



PERFORMANCE TEST
EFCO SERIES D-500 DOUBLE DOOR
REPORT #CCLI-03-126

September 26, 2003
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All performance values shown on this report are for products of a standard configuration, tested in accordance with AAMA specifications, in a laboratory environment under optimum conditions. They are provided for purposes of comparison only. Performance values will vary according to project specifications, such as but not limited to, quality installation workmanship, product size, configuration, hardware, glass type, and accessories. When field testing is required, it is recommended that all EFCO products be tested in accordance with AAMA 502-02 unless otherwise specified.

Project: EFCO Series D-500 Double Door
Performance Test Observation

Date of Testing: July 29, 2003

Tested For: EFCO Corporation
1000 County Road
Monett, MO 65708

Witnessed By: (All or Partial Viewing)

Jeff Boucher	EFCO Corporation
Terry Key	EFCO Corporation
Jeff Litchfield	EFCO Corporation
Shannon Keeler	EFCO Corporation

Jeffrey Crump	Construction Consulting Laboratory, <i>International</i>
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2. INTRODUCTION

This report presents the performance results of EFCO Series D-500 Double Door. Tests were conducted at EFCO Corporation testing facility in Monett, MO.

3. SCOPE

Construction Consulting Laboratory, *International*, (CCLI) was requested to witness and report the testing results for an EFCO Corporation Series D-500 Double Door. Tests were conducted in accordance with ASTM E 283-91 "Test Method for Determining Rate of Air Leakage Through Exterior Window, Curtain Wall and Door Under Specified Pressure Differences Across the Specimen" and ASTM E 330-02 "Test for Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference."

4. SUMMARY

EFCO Series D-500 Double Door was tested in accordance with ASTM E 283-91 and ASTM E 330-02 and achieved a positive and negative test load of 75 PSF.

5. TEST SPECIMEN

PRODUCT TYPE: Aluminum Swing Door, **Product Drawings, Appendix A**
SERIES/MODEL: EFCO Corporation, Series D-500 Double Door
SPECIFICATION: ASTM E 283-91 & ASTM E 330-02
FRAME SIZE: 6'-3½" x 7'-1¾"
LEFT DOOR SIZE: 3'-0" x 7'-0"
RIGHT DOOR SIZE: 3'-0" x 7'-0"
CONFIGURATION: XX

Refer to Mock-Up drawing in **Appendix A**. This report is not complete unless this drawing is stamped and initialed by **CCLI** as illustrated below.

Construction Consulting
Laboratory, *International*
1601 Luna Road

Carrollton, Texas 75006

Phone (972) 242-0556

Report # C-126 Reviewed By [Signature]

WEATHER-STRIP: One row bulb vinyl (part # W138) at the exterior face of center leg on frame head and jambs. Two rows of door astragal gasket (part #W153) attached to door astragal. Astragal attached to door stile by #8-32 x 5/8" PL-PH-SMS 18-8. Vinyl leaf (part #W113) attached to door sweep.

GLASS: ¼" tempered glass.



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GLAZING: Captured glazed with aluminum snap-in glazing bead and three-flap glazing vinyl (part # W137) at the interior and exterior of glass lite.

WEEP ARRANGEMENT: None

SEALANT: Silicone with backer rod at perimeter interior and exterior. Silicone sealant at all frame and panel corner connections. Threshold set in bed of sealant across back and along jambs.

HARDWARE: One key operated security lock at panel lock stile 41½" from panel bottom rail. One five-knuckle butt hinge (part #HY90) with butt hinge backer plate (part #K900), 10¾" from sill and 8½" from head and one at mid-span of panel hinge stile. One (1) aluminum exterior pull handle and one (1) 1990 D.O.M. exit device.

REINFORCEMENT: None

OTHER FEATURES: Frame head to jamb corner attached with aluminum shear block package (part #K120). Shear block attached to frame head with two (2) #12-11 x ¾" screws, and attached to jambs with three (3) #8-15 x 1¾" screws. Door top rail attached to door stile by corner clip (part #K103) and (part #K106) by two (2) ¼"-20 x 1" HX-MS 18-8 per connection. Door bottom rail attached to door stile by four (4) corner clips (part #K103) and two (2) ¼"-20 x 1" HX-MS 18-8 per connection. Door sweep attached to door bottom rail by #8-18 x 9/16" PL-PH-SMS ZC tek/2 screws. Corner plate (part #K104 and K105) at door top rail and bottom rail. Threshold clip (part #K124) located at frame jamb to threshold connection, attached with five (5) #12 x ½" per corner.

INSTALLATION FEATURES: Test specimen was installed in a #2 (2" x 12") yellow pine wood test buck with #12 wood-screws 6" from each end and on 24" centers.

Date testing started: July 29, 2003

Date testing completed: July 29, 2003

Testing performed at: EFCO Corporation testing facility in Monett, MO.



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6. PERFORMANCE RESULTS

<u>Title Of Test</u>	<u>Test Method</u>	<u>Measured</u>	<u>Allowed</u>
Air Infiltration @ 1.57 PSF	ASTM E 283-91	0.46 cfm/sf	
Uniform Load Structural @ 75.00 PSF	ASTM E 330-02		
-Positive		No Damage	No Damage
-Negative		No Damage	No Damage
-Permanent Set		Negligible	0.336"

Detailed extrusion and assembly drawings indicating measured wall thickness and corner construction are on file and have been compared to the test sample submitted. These records will be retained at **CCLI** for a period of four years.

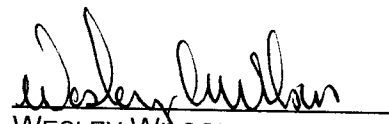
7. CONCLUSION

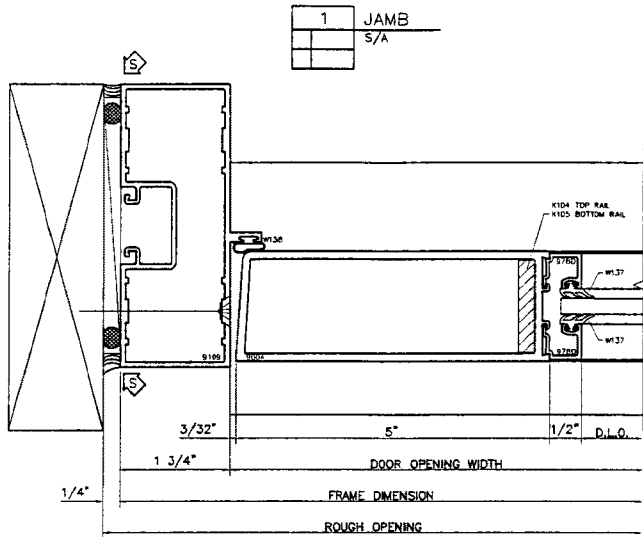
The test specimen meets the manufacturer prescribed test requirements. The tests noted in Section 6 of this report were conducted in accordance with ASTM E 283-91 and ASTM E 330-02.

Respectfully submitted,

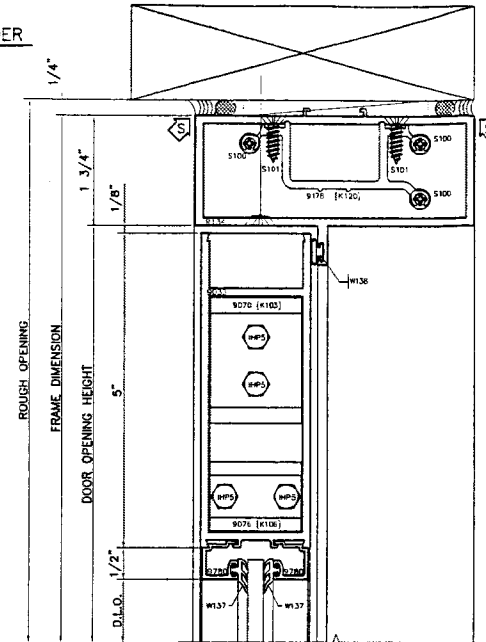
CONSTRUCTION CONSULTING LABORATORY, *INTERNATIONAL*


JEFFREY CRUMP
TECHNICIAN

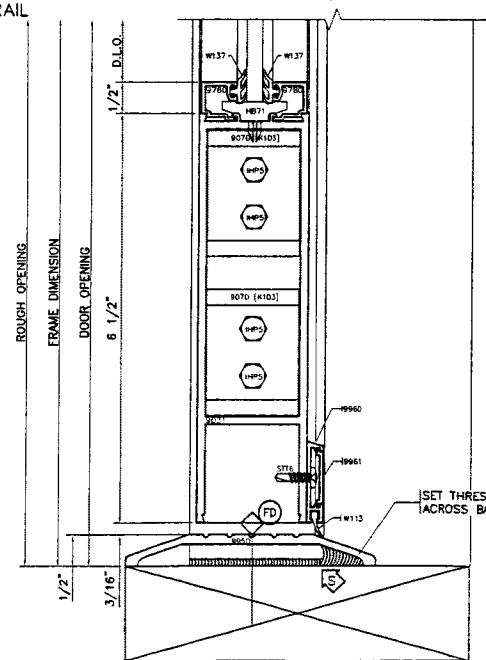

WESLEY WILSON
LABORATORY MANAGER



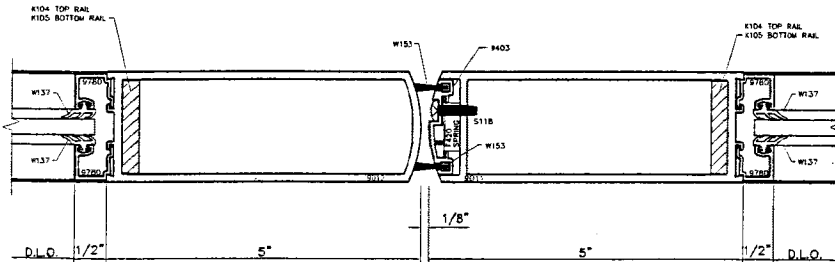
2 HEADER
S/A



3 BOTTOM RAIL
S/A



4 MEETING STILE
S/A



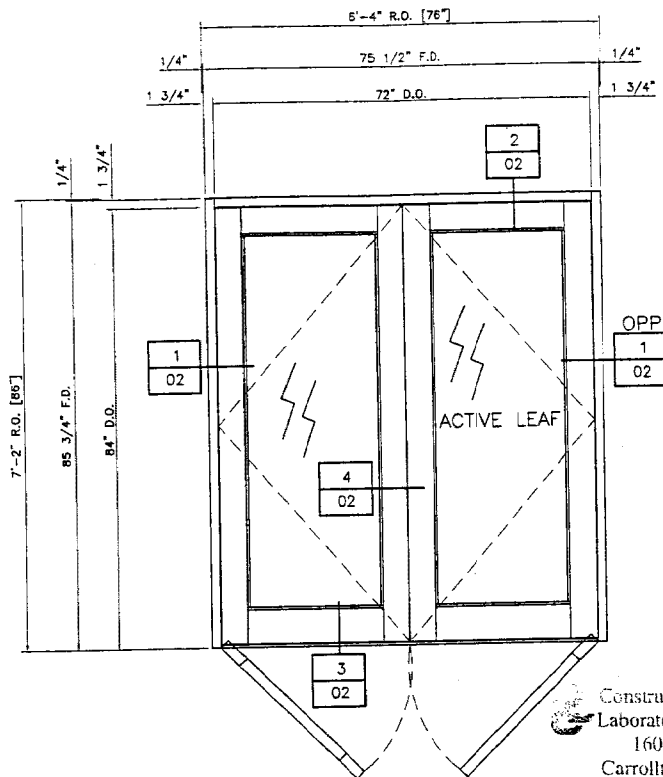
Technical Consulting
Laboratory, International
1601 Lena Road
Carrollton, Texas 75006
Phone (972) 242-0556
Report # *0000* Reviewed By *[Signature]*
Date *9-26-03*

SET THRESHOLD IN BED OF SEALANT
ACROSS BACK AND ALONG JAMES.

PROJECT		MOCK-UP D-500 PAIR		TITLE: D-500 PAIR	
LOCATION	DATE	CONTRACTOR	NO.	DESCRIPTION	DATE
EFCO CORPORATION 1000 County Road Monett, Missouri 65708 Phone: 1-800-221-4169 FAX: 417-235-7313 www.efcorp.com					



DESIGNED BY: KDE	DATE:
CHECKED BY:	DATE:
DATE:	
SHEET NO.: 02	



Construction Consulting
Laboratory, International
1601 Luna Road
Carrollton, Texas 75006
Phone (972) 242-0556
Report # 02-BL Reviewed By [Signature]
Date: 9/26/05

401 DOOR FRAME

ITEM #	PART	QTY.	ITEM DESCRIPTION	LENGTH/SIZE
1	9109	2	DOOR JAMB	85 3/4"
2	9134	1	DOOR HEADER	72"
3	K120	2	HEADER SHEAR BLOCK PACKAGE	
4	W138	1	DOOR STOP WEATHERING	240"

D-500 PAIR

ITEM #	PART	QTY.	ITEM DESCRIPTION	LENGTH/SIZE
ITEM#	PART#	QTY.	ITEM-DESCRIPTION	LENGTH
1	9004	2	DOOR STILE	83.1875"
2	9033	2	DOOR TOP RAIL	25.84375"
3	9031	2	DOOR BOTTOM RAIL	25.84375"
4	9011	1	DOOR STILE	83.1875"
5	9012	1	DOOR STILE	83.1875"
6	9403	1	DOOR ASTRIGAL	83.1875"
7	9780	4	EXT. HORIZONTAL GLASS STOPS	25.84375"
8	9780	4	INT. HORIZONTAL GLASS STOPS	24.84375"
9	9780	4	EXT. VERTICAL GLASS STOPS	70.6875"
10	9780	4	INT. VERTICAL GLASS STOPS	71.6875"
11	W153	2	DOOR ASTRAGAL GASKET	83.1875"
12	W137	1	DOOR STOP GASKET	772.25"
13	F420	7	DOOR ASTRAGAL SPRINGS	
14	M146	7	ASTRAGAL SCREWS	
15	HB71	8	SETTING BLOCK	
16	K104	4	TOP RAIL CORNER PLATE	
17	K105	4	BOTTOM RAIL CORNER PLATE	
18	K103	4	TOP RAIL CORNER CLIP	
19	K106	4	TOP RAIL CORNER CLIP	
20	K105	8	BOTTOM RAIL CORNER CLIP	
21	IHP5	32	CORNER CLIP SCREWS	

DOOR HARDWARE

ITEM #	PART	QTY.	ITEM DESCRIPTION	LENGTH/SIZE
1	K900	12	BUTT HINGE BACKER PLATE	
2	HY90	6	4 1/2" x 4" BUTT HINGES	
3	H542	2	1990 D.O.M. EXIT DEVICE	
4	H220	1	MORTISE CYLINDER	
5	K200	2	DOOR SWEEP PACKAGE	
6	H148	1	FLUSH BOLT ASSEMBLY	
7	9950	1	DOOR THRESHOLD	72"
8	K124	2	THRESHOLD CLIPS	

CLEAR ANODIZE AA-M10-C22-(A41)
GLASS ".25" CLEAR TEMPERED (2) @ 25.46875" x 71.3125"

DATE	DESCRIPTION	NO

PROJECT	MOCK-UP D-500 PAIR
DESIGNED	
DRAWN	
CHECKED	
APPROVED	
TITLE	D-500 PAIR

EFCO CORPORATION
1000 County Road
Monett, Missouri 65708
Phone: 1-800-221-4169
FAX: 417-235-7313
www.efcoinc.com



DATE	KDE
DESIGN	
JOB NO.	
SHEET NO.	01