

December 19, 2012

**EVALUATION REPORT No.:**

**ER-12-0005**

**Reference No.:** 32038

**Product:** Exterior Doors - Rolling Overhead Doors  
Impact Resistant Door, C20P slat

**Manufacturer:** Cornell Iron Works  
24 Elmwood Avenue  
Mountaintop, PA 18707

**Statement of Compliance:**

The Rolling Overhead Doors described in this report were evaluated to be in compliance with the 2010 Florida Building Code. The doors are, for the purpose intended, at least equivalent to that required by the Code when manufactured and installed as described below.

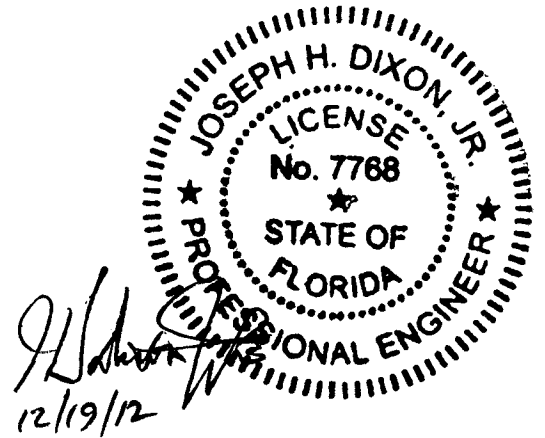
**Description of the Product:**

The doors described in this report consist of a curtain made of interlocking formed steel slats suspended from a drum roller. The slats are approximately  $2\frac{3}{8}$  inches net height in the curtain position. All doors in this report are made using C20P flat slats.

The curtain on all models is suspended from a drum roller, and coiling the curtain around the drum raises the curtain. The sides of the curtain are constrained from lateral movement along their vertical edges by steel guides that are attached to the door jambs. This constraint provides resistance to lateral wind forces. Various guide configurations are used for the different door styles included in this report. The lateral wind forces are transferred from the curtain to the guides and then through the attachment elements to the door jamb. The door jambs are part of the main wind frame resisting system and usually are constructed of steel, concrete, or concrete masonry units (CMU).

The doors are fully described on the Cornell drawing, Dwg. No. ES 16 49a-CIW, sheets 1 through 3 dated 12/12/12. The slat used for the test door was a C20P slat with a design steel thickness of 0.0296 inches. Slats with greater thickness may be used. The depth of the formed slat is  $\frac{3}{4}$  " for all C20P slats. The door height may be extended to a maximum of 30 feet. Windlocks were attached to each slat.

Slats may be manufactured using galvanized steel sheet, ASTM A653 SS, grade 40, ASTM A653 HSLAS, grade 40 or ASTM A653 HSLAS-F, grade 40. Stainless steel slats may be manufactured using Type 201, 304, 316, or 430, with a minimum yield strength of 40,000 psi.



**Technical Documentation:**

The following door tests were conducted by Architectural Testing, Inc., York, Pennsylvania

**Florida Codes, TAS 201-94, Impact Test Procedures**

**Florida Codes, TAS 202-94, Criteria for Testing Impact & Nonimpact Resistant Building Envelope Components using Uniform Static Air Pressure**

**Florida Codes, TAS 203-94, Criteria for Testing Products Subject to Cyclic Wind Pressure Loading**

Test Report No.: B8848.01-109-18 dated 08/09/12.  
25'-4" wide opening, 0.0296" slat thickness, C20P slat, +/- 60 psf design wind load

Calculated forces on the jamb produced by the wind load on the door are shown on the drawing. Calculations dated 12/15/12 (29 pages) were prepared by Joseph H. Dixon, Jr. P.E.

**Installation Requirements:**

Installation requirements are described in the document "Cornell, Service Door (Insulated and Non-Insulated) Installation Instructions, ES 10-341, Rev. 1, 2011-12-12".

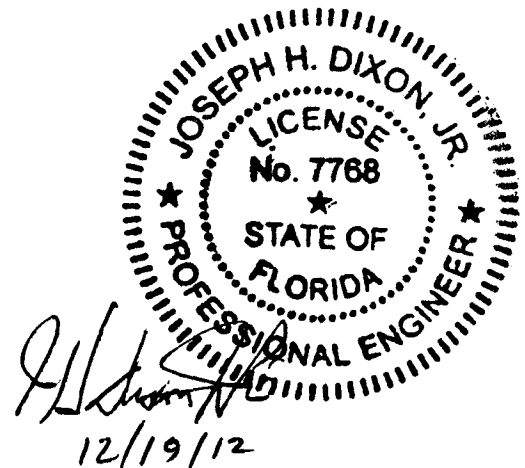
**Limitations and Conditions of use:**

The use of the door is limited to buildings for which the design wind loads for wall components and cladding, determined in accordance with Section 1609 of the 2010 Florida Building Code, do not exceed the rated design wind load of the door, +/- 60 psf

The maximum design wind load for door openings less than 25'-4" shall be the same as that of the test door, +/- 60 psf. Door openings greater than 25'-4" are not included in this approval. The maximum height for all doors is limited to 30 ft.

The doors covered by this report are not for use in the Florida High Velocity Hurricane Zone but are rated as impact resistant.

Door manufacturing is limited to those plants that have met the 2010 Florida Building Code Product Approval quality assurance requirements.



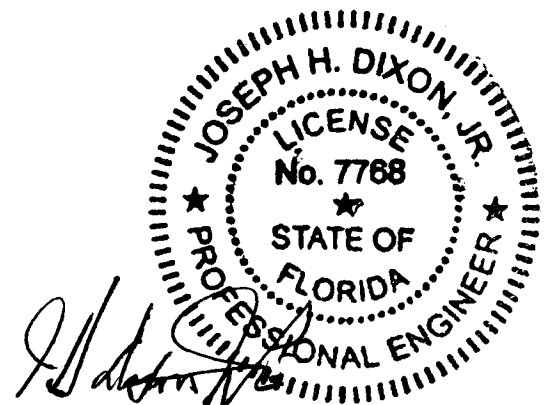
**Certification of Independence:**

I, Joseph H. Dixon, Jr., certify that I am self-employed and operate as an independent contractor providing professional engineering services. I have no financial interest in nor will I acquire any financial interest in any company manufacturing or distributing products for which evaluation or validation reports have been issued by me.

Likewise, I have no financial interest in nor will I acquire any financial interest in any other entity involved in the approval process of those products for which I have issued reports.



Joseph H. Dixon, Jr. P.E.



12/19/12