORK INCLUDED

A. Furnish and install architectural aluminum curtain wall complete with related components as shown on drawings and specified in this section.

B. Curtain Wall System shall be Boyd Aluminum Series B2500 Inside Glazed Curtain Wall System. Other manufacturers requesting approval to bid their product as an equal must submit the following information fifteen days prior to close of bidding.

1. A proposal drawing showing full size details of all curtain wall components including all anchors and building attachments.
2. Test reports documenting compliance with requirements of Section

C. Glass

1. Reference Section 08 81 00 for Glass and Glazing.

D. Single Source Requirement

1. All products listed in Section 1.2 shall be by the same manufacturer.

1.2 RELATED WORK

A. Section 08 32 13 – Sliding Aluminum – Framed Glass Doors
B. Section 08 41 13 – Aluminum – Framed Entrances and Storefronts
C. Section 08 51 13 – Aluminum Windows
D. Section 10 71 13 – Exterior Sun Control Devices

1.3 LABORATORY TESTING AND PERFORMANCE REQUIREMENTS

A. Test Units

1. Air, water, and structural test unit size shall be a minimum of 10’ x 10’ of two lites high and two lites wide.
2. Thermal test unit sizes shall be 80" (2032 mm) wide x 80" (2032 mm) high with one intermediate vertical mullion and two lites of glass.

B. Test Procedures and Performance

1. Air Infiltration Test
   a. Test unit in accordance with ASTM E 283 at a static air pressure difference of 6.24 psf (300 Pa).
   b. Air infiltration shall not exceed .06 cfm/ft^2 (.31 l/s•m^2) of fixed wall area.

2. Water Resistance Test
   a. Test unit in accordance with ASTM E 331.
   b. The test for static water penetration (ASTM E 331) shall be conducted at an air pressure difference of 15.0 psf (720 Pa). There shall be no water leakage as defined by AAMA 501.1, paragraph 5.5.

3. Uniform Load Deflection Test
   a. Test in accordance with ASTM E 330.
   b. Deflection under design load shall not exceed L/175 for spans less than 162" (4114 mm).
   c. Deflection under design load shall not exceed L/240 +1/4” (6 mm) for spans greater than 161" (4089 mm).

4. Uniform Load Structural Test
   a. Test in accordance with ASTM E 330 at a pressure 1.5 times the design wind pressure
   b. At conclusion of the test there shall be no glass breakage, permanent damage to fasteners, curtain wall parts, or any other damage that would cause the curtain wall to be defective.

5. Condensation Resistance Test (CRF)
   a. Test unit in accordance with AAMA 1503.1.

6. Thermal Transmittance Test (Conductive U-Factor)
   a. Conductive thermal transmittance (U-Factor) shall not be more than ___ BTU/hr•ft^2•°F

C. Project Wind Loads

1. The system shall be designed to withstand the following loads normal to the plane of the wall:
   a. Positive pressure of ___ psf (___ Pa) at non-corner zones.
   b. Negative pressure of ___ psf (___ Pa) at non-corner zones.
   c. Negative pressure of ___ psf (___ Pa) at corner zones.

1.4 SUBMITTALS

A. General: Submit in accordance with Division 1.

B. Product Data: Submit for Curtain Wall

1. Include information for factory finishes, glass, glazing components, accessories, and other required components.
2. Include information on hardware and operators.
3. Submit certified test reports from AAMA accredited laboratories verifying all performance requirements specified herein.

C. Shop Drawings: Indicate elevations, detailed design, dimensions, member profiles, joint locations, arrangement of units, and member connections.

1. Anchorage system.
2. Interfacing with building constructions.
3. Full-size details of special and typical shapes.
4. Indicate glazing details and sealant requirements.
5. Show finishes indicating compliance with the specifications.
6. Indicate recorded field measurements on final drawings as available.

D. Samples: Indicate quality of finish on alloys used.

1. Where normal texture or color variations are expected, include additional samples illustrating range of variation.

E. Samples of Verification: Submit samples of anchors, fasteners, hardware, assembled corner sections, and other materials and components if requested by the architect.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: Certified in writing that installer has experience on at least five projects of similar nature in past five years. The installer shall warrant the satisfactory performance of the curtain wall installation which includes, but is not limited to, installation accessories (glazing, perimeter sealing), and anchorage as called for by the specifications and approved shop drawings

1.7 DELIVERY, STORAGE, AND HANDLING

A. Protect glass and glazing to prevent chipping, cracking, and other similar damages.

D. Protect finished surfaces to prevent damage.

E. Do not use adhesive papers or sprayed coatings which become firmly bonded when exposed to sun.

F. Do not leave coating residue on surfaces.

G. Protect the Curtain Wall units from lime, mortar, runoff from concrete and copper, careless handling of tools, weld platter, acids, roofing tar, solvents, abrasive cleaners, and other items that could damage the Curtain Wall units.

1.8 WARRANTY

A. Total Curtain Wall Installation

1. The responsible contractor shall assume full responsibility and warrant for one year the satisfactory performance of the total curtain wall installation. This includes the glass (including insulated units), glazing, anchorage and setting system, sealing, flashing, etc. as it relates to air, water, and structural adequacy and the specifications and approved shop drawings.
2. Any deficiencies due to such elements not meeting the specifications shall be corrected by the responsible contractor at their expense during the warranty period.

B. Warranty Period: 3-year after delivery of product, additional warranty available up to 10 years.

C. Warranty Period for Glass: 10-years after delivery of product

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Boyd Aluminum Manufacturer Co. Inc., Springfield, MO (800) 737-2800.

1. Series B2500 Inside Glazed Curtain Wall System

B. Subject to compliance with Section 1.4 manufacturers offering equal products may be incorporated in the work.

2.2 MATERIALS

A. Aluminum

1. Extruded aluminum shall be 6063-T6 alloy and temper.

B. Glass

1. Ship open for 1” Insulated glass with a center of glass U-Factor of ___ constructed as follows:
   a. Exterior lite - ___ thick, ___ color, ___ glass (annealed, H.S. Temp), with a surface coating of ___ on the number ___ (1 or 2) surface.
   b. Air space of ___ inch (or argon filled).
   c. Interior lite - ___ thick, ___ color, ___ glass (annealed, H.S. Temp), with a surface coating of ___ on the number ___ (3 or 4) surface.

OR

1. Ship open for monolithic glass by others
   a. Exterior lite - ___ thick, ___ color, ___ glass (annealed, H.S. Temp), with a surface coating of ___ on the number ___ (1 or 2) surface.

C. Anchors

1. Perimeter and floor line anchors shall be aluminum or steel. All steel anchors shall be properly insulated from the aluminum.

D. Thermal Barrier

1. The thermal barrier shall be extruded EPDM used as an applied thermal isolator.

2.2 FABRICATION

A. General

1. All aluminum vertical and horizontal main frame extrusions shall have a minimum wall thickness of .125" (3 mm).

B. Frame

1. Frame components shall be mechanically fastened by means of extruded aluminum shear blocks attached to vertical mullions.
2. Curtain wall system is able to accommodate separate interior and exterior finishes and colors.

C. Glazing

1. Structural silicone glazed sections shall be structurally glazed consisting of an interior dense silicone preset spacer and a continuous structural silicone joint. The structural silicone joint shall be a nominal size of .250" (6.35 mm) x .500" (12.7 mm) and maintain a 20 psi structural adhesion strength as recommended by the silicone manufacturer.
2. Pressure glazed sections shall be dry glazed with an exterior aluminum pressure plate and snap cover with interior and exterior dense EPDM preset gaskets.

2.6 FINISHES

A. Clear Anodized, Class I: Etched, medium matte, clear anodic coating, 0.7 mil thickness. Meeting AAMA 611-98 and AA-M12C22A41.

B. Color Anodized Class I: Etched, medium matte, colored anodic coating, 0.7 mil thicknesses. Meeting AAMA 611-98 and AA-M12C22A44.

1. Standard Color: Color as selected by architect from window manufacturer's full range of standard colors.

   a. Dark Bronze

2. Custom Colors: Color selected by architect from window manufacturer's full range of custom colors.

   a. Light Bronze
   b. Medium Bronze
   c. Black

C. Fluorocarbon, High Performance Paint Coating: Color as selected from manufacturer's full range of colors by architect. Fluorocarbon spray coating shall be applied by a licensed applicator.

1. Fluorocarbon 2-Coat System: Inhibitive primer and fluoropolymer color top coating of not less than 70 percent polyvinylidene fluoride complying with AAMA 2605 or AAMA 2604. Prepare and pre-treat metal surfaces to comply with paint manufacturer's instructions.
2. Fluorocarbon 3-coat System: Inhibitive primer, fluoropolymer color coating, and clear fluoropolymer top coating complying with AAMA 2605. Fluoropolymer color and clear coats shall not have less than 70 percent polyvinylidene fluoride. Prepare and pre-treat metal surfaces to comply with paint manufacturer's instructions.

D. High Solids Paint Coating: A high solids coating shall be applied by a licensed applicator and shall meet AAMA 2603 specifications.

1. Standard Colors: Color as selected by architect from window manufacturer's full range of standard colors. Prepare and pre-treat metal surfaces to comply with paint manufacturer's instructions.
2. Custom Colors: Color as selected by architect from paint manufacturer's full range of colors. Prepare and pre-treat metal surfaces to comply with paint manufacturer's instructions.

PART 3 – EXECUTION

3.1 INSPECTION

A. Verify that openings are dimensionally within allowable tolerances, plumb, level, and clean. Provide solid anchoring surfaces that are in accordance with approved shop drawings.

B. Verify that the opening into which the curtain wall will be installed is the correct size to permit installation of the new curtain wall according to the manufacturer's installation instructions.

C. Do not install curtain wall until unsatisfactory conditions are corrected.

3.2 INSTALLATION

A. Install curtain wall with skilled tradesperson in exact accordance with approved shop drawings.

B. Aluminum that is not organically coated shall be insulated from direct contact with steel, masonry concrete or noncompatible materials by bituminous paint, zinc chromate primer, or other suitable insulating material.

C. Install vapor retardant tape between window perimeter and adjoining collateral materials and existing wall barriers to insure continuity.

D. Plumb and align curtain wall faces in a single plane for each wall plane. Erect square and true. Anchor to maintain position when subjected to normal thermal and building movement (seismic forces), and specified wind loads.

E. Install glass and glazing in accordance with approved shop drawings to provide satisfactory, leak-free installation.

F. Perimeter Sealing: Seal joints at the perimeters in accordance with approved shop drawings to provide watertight installation.

1. Joints and surfaces to receive sealants shall be clean, free from loose material, free of effervescence or mortar leaking, and dry. Sealants shall not be applied when the temperature is below the sealant manufacturer's instructions.
2. Clean the joints and surfaces before sealing or priming. Then prime the joints in accordance with the sealant manufacturer's instructions.
3. Provide joint backing in all joints where a suitable backer to receive sealant is otherwise not available. Joint depth shall be equal to ½ of the width.

4. Caulk joint width shall not be less than ¼ inch not more than ½ inches unless otherwise recommended by the sealant manufacturer. Wipe off the excess material and leave the exposed surfaces and joints clean and smooth.

3.3 ADJUSTING

A. After installation, curtain wall and glazing shall be inspected and adjusted to provide smooth operation and a weathertight system.

3.4 CLEANING

A. After installation, leave curtain wall clean and free of temporary labels and dirt. Protect finished installation against damage.

B. Final cleaning of the anodized finish shall be in accordance with AAMA 690.1.

C. Final cleaning of the painted finish shall be in accordance with AAMA 610.1.

END OF SECTION 084413