

Prepared with Cooperation from:
Window Craftsmen Inc.
6031 Clark Center Avenue
Sarasota, FL 34238

September 29, 2023

**5, 6, 7 and 8 door configurations with Center Meet Astragal Analysis:
Aluminum Glass Sliding Door Pocket/By-Pass / Center in Wood or Concrete and
Masonry Openings**

Door Series:

50R Glass Sliding Doors Aluminum By-Pass/Center Meet/Pocket

Reference: Test reports NCTL-210-3220-1, NCTL-210-3220-1B/W-1965

Testing Facility: Certified Testing Laboratories
7252 Narcoossee Rd.
Orlando, Florida 32822

Test Standards: AAMA/WDMA/CSA 101/I.S.2/A440-08
AAMA/WDMA/CSA 101/I.S.2/A440-11
TAS 202-94

Tested Specimen Information:

The specimen tested was an aluminum sliding glass pocket door XXXX configuration (see figure 1). The overall Frame measured 192" x 96". Three panels measured 49" x 94.75". The astragal panel measured 50.5" x 94.75". The reinforced astragal was secured to the right active panel with 12 #12 x 1.5" Phillips flat head countersunk sheet metal screws 4" from the bottom and 8" on center thereafter.

Reinforcement:

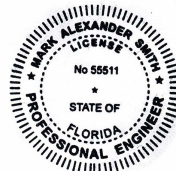
Fifteen aluminum "H" bar support reinforcements were utilized within the test specimen. Two side by side within all the interlock stiles, and astragal stiles. One within all lock stiles and interlock adapters. One interlock adapter reinforcement was secured with 6 #8 x .075" Phillips pan head Tek screws in the following locations measuring from the top to bottom, two in each location 3.25", 47.5" and 91.5" (see figure 2).

Glazing: ¼" thick tempered glass

Installation Anchors:

**Based on report: Anchor Calculations: Installation of Glass Sliding Doors In
Aluminum, Wood or Concrete, and Masonry Openings. Window Series: 50R Glass
Sliding Doors Aluminum By-Pass/Center/Meet/Pocket, Dated 9/29/23.**

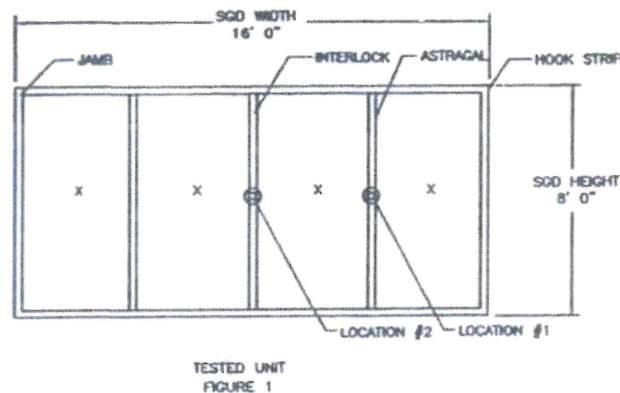
Mark A. Smith, P.E.
Florida No. 55511
3738 Kingswood Drive
Sarasota, FL 34232



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by Mark A Smith
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Window Craftsmen, Inc.

Aluminum Sliding Glass Door Pocket/ By-Pass / Center Meet Series 50



Test Results

Tested as per TAS 202-94. Test pressure was +/-75 PSF. Measurements for permanent set were measured at two locations. Four specimens were tested. Location #1 was at mid span of astragal stile. Location #2 was at mid span of interlock stile (figure 1).

Location #1 the maximum permanent set in all four specimens was .082" which is less than the .379" allowed (0.4% of 94.75").

Location #2 permanent set in all four specimens was .087" which is less than the .379" allowed.

Door Configurations to be qualified:

5 and 6 door Center Meet up to 20' & 24' wide x up to 8' tall

7 and 8 door Center Meet up to 28' & 32' wide x up to 8' tall

1. Test data and analysis provide enough information to prove that additional door panels greater than the number tested can be qualified. The tested specimen included all combinations of structure and interlocks that will be used to add additional door panels. (figure 2)
2. The size of the door panels shall not exceed the size tested.
3. The 5 and 6 door center meet shall use a 3-track configuration.
4. The 7 and 8 door center meet shall use a 4-track configuration.
5. The door size tested shall qualify doors that are smaller.

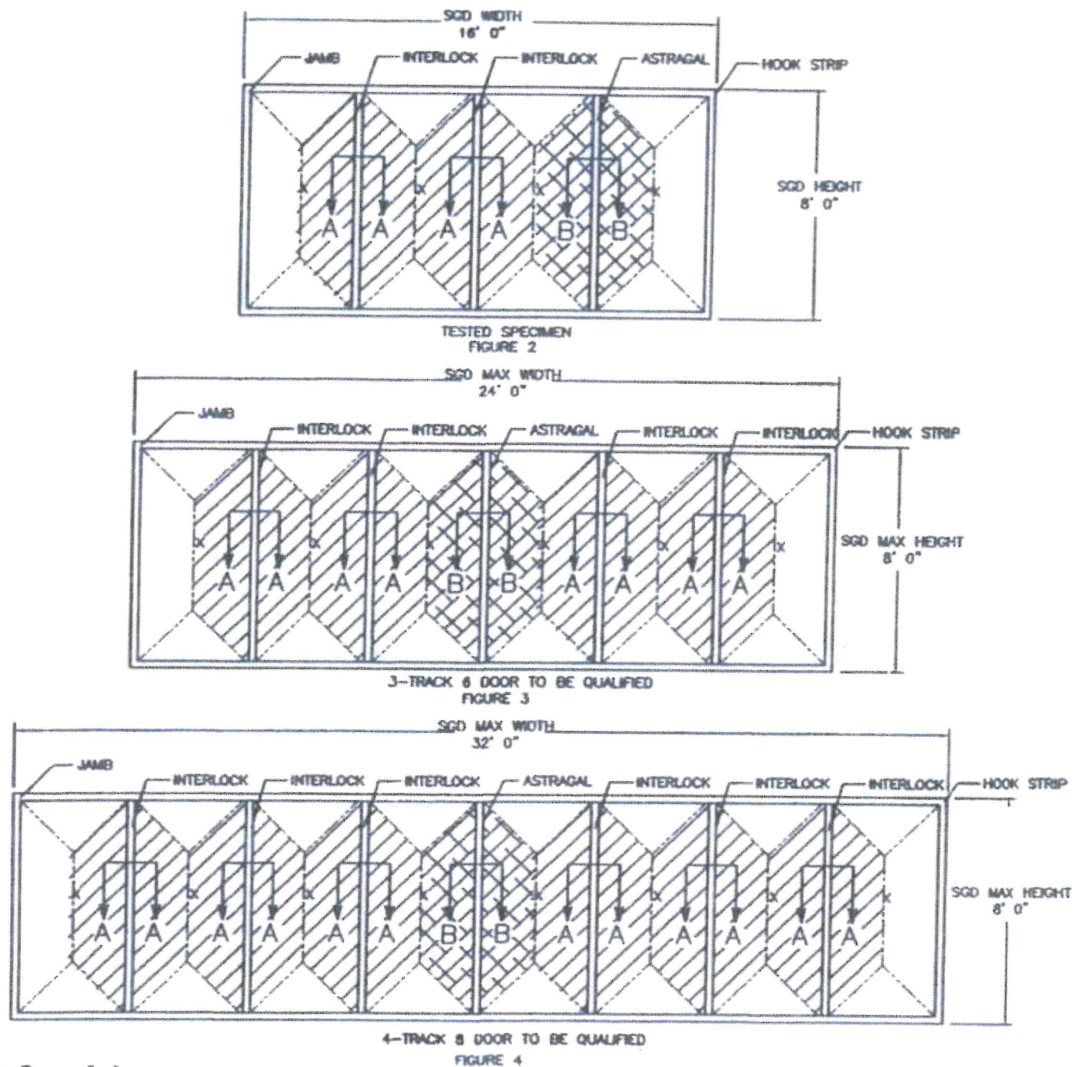
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Figures 2, 3 and 4

The above figures show that although there are more door panels in the configurations to be qualified the astragal and interlocks are affected by the same tributary load areas.

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Analysis

Astragal

Load:

Tributary area: 23.65 square feet. Load per sq. ft.=50 lbs. Total Load = 1183 lbs.

Assembly and installation:

Assembly of the astragal and affected doors are the same no matter where the location is. Installation of the frame and the frame itself is consistent no matter how many doors are used.

Interlock

Load:

Tributary area: 23.65 square feet. Load per sq. ft.=50 lbs. Total Load = 1183 lbs.

Assembly and installation:

Assembly of the astragal and affected doors are the same no matter where the location is. Installation of the frame and the frame itself is consistent no matter how many doors are used.

Conclusion:

Tests show that each individual meeting of panels whether astragal or interlock meets the permanent deformation criteria set forth by TAS 202-94. The tributary loads carried by these meeting areas do not increase even if the numbers of door involved are increased. The manufacture and the installation do not change even though the number of doors is greater than the number tested. Therefore Five (5), Six (6), seven (7) and eight (8) door sliding glass door assemblies shall be qualified.

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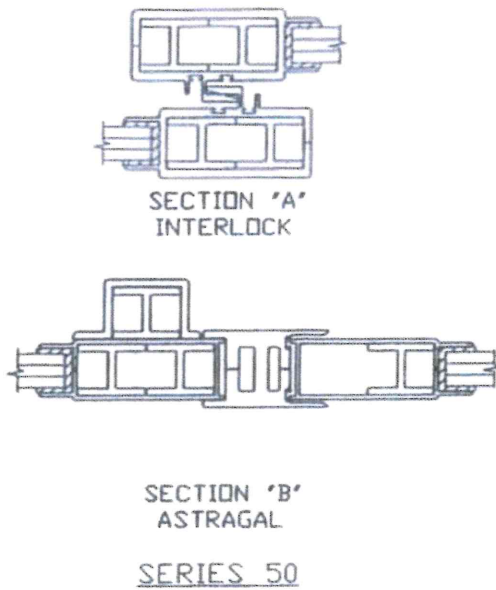


Figure 5 Astragal and interlock sections from figures 2, 3, and 4

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