

STRUCTURAL SOLUTIONS, P.A.

Structural Engineering ■ Investigations ■ Consulting

GARAGE DOOR EVALUATION REPORT

Garage Door No.:	IRC-5316-150-26-I		Model #	500		Report Date:	9/25/2023			
Design Pressures:	+34 psf, -38.6 psf		Test Pressures:	+51 psf, -57.9 psf			Project No. 18-016			
Static Test Date:	4/15/2020		Static Test Location:	Amarr, 165 Carriage Ct., Winston-Salem, NC						
Impact Test Date:	6/8-6/10/2020		Impact Test Location:	American Test Lab, Inc., Brevard, NC						
ASCE 7-22 Criteria:	Up to 5 Feet of Door Width in Zone 5; Any Roof Slope; Enclosed Building									
	Exp. B, 30' MRH		Exp. C, 15' MRH		Exp. C, 25' MRH		Exp. D, 15' MRH		Exp. D, 25' MRH	
	194 mph		176 mph		168 mph		160 mph		154 mph	

Reference Drawing and Test Report(s):

- Amarr Drawing number IRC-5316-150-26-I dated 11/13/2020
- Structural Solutions, P.A. report for IRC-5316-150-26-I dated 09/25/2023
 - Static Air Pressure Test witnessed by Thomas L. Shelmerdine, PE
- American Test Lab, Inc. report number ATLNC 0608.02-20 dated 12/15/2020
 - Tests witnessed and certified by David Johnson, PE (FL PE #61915) for:
 - Large Missile Impact Test • Forced Entry Test • Cyclical Test

Description of Test Specimen:

A 16'-0" wide x 8'-0" high x 2" thick sectional garage door, Model # 500. All sections were made of 24 ga galvanized steel sheet. The test unit is further described on Drawing IRC-5316-150-26-I.

Test Standards and Report Conclusions:

The above referenced Test Reports state the following:

- The tests were conducted in accordance with ANSI/DASMA 108-17; ASTM E330-14; ASTM E1886-13 E1996-17 F588-17; ANSI/DASMA 115-17
- The tests were witnessed and certified by:
 - Static Test: Thomas L. Shelmerdine, PE
 - Other Tests: David Johnson, PE (FL PE #61915)
- The weight of the missile used for the Large Missile Impact Test was 9 lbs.
- The maximum cycle time noted in the report is less than the maximum permitted based on the formula:
(area of specimen -75) x (F) + 3, where F= 0.06 for sectional doors.
- All tests passed the referenced Test Standards.
- The Amarr test facility is accredited by the American Association for Laboratory Accreditation, Cert. #2595.01.
- The test facility at American Test Lab, Inc. is accredited by IAS, Certification #TL-423.

Summary:

The 16'-0"x8'-0" Model # 500 door as described on drawing IRC-5316-150-26-I meets or exceeds the testing criteria as described above. By comparison to the construction of the 16'-0"x8'-0" Model # 500, the following doors also meet or exceed the above testing criteria, when constructed in accordance with drawing IRC-5316-150-26-I:

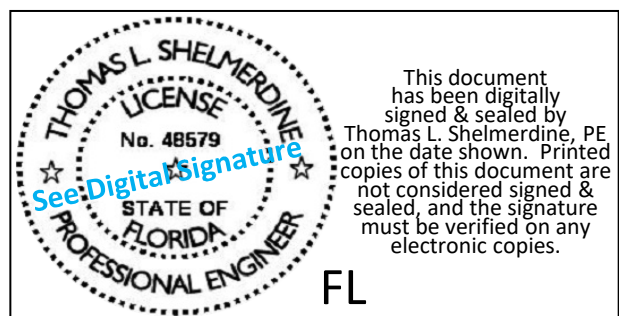
- 16' x 8' Amarr Classica 1000 doors (which is an alternate name for the Model 500)
- 16' x 8' Amarr Classica 2000 doors (which is the Model 500 with drop-in insulation)
- Model 500, Amarr Classica 1000 and Amarr Classica 2000 doors with widths of up to 16'-0" and heights of up to 14'-0"

To the best of my knowledge, the above garage door conforms to the requirements of the Florida Building Code 8th Edition (2023). I certify that I have no financial interest in the testing lab(s) that performed the tests, nor in Amarr Garage Doors.

Submitted By:

Thomas L
Shelmerdine

Digitally signed by Thomas L Shelmerdine
DN: c=US, o=North Carolina,
dnQualifier=A01410D000001856487A7B1
00125CE2, cn=Thomas L Shelmerdine
Date: 2023.09.25 13:21:30 -04'00'



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Thomas L. Shelmerdine, PE (Florida PE #0048579) (dba Structural Solutions of North Carolina, Inc., Florida Firm #29412)

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