

STRUCTURAL SOLUTIONS, P.A.

Structural Engineering ■ Investigations ■ Consulting

GARAGE DOOR EVALUATION REPORT

Garage Door No.:	IRC-C516-155-26-I	Model #	C500	Report Date:	10/4/2023
Design Pressures:	+36.4 psf, -41.4 psf	Test Pressures:	+54.6 psf, -62.1 psf	Project No. 15-068	
Static Test Date:	6/5/2015	Static Test Location:	Amarr, 165 Carriage Ct., Winston-Salem, NC		
Impact Test Date:	10/5-10/7/2015	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
	200 mph	182 mph	173 mph	165 mph	158 mph

Reference Drawing and Test Report(s):

- Amarr Drawing number IRC-C516-155-26-I dated 01/13/2016
- Structural Solutions, P.A. report for IRC-C516-155-26-I dated 10/04/2023
 - Static Air Pressure Test witnessed by Thomas L. Shelmerdine, PE
- American Test Lab, Inc. report number ATLNC 1005.01-15 dated 02/17/2016
 - 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 7'-0" high x 2" thick sectional garage door, Model # C500. All sections were made of 27 ga exterior / 27 ga interior galvanized steel sheet. The test unit is further described on Drawing IRC-C516-155-26-I.

Test Standards and Report Conclusions:

The above referenced Test Reports state the following:

- The tests were conducted in accordance with ANSI/DASMA 108-05; ASTM E330-14; ASTM E1886-05 E1996-09 F588-07; ANSI/DASMA 108-05 115-05
- 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 9.3 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"x7'-0" Model # C500 door as described on drawing IRC-C516-155-26-I meets or exceeds the testing criteria as described above. By comparison to the construction of the 16'-0"x7'-0" Model # C500, the following doors also meet or exceed the above testing criteria, when constructed in accordance with drawing IRC-C516-155-26-I:

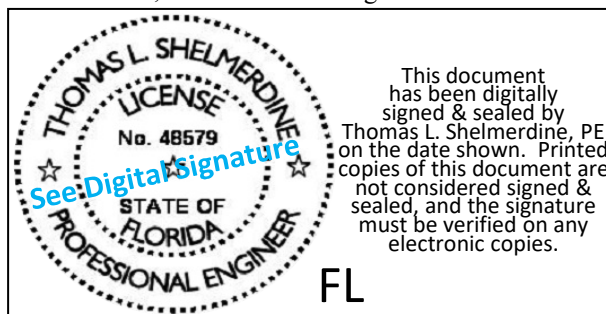
- 16' x 7' Amarr Olympus 3200 doors, which is an alternate name for Model C500
- 16' x 7' Amarr Designer's Choice 3200 doors, which have alternate embossment patterns in the skin
- Model C500, Amarr Olympus 3200 & Amarr Designer's Choice 3200 doors with widths up to 16' and heights up to 14'
- Up to 8 short-panel windows (18 1/8" x 10 5/8") or 4 long-panel windows (38 1/16" x 10 5/8") using 1/4" polycarbonate may be installed in one section. Windows are not required to be installed in any section.

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=A01410D000001856487A7B
100125CE2, cn=Thomas L Shelmerdine
Date: 2023.10.04 10:15:51 -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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