

# Safety Venting

Model ERP-IC

08/23/2024

Suggested Specifications | Section 08 95 16

## PART 1 GENERAL

- A. Furnish all pressure relief panels, frames, and attachment hardware necessary to complete the work as indicated on the drawings, and as described in the specifications.

### 1.02 Related Sections

- A. Steel Framing Section
- B. Flashing and Sheet metal Section
- C. Sealants Section

### 1.03 References

- A. Aluminum Association, Section 1, Specifications for Aluminum Structures.
- B. AAMA-2605-5 Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.
- C. ASTM-D35 Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Self-supporting Plastics in Horizontal Position.
- D. ASTM-E-84 Standard Test Method for Surface Burning Characteristics of Building Materials.
- E. NFPA 68 Guide for Venting of Deflagrations, 2007 Edition.
- F. Factory Mutual Engineering Corporation, 1-44, Damage-Limiting Construction, July 1991.

### 1.04 System Description

- A. Pressure relief panel system shall be designed, and shop calibrated to release at a static pressure differential between interior and exterior of \_\_\_ lb./ft<sup>2</sup> ( \_ pascals)  $\pm$  10%.  
**(20 PSF Recommended as per NFPA 68 and IFC Section 911.2.5)**
- B. The panels and structure supports shall be designed to withstand a maximum wind load of 30 lb./ft<sup>2</sup> (1436 pascals). Note: Contact Construction Specialties Company if a higher loading requirement is needed.
- C. Each panel shall be equipped with a restraint/hold open mechanism designed to cushion the panel's deceleration as the full open position is reached; and to minimize the development of a vacuum in the enclosure when the heated gases cool.
- D. Panels shall have been tested by Factory Mutual or CANMET (Canada Centre for Mineral and Energy Technology). Dynamic test data shall demonstrate that the panel release, restraint, and hold open mechanisms performed properly, the panels were not structurally damaged, and the panels could be reset. In addition, the test data shall include all pertinent operating conditions under which the test was conducted including static release pressure and the additional pressure rise within the chamber.
- E. System design shall allow for non-destructive testing in the field to verify that the panels release at the specified static design pressure.
- F. The panel pressure relief system shall allow for manual (or semi-automatic) retrieval after release.
- G. The weight of the fabricated panel shall not exceed 2.5 lb./ft<sup>2</sup> (12.2 kg/m<sup>2</sup>).

### 1.05 Submittals

- A. The manufacturer shall submit complete shop drawings for approval prior to fabrication. Drawings shall show product location, fabrication details, specified static release loads, and static release forces.
- B. Installation instruction instructions shall be submitted with the shop drawings.

### 1.06 Quality Testing

- A. The panel system shall be produced by a manufacturer regularly engaged in manufacture of similar products and with a verifiable history of successful product applications.
- B. Products equal to this specification in design, performance, and testing shall be considered provided they are submitted for approval at least 10 days prior to bid date. Submittal for approval shall include product literature, details, product samples, and verification of non-destructive field-testing capabilities. Failure to comply with these requirements shall be cause for rejection. Aluminum Association, Section 1, Specifications for Aluminum Structures.
- A. AAMA-603 Voluntary Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions.
- B. ASTM-D35 Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Self-supporting Plastics in Horizontal Position.
- C. ASTM-E-84 Standard Test Method for Surface Burning Characteristics of Building Materials.
- D. NFPA 68 Guide for Venting of Deflagrations, 1999 Edition.
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#### 1.07 Limited Warranty

- A. Manufacturers shall provide limited warranty that the units provided will be free of defects in materials and workmanship for a period of one (1) year from date of substantial completion.

### PART 2 PRODUCTS

#### 2.01 Manufacturers

- A. Explovent® Basis of Design – manufactured by Construction Specialties subject to compliance with requirements listed. The grilles and related materials herein specified and indicated on the drawings shall be manufactured by: Construction Specialties, 3 Werner Way, Lebanon, NJ 08833. Tel: 800.233.8493. Email: [cet@csgroup.com](mailto:cet@csgroup.com). No substitutions.
- B. Each panel shall be shop calibrated and tested for proper operation and for release at the design loads specified on the approved drawing.
- C. All panels shall be permanently marked with the design release pressure and the maximum static release force.
- D. Manufacturer shall have complete in-house finishing capabilities.

#### 2.02 Materials

- A. Panels shall be .63" (16mm) thick translucent solar grade polycarbonate extruded structured sheet. Material shall be classified as CC-2 per ASTM-D635. Color to be clear.
- B. Panel framing components shall be .063" (1.6mm) 6063-T52 alloy extruded aluminum.
- C. All fasteners shall be aluminum or stainless steel.
- D. Exterior panel gaskets shall be a pile fiber type with a continuous polypropylene center fin.
- E. Interior gaskets shall consist of open cell compression foam and clad with a polyethylene liner.

#### 2.03 Fabrication

- A. Fabricate the pressure relief panels model ERP-T-IC or ERP-B-IC to the sizes shown on the approved shop drawings. *[Specifier note: select ERP-T-IC for top hinge or select ERP-B-IC for bottom hinge].*
- B. Panels shall be top or bottom hinged as detailed.
- C. All panels, frames, and release mechanisms shall be factory assembled in units and shipped to the job site.

- D. Head, sill, jamb, and mullion frame members to be one piece extruded aluminum structural members as detailed, and to have integral caulking slots. Mullions to be two-piece interlocking assemblies, which allow for expansion and contraction, and for individual panel removability.
- E. All panels shall have exterior pile gaskets and interior compression (or magnet) gaskets to minimize air leakage and water entrainment when closed.
- F. The release mechanism shall be mounted to the panel frame and shall be shop calibrated and tested for the design loads specified on approved drawings.

#### 2.02 Factory Finishing

- A. To be 100% Fluoropolymer Resin Powder Coat – Finished to meet or exceed all AAMA 2605-5 criteria.
- B. Color to be selected from manufacturers standard color selection.

### PART 3 EXECUTION

#### 3.01 Installation

- A. The vents must be installed in accordance with shop drawings, the installation instructions, and any special instructions on the shop drawing.
- A. Fabricate the pressure relief panels model ERP-T-PC or ERP-B-PC to the sizes shown on the approved shop drawings.
- B. Panels shall be top or bottom hinged as detailed.
- C. All panels, frames, and release mechanisms shall be factory assembled in units and shipped to the job site.
- D. Head, sill, jamb, and mullion frame members to be one piece extruded aluminum structural members as detailed, and to have integral caulking slots. Mullions to be two-piece interlocking assemblies, which allow for expansion and contraction, and for individual panel removability.
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