

Boyd Aluminum Manufacturing Company
P.O. Box 1565
3248 E. Division Street
Springfield, MO 65801-1565
800-737-2800
417-862-1232 fax
boydaluminum.com

STOREFRONT SERIES B450

Shear Block

Air Infiltration: (ASTM E283-04)	0.05 cfm/ft at 6.24 psf
Water Resistance: (ASTM E331-09) (ASTM E547-09)	No Leakage at 10 psf
Uniform Load Deflection: (ASTM E330-10)	25 psf
Thermal Break:	Yes
Main Frame Depth:	4 1/2"
Glazing Thickness:	1"

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 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

Let's Shine.

800.737.2800 • fax 417-862-1232 • BoydAluminum.com

©2014 Boyd Aluminum Manufacturing. The Boyd sunburst and logotype are trademarks of Boyd Aluminum Manufacturing. All rights reserved. Due to continued product research, specifications are subject to change without notice.

SFGS-B450sb-1

062514

SECTION 08 41 13 ALUMINUM – FRAMED ENTRANCES and STOREFRONTS

System B450 Thermal Flush-Glazed Shear Block Storefront

PART 1 GENERAL**1.01 Work Included**

- A. Furnish and install aluminum architectural storefront system complete with hardware and related components as shown on approved drawings and specified in this section.
- B. All storefront systems shall be Boyd System B450 Thermal Flush-Glazed Shear Block Storefront. 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 sample storefront system (size and configuration) as per requirements of architect.
 - 2. Test reports documenting compliance with requirements of Section 1.02.
- C. Glass
 - 1. Reference Section 08 81 00 for Glass and Glazing.

1.02 Laboratory Testing and Performance Requirements

- A. Test Units
 - 1. Air, water, and structural test unit size shall be a minimum of three lites high and three lites wide.
 - 2. Thermal test unit sizes shall be 79" (2000 mm) wide x 79" (2000 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 .05 cfm/SF (.26 l/s•m²) of unit.
 - 2. Water Resistance Test
 - a. Test unit in accordance with ASTM E 331.
 - b. There shall be no uncontrolled water leakage at a static test pressure of 10.66 psf (510 Pa).
 - 3. Uniform Load Deflection Test
 - a. Test in accordance with ASTM E 330.
 - b. Deflection under design load shall not exceed L/175 of the clear span.
 - 4. Uniform Load Structural Test
 - a. Test in accordance with ASTM E 330 at a pressure 1.5 times the design wind pressure in 1.02.B.3.b.
 - b. At conclusion of the test, there shall be no glass breakage, permanent damage to fasteners, storefront parts, or any other damage that would cause the storefront to be defective.
 - 5. Condensation Resistance Test (CRF)
 - a. Test unit in accordance with AAMA 1503.
 - b. Condensation Resistance Factor (CRF) shall not be less than (CRF Class 60)
 - 6. Thermal Transmittance Test (Conductive U-Factor)
 - a. With ventilators closed and locked, test unit in accordance with NFRC.
 - b. Conductive thermal transmittance (U-Factor) shall not be more than ___ BTU/hr•ft²•°F (___ W/m²•K) when glazed with ___ center of glass U-Factor. (See chart at end of section). (U-Value to be determined by glazing choice)

1.03 Quality Assurance

- A. Provide test reports from AAMA accredited laboratories certifying the performance as specified in 1.05.

1.04 Submittals

- A. Contractor shall submit shop drawings; finish samples, test reports, and warranties.
 - 1. Reasonable samples of materials as may be requested without cost to owner.
 - 2. The NFRC Component Modeling Approach (CMA) generated label certificate shall be provided by the manufacturer.

1.05 Warranties

- A. Complete Storefront Installation:
 - 1. This is the responsibility of the contractor to assume full responsibility and warrant for one year the performance of the total storefront installation. This is not limited to but includes the glass, 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. 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. Window Material and Workmanship
 - 1. Provide written guarantee against defects in material and workmanship for ___ years from the date shipment is complete.
- C. Glass
 - 1. Provide written warranty for insulated glass units.
- D. Finish
 - 1. Warranty period shall be for ___ years from the shipment date.
 - 2. Provide organic finish warranty based on AAMA standard 2604 <OR>2605

PART 2 PRODUCTS**2.01 Materials**

- A. Aluminum
 - 1. Extruded aluminum shall be 6063-T6 alloy and temper.
- B. Glass
 - 1. Ship open for 1" Glazing. (Please Supply Full Glazing make up regardless of open option for performance evaluation.)
<OR>
 - 1. Supply 1" Glazing: (Define all layers and surfaces.)
- C. Thermal Barrier

All exterior aluminum shall be separated from interior aluminum by a rigid, structural thermal barrier. Barrier material shall be poured-in-place, two-part polyurethane. A nonstructural thermal barrier is unacceptable.

2.02 Fabrication

- A. General
All aluminum frame extrusions shall have a minimum wall thickness of .080" (2 mm).
- B. Frame
 - 1. Depth of frame shall not be less than 4 1/2" (114 mm).
 - 2. Face dimension shall not be less than 2" (50 mm).
 - 3. Frame components shall be shear block construction.
- C. Glazing
 - 1. All units shall be "dry glazed" with gaskets on both exterior and interior of the glass.
- D. Finish
 - 1. Anodic
 - a. Finish all exposed areas of aluminum windows and components with electrolytically deposited color in accordance with Aluminum Association Designation AA-M10-C22- ____ Color shall be ____.

AA Description	Description	Arch. Class	AAMA Guide Spec.
AA-M10-C22-A41 (215-R1)	Clear Anodized	1	611-98
AA-M10-C22-A44	Color Anodized	1	611-98

- 2. Organic
 - a. Finish all exposed areas of aluminum windows and components with _____. Color shall be ____ in accordance to AAMA 2604 <OR> AAMA 2605

PART 3 EXECUTION
3.01 Inspection

- A. Job Conditions
 - 1. All openings to be prepared by others to the proper size and be plumb, level and the proper location as shown on the architect's drawings.

3.02 Installation

- A. Use Qualified and Skilled installers in accordance with approved shop drawings and specifications.
- B. Storefront system should be erected plumb and true, as established bench marks, lines and grades per the Shop Drawings.
- C. Entrance doors shall be securely anchored in place, plumb and level. Check components and make adjustments for proper operation and performance of units.
- D. Furnish and apply sealants to provide a weather tight installation at all joints and intersections and at opening perimeters per sealant manufacturers instructions.
- E. Sealing materials specified shall be used in strict accordance with the manufacturer's instructions. All surfaces must be clean and free of foreign matter before application. Sealing compounds shall be tooled to fill the joints and provide an asthetically acceptable finish.

3.03 Protection and Cleaning

- A. The general contractor shall protect the aluminum materials and finish against damage from adjacent construction and harmful chemicals and substances. The general contractor shall remove any protective coatings, and shall clean the component and aluminum surfaces as recommended.

End of Section 08 41 13