



Architectural Testing

PERFORMANCE TEST REPORT

Rendered to:

WAYNE-DALTON CORPORATION

**SERIES/MODEL: 822
10' x 8'**

PRODUCT: Rolling Steel Slat Door

Report No: 01-46388.01

Test Dates: 08/26/03

Thru: 08/29/03

Report Date: 11/14/03

Expiration Date: 08/29/13

Metro-Dade County Notification No: ATI03051

130 Derry Court
York, PA 17402-9405
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www.archtest.com



Architectural Testing

METRO-DADE COUNTY PERFORMANCE TEST REPORT

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WAYNE-DALTON CORPORATION
Rolling Door Division
14512 Lincoln Way East
Dalton, Ohio 44618

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Project Summary: Architectural Testing, Inc. (ATI) was contracted by Wayne-Dalton Corporation to perform testing per Florida Building Code Test Protocols TAS 201-94, TAS 202-94, and TAS 203-94. The tests were performed upon Series/Model 822, 10' x 8' rolling steel slat doors. The samples tested met the performance requirements set forth in each of the protocols for a +/-47.0 psf *Design Load Rating*.

Test Procedure: The test specimens were evaluated in accordance with Florida Building Code Protocols TAS 201-94, *Impact Test Procedures*; TAS 202-94, *Criteria for Testing Impact and Non Impact Resistant Building Envelope Components Using Uniform Static Air Pressure*, and TAS 203-94, *Criteria For Testing Products Subject To Cyclic Wind Pressure Loading*.

Tensile Tests were conducted on the door curtain slats in accordance with ASTM E 8-01, *Standard Test Methods for Tensile Testing of Metallic Materials*.

Test Specimen Description:

Product: Series/Model 822 Rolling Steel Slat Door

General Description: Three (3) steel rolling doors were tested. The doors are referenced throughout this report as test units #1, #2, #3. Each unit was tested to the following Florida Building Code Test Protocols:

Test unit #1, was tested to TAS 202-94 (Wind loads), TAS 201-94 (Impact) and TAS 203-94 (Cyclic Wind Loads). Test units #2 and #3 were tested to TAS 201-94 (Impact) and TAS 203-94 (Cyclic Wind Loads).

The overall size of the doors was 10' 3" wide by 9' 6-1/2" high. The test fixtures provided a clear opening measuring 10' 0" wide by 8' 0" high. The doors were constructed with steel slats fabricated with 0.032" (22 gauge - U.S. Standard) thick slats. Windlocks were located at the ends of every other slat and fastened with two rivets per end. The doors employed an E-mount jamb track detail on the steel jamb and a Z-mount jamb track detail on the 3000 psi grout filled concrete block jamb. The hood and roller assembly was tested to qualify an interior or exterior mounting configuration.

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Joseph G. Reid
11/17/03

Test Specimen Description: (Continued)

The E-mount jamb tracks were attached to the steel with 5/8" x 1" tap bolts with washers located 6" from the bottom and on 18" centers thereafter. The Z-mount jamb tracks were attached to the concrete block with 5/8" x 6-1/2" kingpin wedge anchors located 6" from the bottom and on 18" centers thereafter. Reference attached drawing number 035-0002 for complete details. The doors were tested in a closed position and the operating chain was not hooked to the chain keeper.

Test Results: The following results have been recorded:

Protocol TAS 201-94 Impact Test Procedures

Missile weight: 9.2 lbs

Muzzle distance from test specimen: 17 ft.

Test Unit #1

Impact #1: Missile Velocity: 49.5 fps

Impact Area: Lower right corner of door curtain

Observations: Dent in slats at point of impact

Deflection: N/A

Result: Passed

Impact #2: Missile Velocity: 49.9 fps

Impact Area: Center of door curtain

Observations: Dent in slats at point of impact

Deflection: N/A

Result: Passed

General Note: See ATI Sketch #1 for impact locations.

Joseph A. Reed
11/17/03

Test Results: (Continued)

Protocol TAS 201-94 *Impact Test Procedures*

Test Unit #2

Impact #1: Missile Velocity: 49.8 fps

Impact Area: Lower right corner of door curtain
Observations: Dent in slats at point of impact
Deflection: N/A
Result: Passed

Impact #2: Missile Velocity: 49.8 fps

Impact Area: Center of door curtain
Observations: Dent in slats at point of impact
Deflection: N/A
Result: Passed

General Note: See ATI Sketch #2 for impact locations.

Test Unit #3

Impact #1: Missile Velocity: 49.8 fps

Impact Area: Lower left corner of door curtain
Observations: Dent in slats at point of impact
Deflection: N/A
Result: Passed

Impact #2: Missile Velocity: 49.8 fps

Impact Area: Center of door curtain
Observations: Dent in slats at point of impact
Deflection: N/A
Result: Hit outside of target area

Impact #3: Missile Velocity: 49.8 fps

Impact Area: Center of door curtain
Observations: Dent in slats at point of impact
Deflection: N/A
Result: Hit outside of target area

Joseph A. Reid
11/17/03

Test Results: (Continued)

Protocol TAS 201-94 *Impact Test Procedures*

Test Unit #3

Impact #4: Missile Velocity: 50.0 fps

Impact Area: Center of door curtain

Observations: Dent in slats at point of impact

Deflection: N/A

Result: Passed

Impact #5: Missile Velocity: 49.6 fps

Impact Area: Center of the hood

Observations: Dent in hood at point of impact

Deflection: N/A

Result: Passed

General Note: See ATI Sketch #3 for impact locations.

Note: All three test units were operable upon completion of the impact tests.

Joseph A. Rea
11/17/03

Test Results: (Continued)

Protocol TAS 202-94 Static Air Pressure Tests

Test Unit #1

Load (psf)	Deflection			Permanent Set			Percent Recovery
	#1	#2	#3	#1	#2	#3	
+35.50	0.230"	4.860"	0.370"	0.060"	0.120"	0.060"	99%
+47.00	0.300"	5.140"	0.100"	0.120"	0.300"	0.130"	97%
-35.50	0.400"	5.560"	0.440"	0.010"	0.060"	0.020"	99%
-47.00	0.510"	6.780"	0.560"	0.020"	0.180"	0.030"	98%
+71.00	0.230"	7.460"	0.400"	0.020"	0.080"	0.030"	99%
-71.00	0.640"	7.440"	0.710"	0.020"	0.190"	0.030"	98%

General Note: Refer to ATI Sketch #4 for indicator location.

Note: The test specimen was operable upon completion of static load test.

General Note: Polyethylene film and tape were used in a manner that did not influence the test results. String lines/tape measure and linear transducers were used to record measurements.

Protocol TAS 203-94 Cyclic Wind Pressure Loading

Test Unit #1

Design Load: 47.0 psf

POSITIVE PRESSURE

Pressure Range	No. of Cycles	Average Cycle Time	Maximum Deflection	Permanent Set
0 psf to 23.5 psf	600	12.27 seconds	5.040"	-
0 psf to 28.2 psf	70	13.73 seconds	5.680"	-
0 psf to 61.1 psf	1	N/A	6.970"	0.075"

NEGATIVE PRESSURE

Pressure Range	No. of Cycles	Average Cycle Time	Maximum Deflection	Permanent Set
0 psf to 23.5 psf	600	8.82 seconds	4.220"	-
0 psf to 28.2 psf	70	10.98 seconds	4.400"	-
0 psf to 61.1 psf	1	N/A	6.340"	0.150"

Results - Passed

Joseph A. Reed
11/17/03

Test Results: (Continued)

Test Unit #2

Design Load: 47.0 psf

POSITIVE PRESSURE

Pressure Range	No. of Cycles	Average Cycle Time	Maximum Deflection	Permanent Set
0 psf to 23.5 psf	600	12.93 seconds	5.180"	-
0 psf to 28.2 psf	70	14.21 seconds	5.260"	-
0 psf to 61.1 psf	1	N/A	9.600"	2.150"

NEGATIVE PRESSURE

Pressure Range	No. of Cycles	Average Cycle Time	Maximum Deflection	Permanent Set
0 psf to 23.5 psf	600	9.17 seconds	5.090"	-
0 psf to 28.2 psf	70	10.55 seconds	5.390"	-
0 psf to 61.1 psf	1	N/A	8.530"	0.410"

Results - Passed

Test Unit #3

Design Load: 47.0 psf

POSITIVE PRESSURE

Pressure Range	No. of Cycles	Average Cycle Time	Maximum Deflection	Permanent Set
0 psf to 23.5 psf	600	12.93 seconds	5.810"	-
0 psf to 28.2 psf	70	14.21 seconds	6.040"	-
0 psf to 61.1 psf	1	N/A	7.230"	1.550"

NEGATIVE PRESSURE

Pressure Range	No. of Cycles	Average Cycle Time	Maximum Deflection	Permanent Set
0 psf to 23.5 psf	600	9.17 seconds	7.440"	-
0 psf to 28.2 psf	70	10.55 seconds	8.070"	-
0 psf to 61.1 psf	1	N/A	9.900"	0.720"

Results - Passed

Maximum allowable cycle time per checklist #0220: $([10' \times 8'] - 75) \times 0.35 + 3 = 4.75$ sec.

Note: Test specimens #2 and #3 were cycled at the same time utilizing one test chamber with two back to back openings. Following the cyclic testing, all three doors remained operable, and all anchors were intact. Polyethylene film and tape were used in a manner that did not influence the test results. Deflections were measured with linear transducers at the center of the door.

Joseph Williams
11/17/03

Test Results: (Continued)

ASTM E8-01

Test Method: The test specimens were evaluated in accordance with ASTM E8-01, *Standard Test Methods for Tensile Testing of Metallic Materials*. The test specimens were machined and sized in compliance with section 6.0 of the standard. The specimens were tested using a Satec 50UD Universal Machine with a cross head speed of 0.2 in/min

Test Results: The test results are shown on test logs 18833 through 18838 (attached) and summarized in the following table.

Specimen	Yield Strength (psi)	Yield Strain (in/in)	Tensile Load (lbf)	Tensile Strength (psi)	Elongation (%)	Area Reduction (%)
1	39,919	0.0033	810	49,381	29.10	36.60
2	42,172	0.0036	823	51,110	28.80	39.80
3	37,192	0.0032	828	51,406	32.00	34.80
4	38,213	0.0032	820	52,569	30.50	33.30
5	41,371	0.0032	808	50,473	32.00	26.20
6	41,440	0.0034	806	51,672	28.50	28.80
Average	40,051	0.0033	816	51,102	30.20	33.30

The average Tangent Modulus for the tested specimens was 27.7×10^6 psi.

Test Equipment:

Cannon: Constructed from steel pipe utilizing compressed air to propel the missile(s)

Missile(s): 2 by 4 Southern Pine

Timing Device: Electronic Beam Type

Cycling Mechanism: Computer driven squirrel cage blower with electronic pressure measuring device

Deflection Measuring Device: Tape measure with 1/16" graduations and linear transducers.

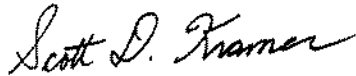
Joseph A. Kuch
11/17/03

Official Observers: The following representatives witnessed all or part of the testing.

Mark Daus	Wayne-Dalton Corporation
Mike Mendez	Wayne-Dalton Corporation
Joe Wise	Architectural Testing, Inc.
Joseph A. Reed, P.E.	Architectural Testing, Inc.
Steven M. Ulrich, P. E.	Architectural Testing, Inc.
Lance Cunningham	Architectural Testing, Inc.
Scott Kramer	Architectural Testing, Inc.

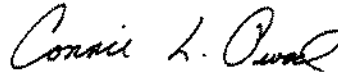
Detailed drawings, representative samples of the test specimen, and a copy of this report will be retained by ATI for a period of ten years. The above results were secured by using the designated test methods and they indicate compliance with the performance requirements of the above referenced specification. This report does not constitute certification of this product, which may only be granted by the certification program administrator.

For ARCHITECTURAL TESTING, INC:



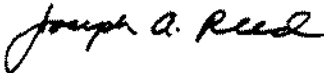
Digitally Signed by: Scott D. Kramer

Scott D. Kramer
Technician



Digitally Signed by: Connie L. Owad

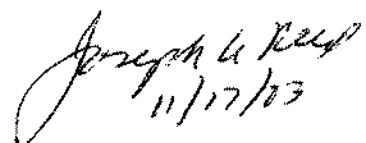
Connie Owad
Technician



Digitally Signed by: Joseph A. Reed

Joseph A. Reed, P.E.
Director - Engineering and Product Testing

SDK:baw
01-46388.01



DOCUMENT CONTROL ADDENDUM #01-46388.01

Current Issue Date: 11/14/03

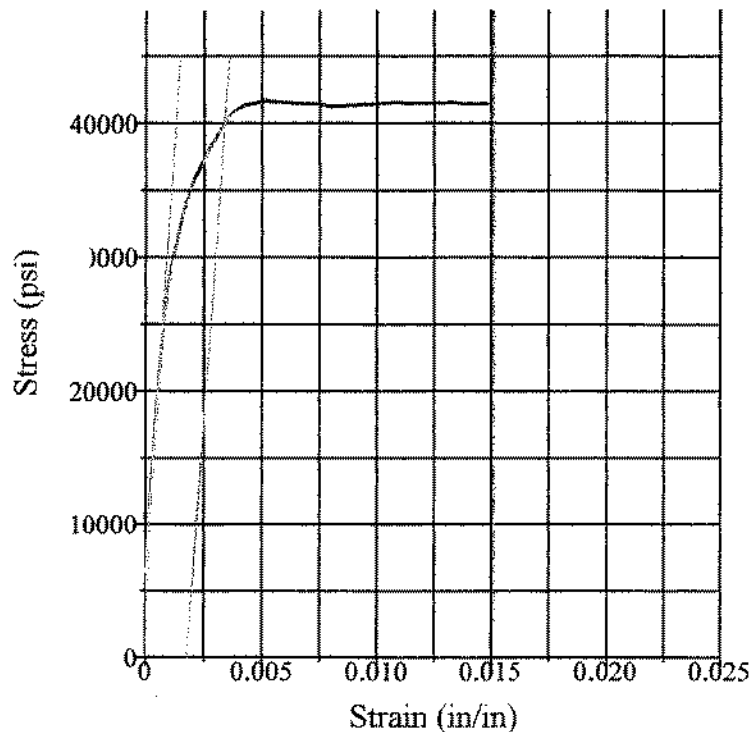
Report No.: 01-46388.01

Requested by: Mark Daus, Wayne-Dalton Corporation

Purpose: Metro-Dade County Protocols TAS 201, TAS 202 and TAS 203 testing on
Series/Model 822 Rolling Steel Slat Door, 10' x 8'.

Issued Date: 11/14/03

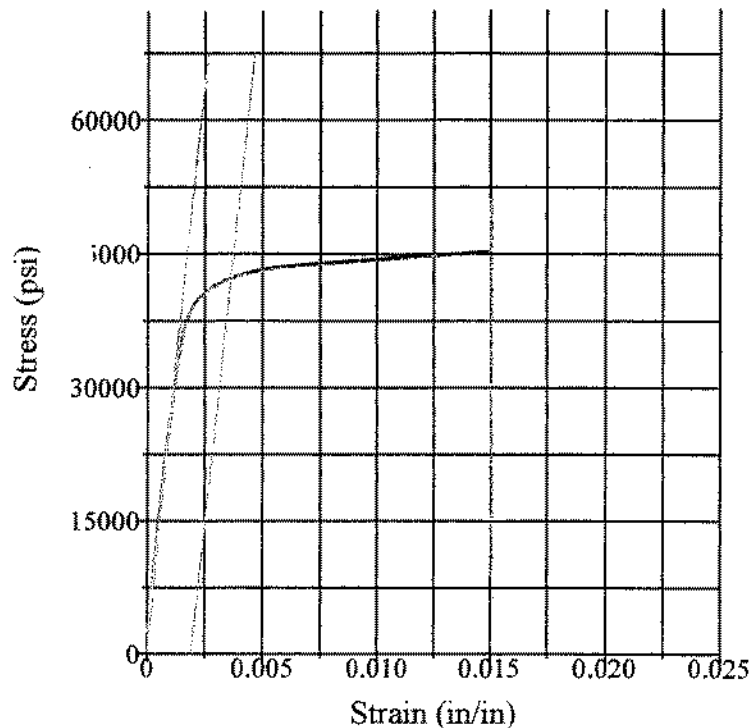
Comments: Florida P.E. seal required on report.



Width: 0.5120 in
 After Test Width: 0.4080 in
 Thickness: 0.0320 in
 After Test Thickness: 0.0255 in
 Area: 0.0164 in²
 After Test Area: 0.0104 in²
 Tensile Strength: 49381 psi
 Peak Load: 810 lbf
 Load at Yield: 654.6668 lbf
 Position at Yield: 0.0914 in
 Time at Yield: 0.4607 min
 Strain at Yield: 0.0033 in/in
 Stress at Yield: 39918.7100 psi
 Elongation at Yield: 0.0067 in
 Reduction of Area: 36.6 %
 Total Elongation: 29.1000 %
 Pretest Punch Length: 2.000 in
 Posttest Punch Length: 2.582 in
 Modulus of Elasticity: 25836400 psi

Test Summary

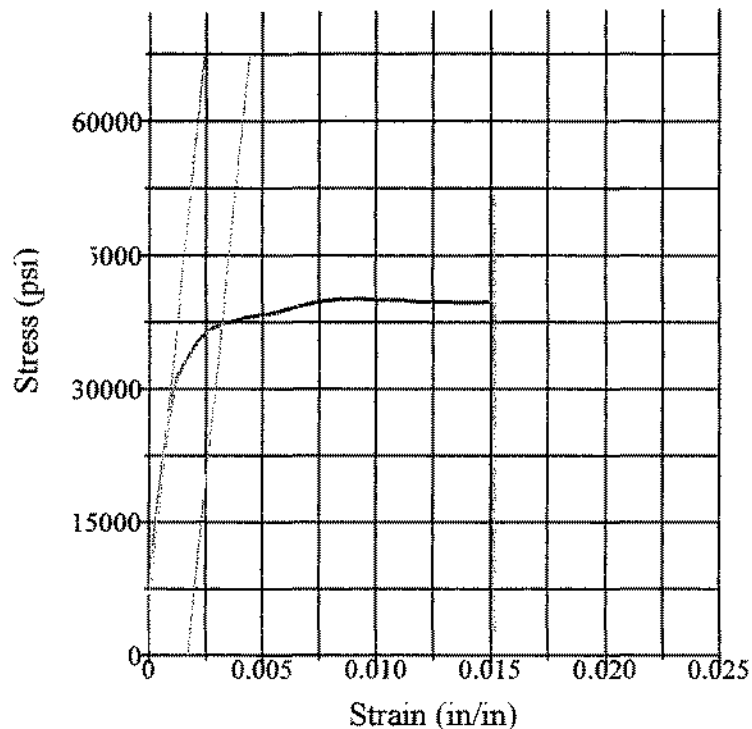
Counter: 18833
 Elapsed Time: 00:04:19
 ATI #: 01-46388
 Client: Wayne Dalton Corp
 Material Type: Rolling Steel Door
 Sample #: 1
 Comments: Model 822 10' x 8'
 Procedure Name: ASTM E 8-01, Tensile Testing of
 Start Date: 10/15/03
 Start Time: 4:20:16 PM
 End Date: 10/15/03
 End Time: 4:24:35 PM
 Workstation: Architectural Testing Inc.
 Tested By: Joe



Width:	0.5045 in
After Test Width:	0.3790 in
Thickness:	0.0320 in
After Test Thickness:	0.0255 in
Area:	0.0161 in ²
After Test Area:	0.0097 in ²
Tensile Strength:	51110 psi
Peak Load:	823 lbf
Load at Yield:	678.9762 lbf
Position at Yield:	0.0807 in
Time at Yield:	0.4069 min
Strain at Yield:	0.0036 in/in
Stress at Yield:	42172.4300 psi
Elongation at Yield:	0.0072 in
Reduction of Area:	39.8 %
Total Elongation:	28.8000 %
Pretest Punch Length:	2.000 in
Posttest Punch Length:	2.576 in
Modulus of Elasticity:	24774600 psi

Test Summary

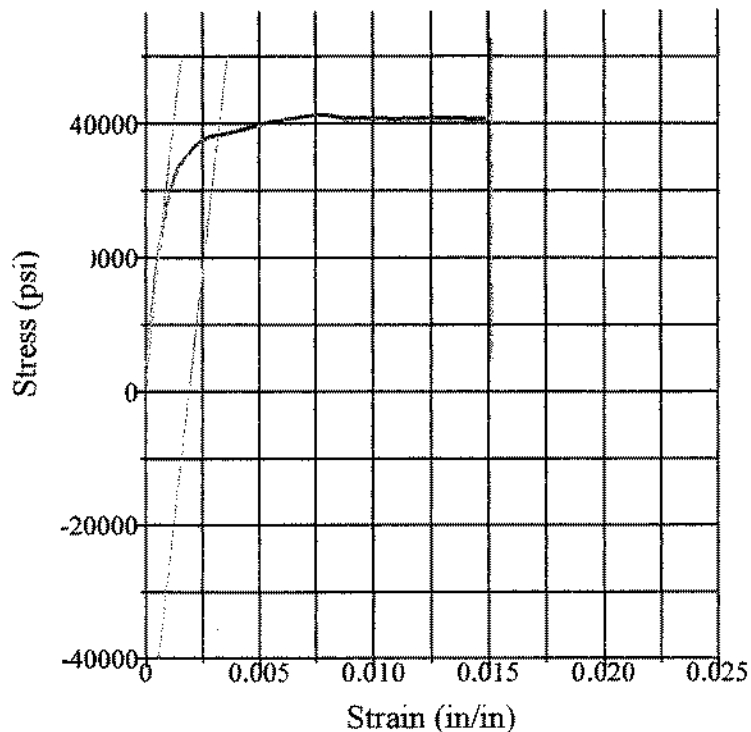
Counter:	18834
Elapsed Time:	00:03:41
ATI #:	01-46388
Client:	Wayne Dalton Corp
Material Type:	Rolling Steel Door
Sample #:	2
Comments:	Model 822 10' x 8'
Procedure Name:	ASTM E 8-01, Tensile Testing of
Start Date:	10/15/03
Start Time:	4:32:22 PM
End Date:	10/15/03
End Time:	4:36:03 PM
Workstation:	Architectural Testing Inc.
Tested By:	Joe



Width: **0.5045 in**
 After Test Width: **0.4020 in**
 Thickness: **0.0320 in**
 After Test Thickness: **0.0260 in**
 Area: **0.0161 in²**
 After Test Area: **0.0105 in²**
 Tensile Strength: **51406 psi**
 Peak Load: **828 lbf**
 Load at Yield: **598.7902 lbf**
 Position at Yield: **0.0766 in**
 Time at Yield: **0.3863 min**
 Strain at Yield: **0.0032 in/in**
 Stress at Yield: **37191.9400 psi**
 Elongation at Yield: **0.0064 in**
 Reduction of Area: **34.8 %**
 Total Elongation: **32.0000 %**
 Pretest Punch Length: **2.000 in**
 Posttest Punch Length: **2.64 in**
 Modulus of Elasticity: **24990200 psi**

Test Summary

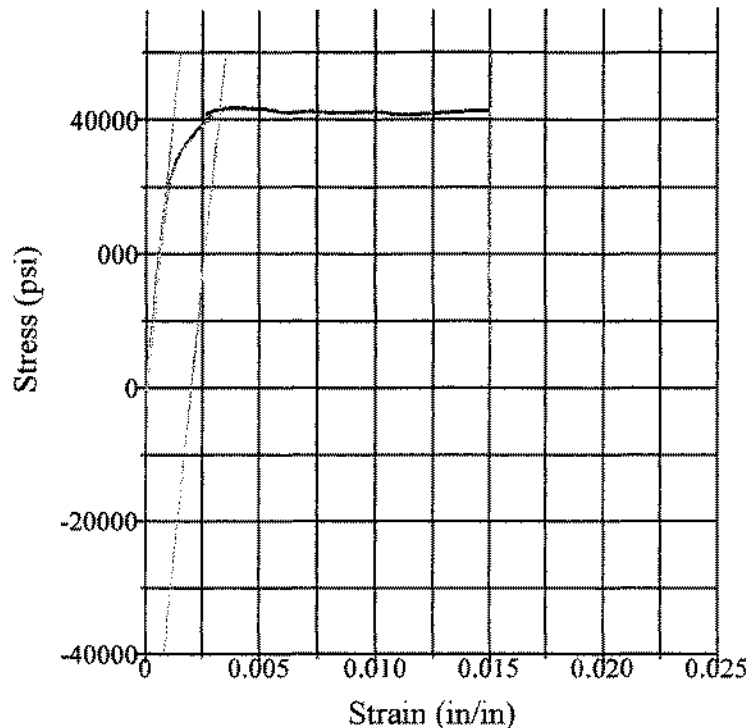
Counter: **18835**
 Elapsed Time: **00:04:17**
 ATI #: **01-46388**
 Client: **Wayne Dalton Corp**
 Material Type: **Rolling Steel Door**
 Sample #: **3**
 Comments: **Model 822 10' x 8'**
 Procedure Name: **ASTM E 8-01, Tensile Testing of**
 Start Date: **10/15/03**
 Start Time: **4:39:46 PM**
 End Date: **10/15/03**
 End Time: **4:44:03 PM**
 Workstation: **Architectural Testing Inc.**
 Tested By: **Joe**



Width: **0.5040 in**
 After Test Width: **0.4010 in**
 Thickness: **0.0310 in**
 After Test Thickness: **0.0260 in**
 Area: **0.0156 in²**
 After Test Area: **0.0104 in²**
 Tensile Strength: **52569 psi**
 Peak Load: **820 lbf**
 Load at Yield: **596.1286 lbf**
 Position at Yield: **0.0875 in**
 Time at Yield: **0.4410 min**
 Strain at Yield: **0.0032 in/in**
 Stress at Yield: **38213.3700 psi**
 Elongation at Yield: **0.0063 in**
 Reduction of Area: **33.3 %**
 Total Elongation: **30.5000 %**
 Pretest Punch Length: **2.000 in**
 Posttest Punch Length: **2.61 in**
 Modulus of Elasticity: **29858500 psi**

Test Summary

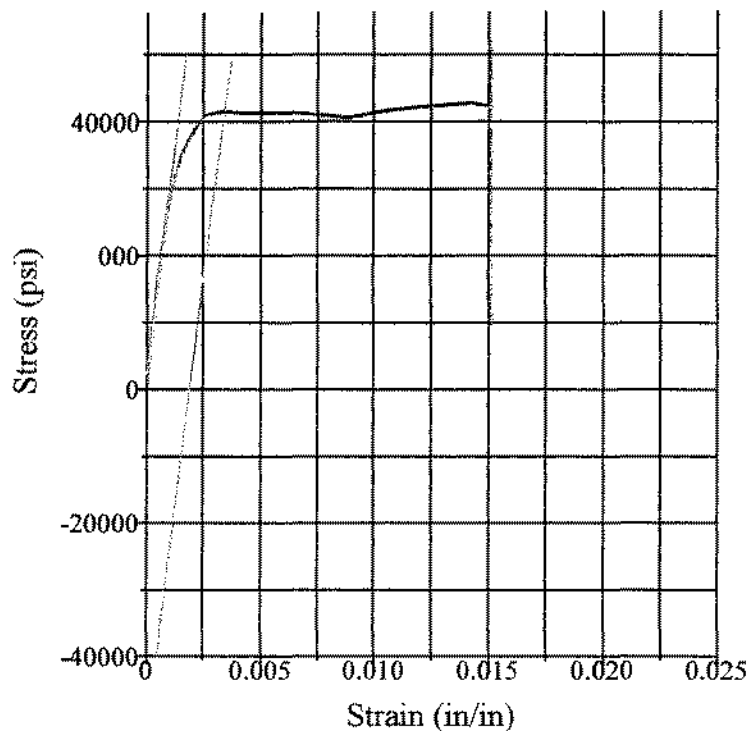
Counter: **18836**
 Elapsed Time: **00:04:13**
 ATI #: **01-46388**
 Client: **Wayne Dalton Corp**
 Material Type: **Rolling Steel Door**
 Sample #: **4**
 Comments: **Model 822 10' x 8'**
 Procedure Name: **ASTM E 8-01, Tensile Testing of**
 Start Date: **10/15/03**
 Start Time: **4:46:36 PM**
 End Date: **10/15/03**
 End Time: **4:50:49 PM**
 Workstation: **Architectural Testing Inc.**
 Tested By: **Joe**



Width:	0.4985 in
After Test Width:	0.3920 in
Thickness:	0.0320 in
After Test Thickness:	0.0300 in
Area:	0.0160 in ²
After Test Area:	0.0118 in ²
Tensile Strength:	50473 psi
Peak Load:	808 lbf
Load at Yield:	661.9407 lbf
Position at Yield:	0.0892 in
Time at Yield:	0.4496 min
Strain at Yield:	0.0032 in/in
Stress at Yield:	41371.2900 psi
Elongation at Yield:	0.0065 in
Reduction of Area:	26.2 %
Total Elongation:	32.0000 %
Pretest Punch Length:	2.000 in
Posttest Punch Length:	2.64 in
Modulus of Elasticity:	33353600 psi

Test Summary

Counter:	18837
Elapsed Time:	00:04:04
ATI #:	01-46388
Client:	Wayne Dalton Corp
Material Type:	Rolling Steel Door
Sample #:	5
Comments:	Model 822 10' x 8'
Procedure Name:	ASTM E 8-01, Tensile Testing of
Start Date:	10/15/03
Start Time:	4:58:43 PM
End Date:	10/15/03
End Time:	5:02:47 PM
Workstation:	Architectural Testing Inc.
Tested By:	Joe



Width:	0.5035 in
After Test Width:	0.4100 in
Thickness:	0.0310 in
After Test Thickness:	0.0270 in
Area:	0.0156 in ²
After Test Area:	0.0111 in ²
Tensile Strength:	51672 psi
Peak Load:	806 lbf
Load at Yield:	646.4701 lbf
Position at Yield:	0.0761 in
Time at Yield:	0.3841 min
Strain at Yield:	0.0034 in/in
Stress at Yield:	41440.3900 psi
Elongation at Yield:	0.0068 in
Reduction of Area:	28.8 %
Total Elongation:	28.5000 %
Pretest Punch Length:	2.000 in
Posttest Punch Length:	2.57 in
Modulus of Elasticity:	27402600 psi

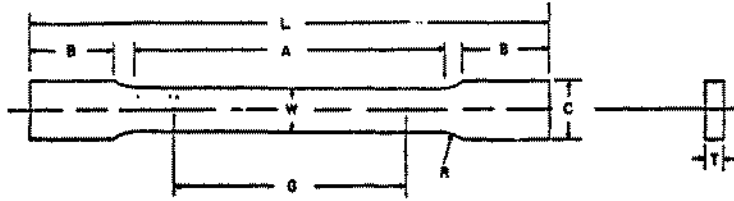
Test Summary

Counter:	18838
Elapsed Time:	00:03:58
ATI #:	01-46388
Client:	Wayne Dalton Corp
Material Type:	Rolling Steel Door
Sample #:	6
Comments:	Model 822 10' x 8'
Procedure Name:	ASTM E 8-01, Tensile Testing of
Start Date:	10/15/03
Start Time:	5:04:51 PM
End Date:	10/15/03
End Time:	5:08:49 PM
Workstation:	Architectural Testing Inc.
Tested By:	Joe

Model # 822 Rolling Steel Door 10'x8' 22 GA Curtain (Metro Bade)

E 8

ATI 63051



Dimensions

	Standard Specimens		Subsize Specimen
	Plate-Type, 1½-in. Wide	Sheet-Type, ½-in. Wide	¼-in. Wide
	in.	in.	in.
G—Gage length (Note 1 and Note 2)	8.00 ± 0.01	2.000 ± 0.005	1.000 ± 0.003
W—Width (Note 3 and Note 4)	1½ ± ¼, - ¼	0.500 ± 0.010	0.250 ± 0.005
T—Thickness (Note 5)		thickness of material	
R—Radius of fillet, min (Note 6)	1	½	¼
L—Over-all length, (Note 2, Note 7 and Note 8)	18	8	4
A—Length of reduced section, min	9	2¼	1¼
B—Length of grip section, (Note 8)	3	2	1¼
C—Width of grip section, approximate (Note 4 and Note 9)	2	¾	¾

NOTE 1—For the 1½-in. wide specimen, punch marks for measuring elongation after fracture shall be made on the flat or on the edge of the specimen and within the reduced section. Either a set of nine or more punch marks 1 in. apart, or one or more pairs of punch marks 8 in. apart may be used.

NOTE 2—When elongation measurements of 1½-in. wide specimens are not required, a minimum length of reduced section (A) of 2¼ in. may be used with all other dimensions similar to those of the plate-type specimen.

NOTE 3—For the three sizes of specimens, the ends of the reduced section shall not differ in width by more than 0.004, 0.002 or 0.001 in., respectively. Also, there may be a gradual decrease in width from the ends to the center, but the width at each end shall not be more than 0.015, 0.005, or 0.003 in., respectively, larger than the width at the center.

NOTE 4—For each of the three sizes of specimens, narrower widths (W and C) may be used when necessary. In such cases the width of the reduced section should be as large as the width of the material being tested permits; however, unless stated specifically, the requirements for elongation in a product specification shall not apply when these narrower specimens are used.

NOTE 5—The dimension T is the thickness of the test specimen as provided for in the applicable material specifications. Minimum thickness of 1½-in. wide specimens shall be ¼ in. Maximum thickness of ½-in. and ¼-in. wide specimens shall be ¼ in. and ¼ in., respectively.

NOTE 6—For the 1½-in. wide specimen, a ½-in. minimum radius at the ends of the reduced section is permitted for steel specimens under 100 000 psi in tensile strength when a profile cutter is used to machine the reduced section.

NOTE 7—The dimension shown is suggested as a minimum. In determining the minimum length, the grips must not extend in to the transition section between Dimensions A and B , see Note 9.

NOTE 8—To aid in obtaining axial force application during testing of ¼-in. wide specimens, the over-all length should be as large as the material will permit, up to 8.00 in.

NOTE 9—It is desirable, if possible, to make the length of the grip section large enough to allow the specimen to extend into the grips a distance equal to two thirds or more of the length of the grips. If the thickness of ½-in. wide specimens is over ¼ in., longer grips and correspondingly longer grip sections of the specimen may be necessary to prevent failure in the grip section.

NOTE 10—For the three sizes of specimens, the ends of the specimen shall be symmetrical in width with the center line of the reduced section within 0.10, 0.05 and 0.005 in., respectively. However, for referee testing and when required by product specifications, the ends of the ½-in. wide specimen shall be symmetrical within 0.01 in.

NOTE 11—For each specimen type, the radii of all fillets shall be equal to each other within a tolerance of 0.05 in., and the centers of curvature of the two fillets at a particular end shall be located across from each other (on a line perpendicular to the centerline) within a tolerance of 0.10 in.

NOTE 12—Specimens with sides parallel throughout their length are permitted, except for referee testing, provided: (a) the above tolerances are used; (b) an adequate number of marks are provided for determination of elongation; and (c) when yield strength is determined, a suitable extensometer is used. If the fracture occurs at a distance of less than $2W$ from the edge of the gripping device, the tensile properties determined may not be representative of the material. In acceptance testing, if the properties meet the minimum requirements specified, no further testing is required, but if they are less than the minimum requirements, discard the test and retest.

FIG. 1 Rectangular Tension Test Specimens

maximize precision and minimize bias in test results.

6.1.3.1 The reduced sections of prepared specimens should be free of cold work, notches, chatter marks, grooves, gouges, burrs, rough surfaces or edges, overheating, or any other condition which can deleteriously affect the properties to be measured.

NOTE 7—Punching or blanking of the reduced section may produce significant cold work or shear burrs, or both, along the edges which should be removed by machining.

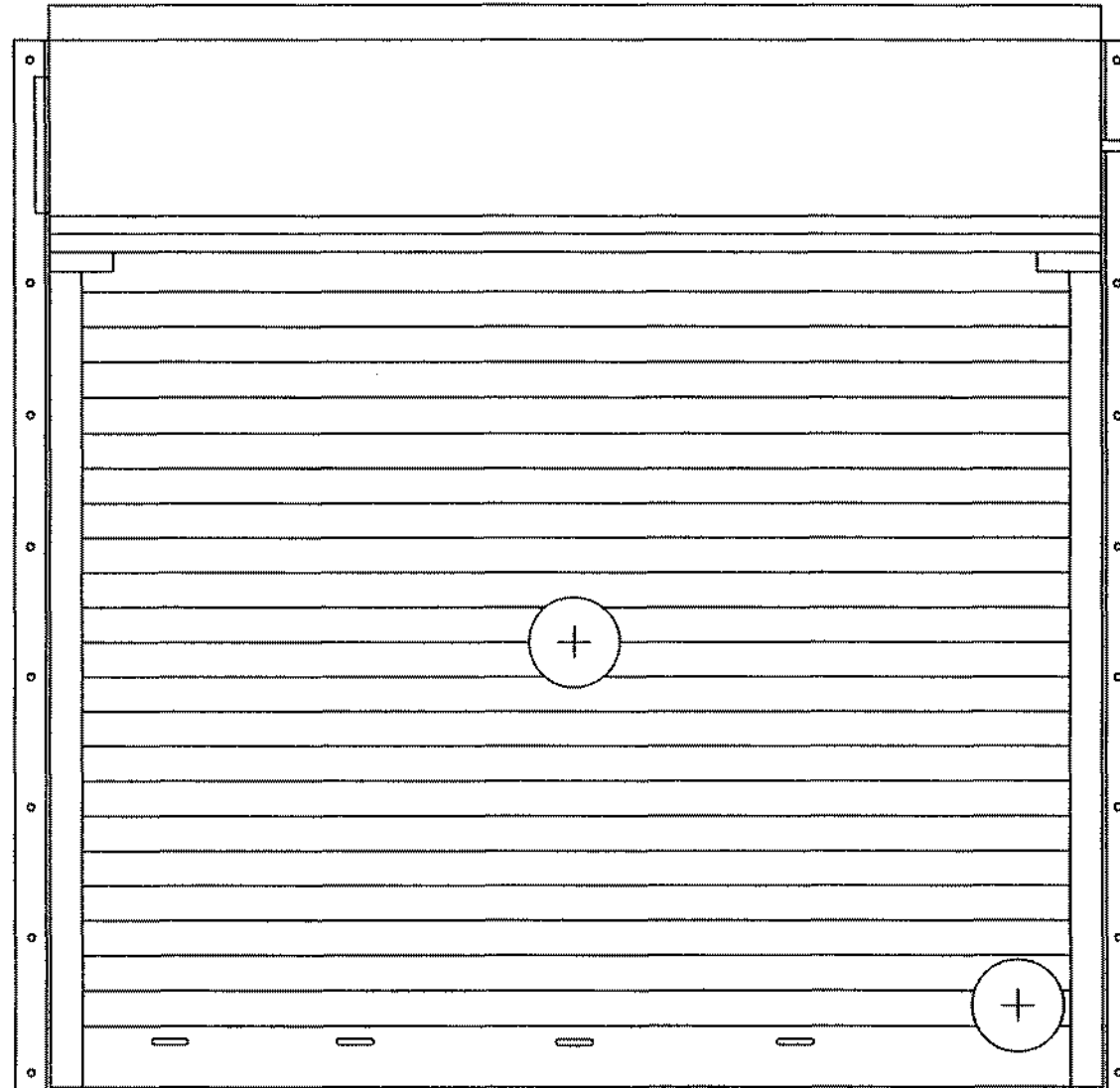
6.1.3.2 Within the reduced section of rectangular speci-

mens, edges or corners should not be ground or abraded in a manner which could cause the actual cross-sectional area of the specimen to be significantly different from the calculated area.

6.1.3.3 For brittle materials, large radius fillets at the ends of the gage length should be used.

6.1.3.4 The cross-sectional area of the specimen should be smallest at the center of the reduced section to ensure fracture within the gage length. For this reason, a small taper is permitted in the reduced section of each of the specimens described in the following sections.

REV	DATE	DESCRIPTION	BY



(+) = IMPACT LOCATION

PROJECT NO.
01-46388.01
120-18

PROJECT NAME: SERIES/MODEL 822 - DADE
CLIENT: WAYNE-DALTON CORPORATION

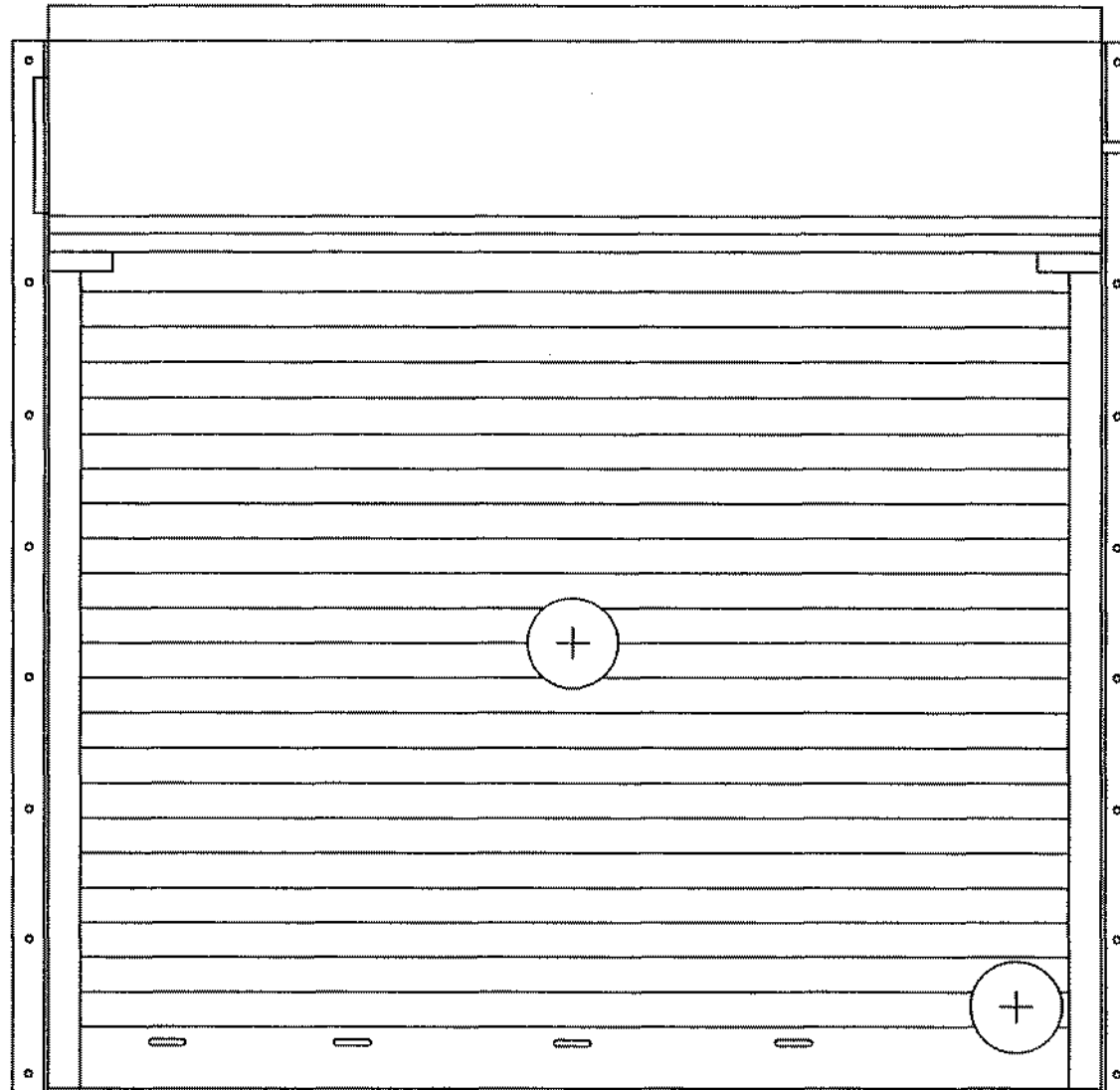


DRAWING
TEST UNIT #1 IMPACT LOCATIONS

DWG. BY:
DAS
DATE:
10/29/03

SHEET
1 OF
4

REV	DATE	DESCRIPTION	BY



(+) = IMPACT LOCATION

PROJECT NO.
01-46388.01
120-18

PROJECT NAME: SERIES/MODEL 822 - DADE
CLIENT: WAYNE-DALTON CORPORATION



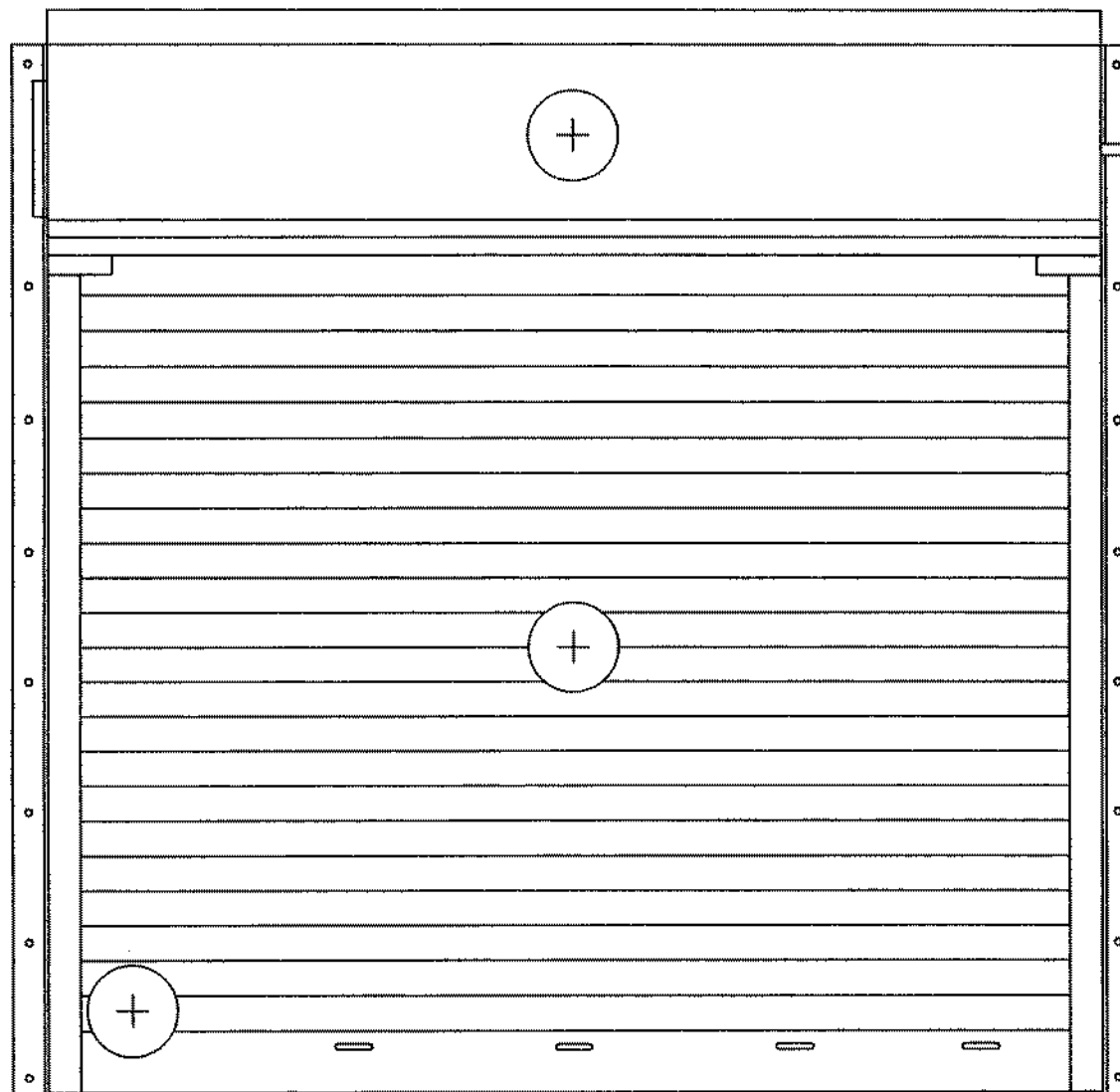
DRAWING

TEST UNIT #2 IMPACT LOCATIONS

DWG. BY:
DAS
DATE:
10/29/03

SHEET
2 OF
4

REV	DATE	DESCRIPTION	BY



(+) = IMPACT LOCATION

PROJECT NO.
01-46388.01
120-18

PROJECT NAME: SERIES/MODEL 822 - DADE
CLIENT: WAYNE-DALTON CORPORATION



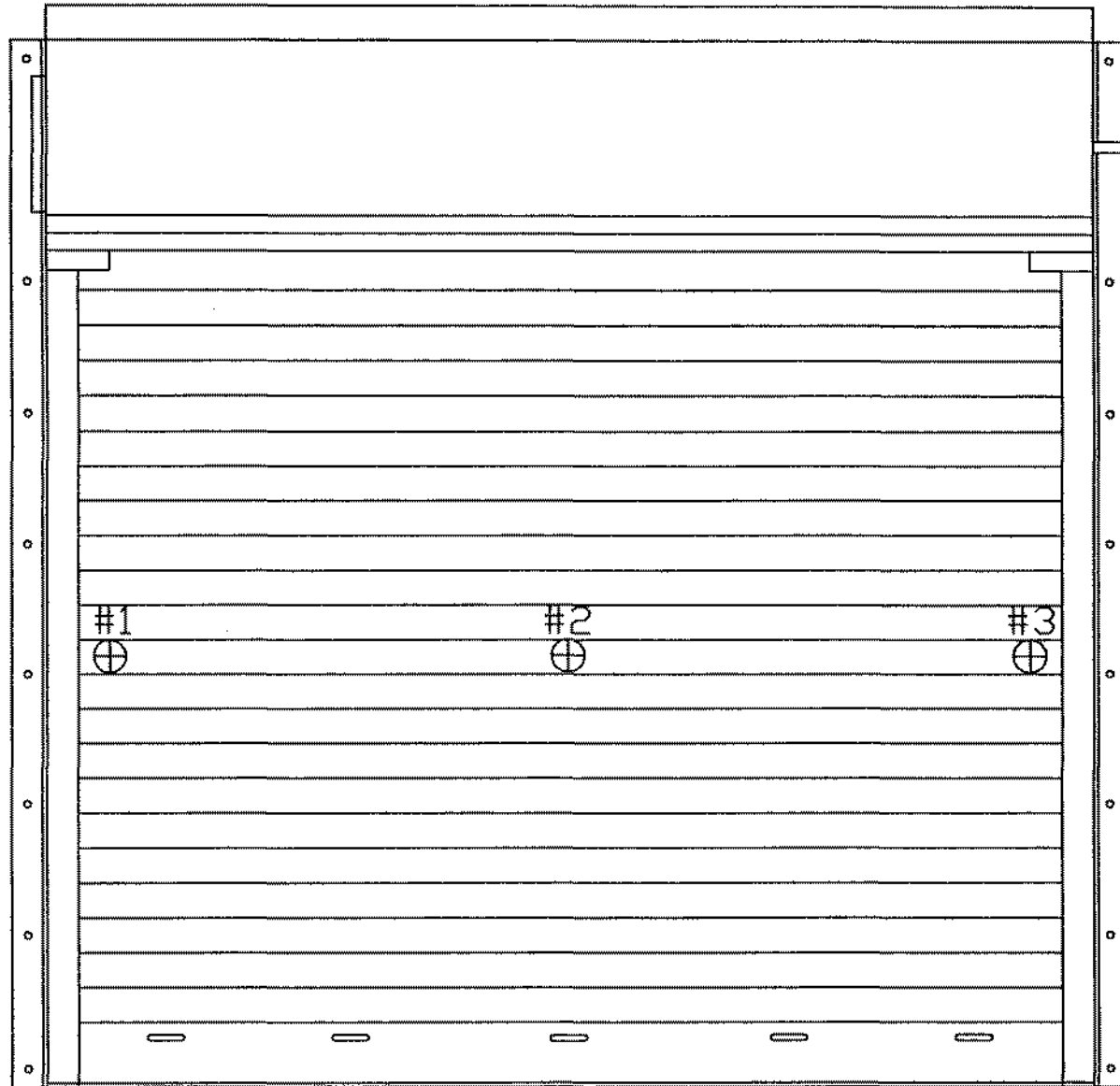
DRAWING

TEST UNIT #3 IMPACT LOCATIONS

DWG. BY:
DAS
DATE:
10/29/03

SHEET
3 OF
4

REV	DATE	DESCRIPTION	BY



⊕ = DEFLECTION MEASUREMENT LOCATION

PROJECT NO.
01-46388.01
120-18

PROJECT NAME: SERIES/MODEL 822 - DADE
CLIENT: WAYNE-DALTON CORPORATION



DRAWING
DEFLECTION MEASUREMENT LOCATIONS

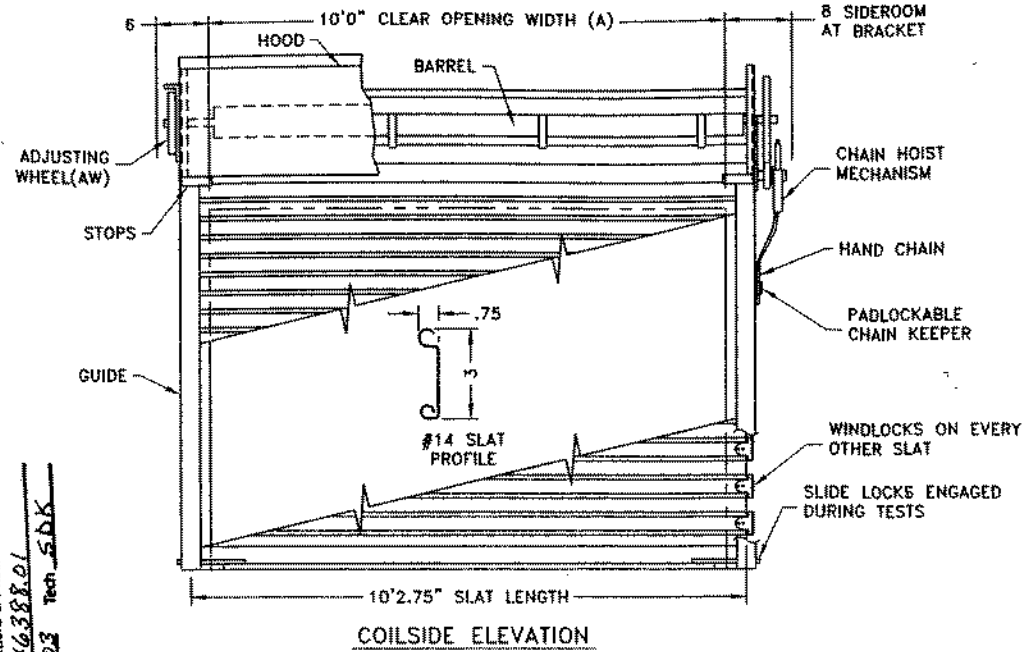
DWG. BY:
DAS
DATE:
10/29/03

SHEET
4 OF
4

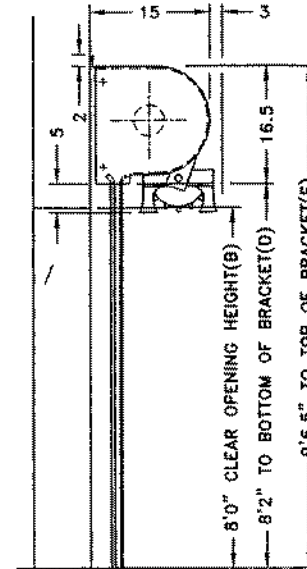
Architectural Testing

Test sample complies with these details.
Deviations are noted.

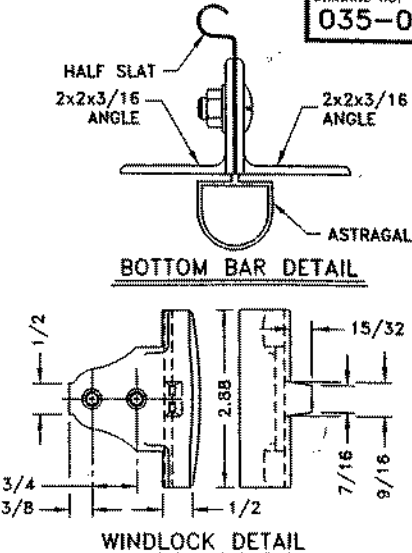
Report: 01-46388.01
Date: 10-31-03 Tech: SJK



COILSIDE ELEVATION

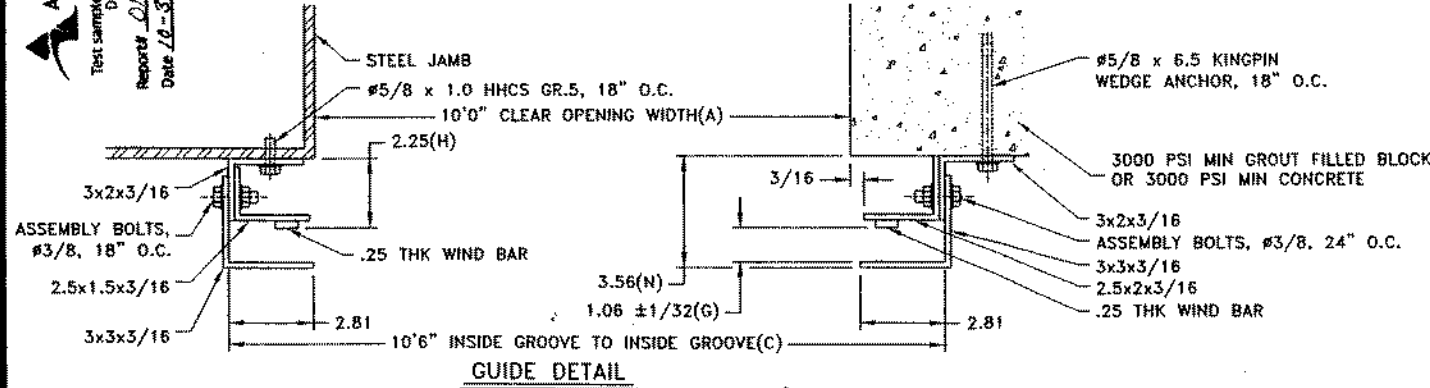


VERTICAL DETAIL



NOTES:

1. UNIFORM STATIC AIR PRESSURE TEST PERFORMED PER TAS 202
2. LARGE MISSILE IMPACT TEST PERFORMED ON 3 SAMPLES PER TAS 201 TO QUALIFY INTERIOR & EXTERIOR MOUNT
3. CYCLIC PRESSURE TEST PERFORMED ON 3 SAMPLES PER TAS 203
4. TENSILE TEST PERFORMED ON CURTAIN PER ASTM E 8
5. TESTED BY ARCHITECTURAL TESTING, INC.
6. CURTAIN IS .028 MIN STEEL PER ASTM A 653, GR.40
7. GUIDE ANGLES ARE STRUCTURAL STEEL PER ASTM A 36
8. HOOD IS 24GA GALVANIZED STEEL



GUIDE DETAIL

TEST	DATE	TEST REPORT NUMBER	RESULTS
UNIFORM STATIC AIR PRESSURE			
LARGE MISSILE IMPACT			
CYCLIC PRESSURE			
TENSILE			

PART NUMBER	WEIGHT (LB.)	TITLE	DRAWN BY	CHECKED BY	APPROVED BY	TOLERANCES (UNLESS OTHERWISE SPECIFIED)	Wayne Dalton Rolling Door Division 44313 Lincoln Way E. Dalton, Ohio 44618
REFERENCE		WINDLOAD TEST, 822. 10' x 8', #14 SLAT, HVHZ, ±47 PSF DESIGN (±71 PSF TEST)	M. DAUS 10/15/2003			LINEAR .X ± .060 LINEAR .XX ± .030 LINEAR .XXX ± .010 ANGULAR ± .50"	
		MATERIAL	AS SHOWN	SCALE - WHEN THIS BOX IS .50" HIGH NONE	ORIGINAL RELEASE	DIMENSIONS IN INCHES	
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REV.	REV'D. BY	APPROVED BY	RELEASE	DESCRIPTION
				REVISIONS

SIZE	DRAWING NO.	REVISION
B	035-0002	