

## Product Evaluation

SHU245 | 0422

Engineering Services Program

The following product has been evaluated for compliance with the wind loads specified in the International Residential Code (IRC) and the International Building Code (IBC).

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

For more information, contact TDI Engineering Services Program at (800) 248-6032.

**Evaluation ID:** SHU-245

**Effective Date:** April 1, 2022

**Re-evaluation Date:** April 2026

**Product Name:** Bertha HV Essential Accordion Shutter

<b>Manufacturer:</b> American Shutter Systems Association, Inc. 4268 West Roads Dr. West Palm Beach, FL 33407 (561) 841-5480	Eastern Metal Supply 9400 Telge Road Houston, TX 77095 (800) 996-6061
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### General Description:

The accordion shutters are manufactured of extruded aluminum and are assembled using extruded aluminum interlocking blades. The blades are referred to as HV Blade 1, HV Window Blade 1A, and HV Blade 2.

The shutters may be wall mounted or floor/ceiling mounted with variations of each type of installation. The shutters must be installed in accordance with design drawings referenced in this evaluation report.

### Limitations:

#### Design Drawings:

"Bertha HV Essentials Accordion Shutter;" manufactured by American Shutter Systems Association, Inc.; Drawing No. 20-31274; Sheets 1–15 of 15; dated January 8, 2020; Revised October 8, 2020, signed, sealed, and dated November 2, 2021, by Frank L. Bennardo, P.E. The stated drawings will be referred to as approved drawings in this report.

**Accordion Configurations:** The accordion shutters are installed as single span units.

**Mounting Conditions:** The accordion shutters may be wall mounted or floor/ceiling mounted with variations of each type of mounting condition. Refer to the approved drawings for specific mounting conditions.

**Wall Construction:** The accordion shutters may be mounted to the following types of wall framing:

- Pre-cast concrete, cast-in-place concrete (minimum compressive strength required specified in drawings)
- Grout-filled concrete masonry units (ASTM C-90)
- Hollow concrete masonry units (ASTM C-90)
- Wood (minimum Spruce-Pine-Fir dimension lumber, minimum S.G. = 0.42).

**Allowable Design Pressure:** The allowable design pressure is a function of slat span, mounting condition, anchors, and substrate. Refer to the approved drawings for the allowable design pressure. The maximum allowable design pressure is +/-80.0 psf.

**Maximum Shutter Span:** The maximum allowable shutter span is a function of blade type, design pressure, mounting conditions, and installation method. Refer to the span schedules in the approved drawings for allowable shutter spans for specific configurations.

**Maximum Width:** The allowable shutter width is unlimited.

**Minimum Separation from Glass:** The shutter system is a non-porous impact protective system. For basic protection, there is no minimum separation of glazing. For essential facilities follow the guidelines for glass separation and use as specified in the approved drawings.

**Product Identification:** The shutter assembly has a permanent label that indicates the manufacturer (either American Shutter Systems Association, Inc., West Palm Beach, FL or Eastern Metal Supply of Texas); the name of the product (Bertha Essential Accordion Shutter); the test standards: ASTM E 330-14; ASTM E 1886-13a, and ASTM E 1996-14a; and the missile level (Missile Level D).

**Impact Resistance:** This accordion shutter assembly satisfies the Texas Department of Insurance's criteria for protection from windborne debris. The assembly passed Missile Level D specified in ASTM E 1996-14a. The assembly may be installed at any height on the structure as long as the design pressure rating for the assembly is not exceeded. For essential facilities located in Wind Zone 2, the shutters may be installed at any height above ground level. For essential facilities located in Wind Zone 3, the shutters must be installed at heights greater than 30 feet above ground level.

**Installation:**

**General Installation Requirements:** The accordion shutters must be installed in accordance with the manufacturer's installation instructions, the approved drawings, and this product evaluation report. Copies of the approved drawings must be available on the jobsite during inspection of the shutter assembly.

**Anchorage:** The accordion shutters must be anchored to the structure in accordance with the approved drawings. Anchorage of the accordion shutters to concrete, grout-filled CMU, hollow CMU, and wood wall framing must follow the mounting conditions and fastener options specified on the approved drawings.

**Note:** Keep the manufacturer's installation instructions available on the job site during the installation. Use corrosion resistant fasteners as specified in the IRC and the IBC.