

Evaluation of Fibersteel Entry Door - 23-DrJ-0291
October 16, 2023

Mr. Brian Long
Morton Buildings, Inc.
252 W Adams St
PO Box 399
Morton, IL 61550

Re: Evaluation of Fibersteel Entry Door

Dear Mr. Long:

DrJ Engineering, LLC (DrJ) has been asked to provide a Florida professional engineering accepted engineering evaluation review with respect to the Fibersteel Entry Door. This work has been performed pursuant to DrJ's areas of expertise. The purpose of the DrJ review is to provide an engineering assessment of the conformance of the Fibersteel Entry Door with the 2023 Florida Building Code (FBC).

Fibersteel Entry Door conform to Section 1709.5.2 of the 2023 FBC. The door was tested via ASTM E330: Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference by Architectural Testing, Inc.'s facility in St. Paul Minnesota. The door contains a 35" tall, 21" wide and $\frac{3}{4}$ " thick high performance insulating glass panel that was set from the interior against butyl tape. This panel is created from two $\frac{1}{8}$ " tempered sheets and a desiccant-filled metal spacer system. The door leaf has a $1\frac{3}{4}$ " foam core center covered by a smooth 0.024" thick G90 galvanized steel skin. The frame jambs, head, stiles, and rails are made from pultruded fiberglass. Two stiffeners help reinforce the door head. The sill is composed of aluminum with a thermal break created from poured-and-debridged urethane.

Based on results from the ASTM E330 testing, the allowable design wind pressure for the door is +/-100 psf. The tested door was a single swing door on three aluminum-reinforced hinges that had a door leaf of $35\frac{3}{4}$ " wide by 79" tall and a total size of 81" tall by 39" wide. The door hinges were secured with four #12 screws, $\frac{9}{16}$ " long. Steel angle stiffeners were installed with two at the head and four per jamb. During installation, five #9 x 1" screws are used per jamb, four #9 x 1" screws are used for the head and four #8 x $1\frac{1}{4}$ " screws are used for the sill. An additional aluminum angle was also installed at the head. A dead bolt lock was installed 38" from the top of the door panel.

This door may be used on Risk Category I, II, III and IV buildings. This door is not available for use in High-Velocity Hurricane Zones (HVHZ) or in applications where resistance against water penetration is required.

DrJ's procedures are fully compliant with the ISO/IEC 17065 certification process and DrJ's scope of expertise.



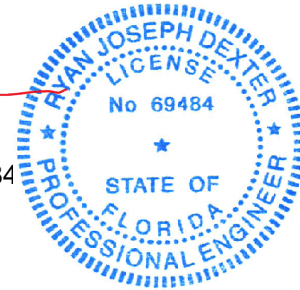
If there are any additional questions or concerns, we will gladly provide a Florida professional engineering¹ and ANAB ISO/IEC 17065 accredited² approved agency response. Pursuant to the 2023 FBC Section 1707.1³ we would sincerely appreciate knowing the specific sections of the adopted building code and/or professional engineering law that this engineering evaluation does not comply with so that we can cure any non-compliance. From specifics, we can then delineate a path forward for everyone involved to cure any violations, as this will serve everyone's free and fair market competition's best interests.

Our goal with the foregoing analysis is to provide both the accepted engineering analysis and regulatory compliance substance to support a systematic path to approval. Please contact us if we can help further in any way. If your request is time-sensitive, please contact Jill Zimmerman at (920) 988-7165. Thank you very much.

Respectfully yours,

Larry Wainright
Vice President Product Certification
608-310-6742

Ryan Dexter, P.E.
Florida P.E. No. 69484
Vice President
608-310-6744



DrJ Engineering, LLC
Certificate of Authorization #29766

RYAN J
DEXTER

Digitally signed by RYAN J DEXTER
DN: cn=US, o=Florida,
dnQualifier=A01410D0000017AED3A
89CE0000A494, cn=RYAN J DEXTER
Date: 2023.10.16 15:26:46 -0400'

¹ APPROVED SOURCE. An independent person, firm or corporation, approved by the building official, who is competent and experienced in the application of engineering principles to materials, methods or systems analyses. https://up.codes/viewer/florida/fl-building-code-2023/chapter/2/definitions#approved_source

² APPROVED AGENCY. An established and recognized agency that is regularly engaged in conducting tests, furnishing inspection services or furnishing product certification where such agency has been approved by the building official. https://up.codes/viewer/florida/fl-building-code-2023/chapter/2/definitions#approved_agency

³ In the absence of approved rules or other approved standards, the building official shall make, or cause to be made, the necessary tests and investigations; or the building official shall accept duly authenticated reports from approved agencies in respect to the quality and manner of use of new materials or assemblies. The cost of all tests and other investigations required under the provisions of this code shall be borne by the owner or the owner's authorized agent.