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1 April 2015

Ahmad Nana
NANA WALL SYSTEMS, INC.
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Corte Madera, CA 94925

RE: Florida Eval. Report, FBC 2014, SL 45 System

Dear Ahmad,

The following Nana Wall Systems product SL 45 has been tested, in accordance with the Florida Building Code 2014 Section 1710.5 *Exterior window and door assemblies.* Structural testing was done at Architectural Testing, Inc., 2524 Jensen Ave., Fresno, CA 93706 and is reported in 67244.01-301-44 (test dates 08/16/06 and 08/17/06). Standard used for testing is AMMA/WDMA/CSA 101/I.S.2/A440-05 *Standard/Specifications for Windows, Doors and Unit Skylights.* Based on the values of these tests, I have done a comparative analyses, the results of which are shown in the allowable design wind loading curves on the next page. SL 45 is an aluminum framed, glazed, folding wall panel system.

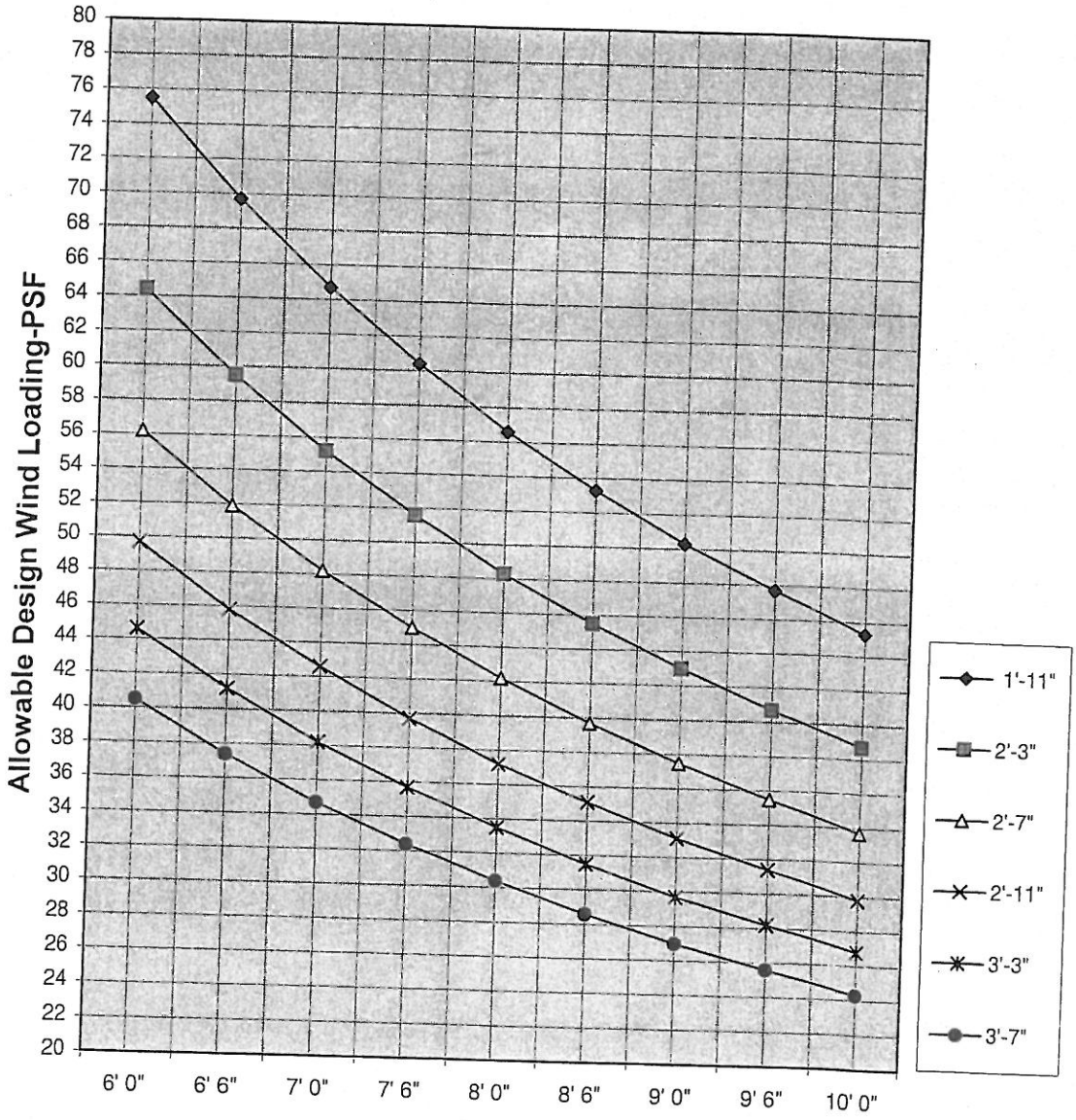
Glazing for the tested units was 3/4" thick insulating glass consisting of a 5/32" tempered sheet, 7/16" air gap, and a 5/32" tempered sheet. I have analyzed the panel sizes tested and the extremes of the panel sizes in the wind loading curves, using ASTM E 1300-09, in conformance with FBC Section 2404.1 *Vertical glass.* This same insulating glass is adequate for all of the sizes and wind loads in the curves.

Saddle sill was installed in the system tested. A variety of other sills are available, including raised, flush, and low profile. The other sill types, based on previous testing, should perform as well as the tested one for carrying wind loading to the substrate. Therefore, any of the standard sills for this system will be adequate for the wind loadings in the curves.

The SL 45 System is composed of repetitive panels, all the same size. Each panel transfers wind loading to the frame through the locking rods or rollers located at all panel corners. The locking rod is the critical structural member. So, once the allowable wind loading is determined for a panel, this same allowable wind loading would apply to any number of equal sized panels installed side by side in the system.

NANA WALL SYSTEMS, Inc.

Negative & Positive Inswing & Outswing



SL 45 Aluminum Framed Glazed Folding Wall Panel System

Curves represent 6 typical panel widths

I have calculated the required installation fasteners for four different substrates. These fasteners are installed through the sill, jamb, and head frames so that they are loaded in shear. The spacing is 4" from each panel corner, and a maximum of 18" thereafter at the head and sill, with the jambs having the first fastener 9" from each end and 18" spacing thereafter. There must be at least two fasteners at each panel corner.

Wood framed installation fasteners are to be #12 (0.216" diameter) x 4" wood screws with a minimum penetration of 2-1/4". Steel framed installation fasteners are to be #12 (0.216" diameter) x 2-1/2" self drilling screws through a minimum substrate thickness of 0.0478" (18 gage). Concrete framed and masonry block framed installation fasteners are to be ¼" diameter X 2-3/4" Tapcons with a minimum embedment of 1-1/4". Additional details are shown on an 11" x 17" installation drawing by HR Engineering dated 26 February 2007.

All structural analyses mentioned in this Evaluation Report was done by myself in a separate 9 page report titled *SL 45 ALUMINUM FRAMED, GLAZED, FOLDING WALL PANEL SYSTEM 2014 FLORIDA EVALUATION.* The structural analyses included earthquake loads in conformance with 2014 FBC, SECTION 1613. Wind loads governed over earthquake loads for all aspects of this product.

A limiting factor for SL 45 System is that it does not qualify for the *High Velocity Hurricane Zone* as described in 2014 FBC. I trust that this evaluation report is sufficient for your needs. If there are any questions about this report, or if anything additional is required, please contact me.

Sincerely yours,

Allen N. Reeves

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Structural Engineer
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6 APRIL 2015
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