



## Mesker Door Company

Model Designation: ICC-500 2014 Windstorm Rated Assembly  
Outswing Door

## Client Package

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# Test Report and Drawings



Quality Accuracy Assurance

# Fenestration Testing Laboratory, Inc.

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Report Date: 10/24/2017  
 Completion Date: 8/23/2017  
 Expiration Date: 8/23/2021  
 Page Number: 1 of 21  
 Lab. Number: 9704  
 Project Number: 17-7345

## OFFICIAL TEST REPORT

**MANUFACTURER:** Mesker Door Company      **SPECIFICATIONS:** FEMA 361, ICC-500-08  
**ADDRESS:** 3440 Stanwood Boulevard      ASTM E330  
 Huntsville, Alabama 35811      **PROJECT:** Mesker Door Company

Table of Contents	Page	Rev	Sample B-1 continued	Page	Rev
Revision Table	3		Hardware	8	
Notes Table	3		Reinforcement	9	
Remarks Table	3		Additional Information	9	
<b>Sample A-1</b>			Test Sample Installation	9	
Description of Test Sample	4		Results Sample B-1		
Material Characteristics	4		1/2 Design Load Test Negative	TAS 202	10
Hardware	4		Design Load Test Negative	TAS 202	10
Reinforcement	5		1/2 Structural Load Test Negative	TAS 202	10
Additional Information	5		Uniform Structural Load Test Negative	TAS 202	10
Test Sample Installation	5		1/2 Design Load Test Negative	TAS 202	10
Results Sample A-1			Design Load Test Negative		11
1/2 Design Load Test Negative	TAS 202	5	1/2 Structural Load Test Negative		11
Design Load Test Negative	TAS 202	6	Uniform Structural Load Test Negative		11
1/2 Structural Load Test Negative	TAS 202	6	Large Missile Impact		11
Uniform Structural Load Test Negative	TAS 202	6	<b>Sample C-1</b>		
1/2 Design Load Test Negative	TAS 202	6	Description of Test Sample		12
Design Load Test Negative	TAS 202	7	Material Characteristics		12
1/2 Structural Load Test Negative	TAS 202	7	Hardware		12
Uniform Structural Load Test Negative	TAS 202	7	Reinforcement		13
Large Missile Impact	TAS 201	7	Additional Information		13
<b>Sample B-1</b>			Test Sample Installation		13
Description of Test Sample	8		Results Sample A-1		
Material Characteristics	8		1/2 Design Load Test Negative	TAS 202	13
			Design Load Test Negative	TAS 202	14
			1/2 Structural Load Test Negative	TAS 202	14
			Uniform Structural Load Test Negative	TAS 202	14
			1/2 Design Load Test Negative	TAS 202	14
			Design Load Test Negative	TAS 202	15



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Report Date: 10/24/2017  
Completion Date: 8/23/2017  
Expiration Date: 8/23/2021  
Page Number: 2 of 21  
Lab. Number: 9704  
Project Number: 17-7345

## OFFICIAL TEST REPORT

Table of Contents		Page	Rev	Sample D-1 Continued	Page	Rev
<b>Sample C-1 continued</b>				Uniform Structural Load Test Negative	TAS 202	19
1/2 Structural Load Test Negative	TAS 202	15		Large Missile Impact	TAS 201	20
Uniform Structural Load Test Negative	TAS 202	15		Appendix A		21
Large Missile Impact	TAS 201	15		Appendix B		21
<b>Sample D-1</b>						
Description of Test Sample		16				
Material Characteristics		16				
Hardware		16				
Reinforcement		17				
Additional Information		17				
Test Sample Installation		17				
Results Sample A-1						
1/2 Design Load Test Negative	TAS 202	18				
Design Load Test Negative	TAS 202	18				
1/2 Structural Load Test Negative	TAS 202	18				
Uniform Structural Load Test Negative	TAS 202	18				
1/2 Design Load Test Negative	TAS 202	18				
Design Load Test Negative	TAS 202	19				
1/2 Structural Load Test Negative	TAS 202	19				



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Report Date: 10/24/2017  
Completion Date: 8/23/2017  
Expiration Date: 8/23/2021  
Page Number: 3 of 21  
Lab. Number: 9704  
Project Number: 17-7345

## OFFICIAL TEST REPORT

Revision	Description	Author	Effective Date
0	Initial Release	Ms. Lusinda Delgado	10/24/2017

### Notes

\* designates measurements by laboratory

\*\* as per manufacturer

Drawings referenced in this document are an integral part of this report, therefore, are required when distributing this test report. Test results obtained represent the actual value of the tested specimens and do not constitute opinion, endorsement or certification by this laboratory.

This test report is considered the exclusive property of the client named herein and is applicable to the sample tested. This report may not be reproduced without the approval of Fenestration Testing Laboratory, Inc.

At conclusion of below tests, there was no apparent damage to fasteners. Test specimens were covered with 1.5mil plastic sheeting to seal from air leakage when load test were performed, however this had no effect on above results.

### Remarks

Representative samples of the test specimens, detailed drawings and test report will be retained by Fenestration Testing Laboratory for a period of four years from the original test date.

This product was tested in accordance with the FEMA 361, FEMA 320 and ICC-500 with no deviations. This product was tested in accordance with the ASTM E330-14 with the deviation that only the negative load was completed.

Testing was conducted as per instructions received from your company representative.



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Report Date: 10/24/2017  
 Completion Date: 8/23/2017  
 Expiration Date: 8/23/2021  
 Page Number: 4 of 21  
 Lab. Number: 9704  
 Project Number: 17-7345

## OFFICIAL TEST REPORT

DESCRIPTION OF SAMPLE	
Model Designation:	Series ICC-500 2014 Windstorm Rated Assembly Outswing Door
Overall Size:	3'-4" (40") by 7'-4 1/8" (88 1/8") high
Configuration:	X
Number of Panels:	One
Size of Active Panel:	2'-11 3/4" (35 3/4") by 6'-11 1/8" (83 1/8") high
Sample A-1	

MATERIAL CHARACTERISTICS			
Members	Material**	Part Number**	Joint Type
Frame Head	14 gauge steel	N/A	Mitered Joint
Frame Jambs	14 gauge steel	N/A	Mitered Joint
Frame Corners Construction	Number of Fasteners	Size of Fasteners	
Upper corners fastened with	None	Welded	

Hardware				
Quantity	Description	Distance	Location	Method of Attachment
Three	**Design Hardware DI Series surface mount metallic dead bolt with key operator on the exterior, thumb turn on the interior and no visible product markings	11 3/4" 45 5/8" and 72" from bottom	Right side of panel	(2) 6 by 3/4" FH multithread screw (2) 10-32 by 2 1/2" OH MS
One	**Design Hardware X-Series surface mount metallic lever type handle key operator on the exterior, push button on the interior and no visible product markings	39 1/2" from bottom	Right side of panel	(2) 10-32 by 1 3/16" FH MS (2) 6 by 3/4" FH multithread screw
Three	**Design Hardware BBS-HW 4 1/2" long flush mount metallic butt hinge with no visible product marking	12 3/8", 42 1/2" and 72 3/4" from bottom	Left frame jamb	To panel and to frame using (4) 12-24 by 1/2" FH TC MS
Three	Surface mount metallic keepers with no visible product markings	12 1/2", 46 1/2" and 73" from bottom	Right frame jamb	(2) 6 by 3/4" FH multithread screw
One	Surface mount metallic strike plate with no visible product markings	40 5/8" from bottom	Right frame jamb	(2) 6 by 3/4" FH multithread screw



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 Completion Date: 8/23/2017  
 Expiration Date: 8/23/2021  
 Page Number: 5 of 21  
 Lab. Number: 9704  
 Project Number: 17-7345

## OFFICIAL TEST REPORT

Reinforcement		
Quantity and Type	Location	Method of Attachment
One 16 gauge steel Govt. No. 161 cylindrical (C4) lock reinforcement	Inside the panel at the handle location	Spot welded
One 4" long by 8" gauge steel keeper reinforcement (part No. PVSRC)	Inside the right frame jamb located 12 1/2", 48", and 77" from bottom	Spot welded at each end
One 7 15/16" long by 14 gauge steel strike plate reinforcement (part No. PFSRU) welded to a 7 5/8" long by 14 gauge strike plate cover (part No. PFUPG)	Inside the right frame jamb located 40 5/16" from bottom	Spot welded at each end
One 1 1/2" by 8" long by 7 gauge steel hinge reinforcement	Inside the frame at each hinge location	Spot welded at each end
One 1 1/2" by 9 5/8" by 7 gauge steel hinge reinforcement	Inside the panel at each hinge location	Spot welded at each end
One 5/8" by 1 5/8" by 5/8" by 0.040" thick	Inside each panel at top and bottom	Single row of spot welds 1 3/4" from each end and 2" on center
One 5" by 1 1/2" by 5" by 16" long steel channel	Inside the panel at the top left	**Hotmelt PUR glue

### Additional Information

14 gauge \*\*galvannealed steel panel has a continuous welded seam with a gray primer finish on the interior and exterior. Panel has a \*\*polystyrene core that was bonded to the inside face of the panel, between the reinforcement.

### Sample Installation

The sample was tested in a steel chamber with Quikrete Non-shrink Precision Grout (minimum \*\*3,000 psi after one day core time per specification) filled blocks on both sides. The frame jambs were fastened using a single row of wire anchors located 4 3/4", 22", 40 1/8", 58" and 76 1/16" from bottom. There were no installation screw at the frame head.

<b>Sample: A-1</b>	<b>Temperature:</b> 91.8°F	<b>Barometric Reading:</b> 30.0 inches Hg
<b>Title of Test</b>	<b>Pressure</b>	<b>Notes</b>
1/2 Design Load Test Negative Load	105.0 psf	
	<b>Results</b>	Passed



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Report Date: 10/24/2017  
 Completion Date: 8/23/2017  
 Expiration Date: 8/23/2021  
 Page Number: 6 of 21  
 Lab. Number: 9704  
 Project Number: 17-7345

## OFFICIAL TEST REPORT

Sample: A-1	Temperature: 91.8°F	Barometric Reading: 30.0 inches Hg		
Title of Test		Pressure	Notes	
Design Load Test Negative Load		210.0 psf		
See appendix A for exact location of deflection points				
Reading#	Deflection	Permanent Set	Results	Add. Info
1	0.099"	0.009"	Passed	Frame head
2	0.290"	0.030"	Passed	Above the dead bolt
3	0.090"	0.007"	Passed	Frame jamb
4	0.288"	0.040"	Passed	Lower corner of panel
5	0.270"	0.040"	Passed	Bottom of panel at midspan

Sample: A-1	Temperature: 91.9°F	Barometric Reading: 30.0 inches Hg		
Title of Test		Pressure	Notes	
1/2 Structural Load Test Negative Load		126.0 psf		
		Results	Passed	

Sample: A-1	Temperature: 91.9°F	Barometric Reading: 30.0 inches Hg		
Title of Test		Pressure	Notes	
Structural Load Test Negative Load		252.0 psf		
See appendix A for exact location of deflection points				
Reading#	Deflection	Permanent Set	Results	Add. Info
1	0.108"	0.009"	Passed	Frame head
2	0.326"	0.033"	Passed	Above the dead bolt
3	0.100"	0.008"	Passed	Frame jamb
4	0.311"	0.042"	Passed	Lower corner of panel
5	0.294"	0.044"	Passed	Bottom of panel at midspan

Sample: A-1	Temperature: 91.9°F	Barometric Reading: 30.0 inches Hg		
Title of Test		Pressure	Notes	
1/2 Design Load Test Negative Load		126.0 psf		
		Results	Passed	





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 Completion Date: 8/23/2017  
 Expiration Date: 8/23/2021  
 Page Number: 7 of 21  
 Lab. Number: 9704  
 Project Number: 17-7345

## OFFICIAL TEST REPORT

<b>Sample: A-1</b>	<b>Temperature:</b> 91.9°F	<b>Barometric Reading:</b> 30.0 inches Hg		
<b>Title of Test</b>		<b>Pressure</b>	<b>Notes</b>	
Design Load Test Negative Load		252.0 psf		
See appendix A for exact location of deflection points				
<b>Reading#</b>	<b>Deflection</b>	<b>Permanent Set</b>	<b>Results</b>	<b>Add. Info</b>
1	0.108"	0.009"	Passed	Frame head
2	0.326"	0.033"	Passed	Above the dead bolt
3	0.100"	0.008"	Passed	Frame jamb
4	0.311"	0.042"	Passed	Lower corner of panel
5	0.294"	0.044"	Passed	Bottom of panel at midspan

<b>Sample: A-1</b>	<b>Temperature:</b> 91.9°F	<b>Barometric Reading:</b> 30.0 inches Hg	
<b>Title of Test</b>		<b>Pressure</b>	<b>Notes</b>
1/2 Structural Load Test Negative Load		152.5 psf	
		<b>Results</b>	Passed

<b>Sample: A-1</b>	<b>Temperature:</b> 91.9°F	<b>Barometric Reading:</b> 30.0 inches Hg		
<b>Title of Test</b>		<b>Pressure</b>	<b>Notes</b>	
Structural Load Test Negative Load		305.0 psf		
See appendix A for exact location of deflection points				
<b>Reading#</b>	<b>Deflection</b>	<b>Permanent Set</b>	<b>Results</b>	<b>Add. Info</b>
1	0.136"	0.011"	Passed	Frame head
2	0.444"	0.037"	Passed	Above the dead bolt
3	0.130"	0.011"	Passed	Frame jamb
4	0.373"	0.051"	Passed	Lower corner of panel
5	0.360"	0.050"	Passed	Bottom of panel at midspan

<b>Sample: A-1</b>	<b>Temperature:</b> 91.2°F	<b>Barometric Reading:</b> 30.0 inches Hg		
<b>Title of Test</b>		<b>Notes</b>		
Large Missile Impact Test				
<b>Missile Weight</b>		<b>Missile</b>		
15.0 pounds		2" by 4" by 12' long		
See appendix B for exact location of impact points				
<b>Impact</b>	<b>Speed</b>	<b>Results</b>	<b>Add. Info</b>	
1	145.2 ft./sec	Passed		
2	146.1 ft./sec	Passed		
3	145.1 ft./sec	Passed		



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Completion Date: 8/23/2017  
Expiration Date: 8/23/2021  
Page Number: 8 of 21  
Lab. Number: 9704  
Project Number: 17-7345

## OFFICIAL TEST REPORT

DESCRIPTION OF SAMPLE	
Model Designation:	Series ICC-500 2014 Windstorm Rated Assembly Outswing Door
Overall Size:	2'-10" (34") by 6'-10 1/8" (82 1/8") high
Configuration:	X
Number of Panels:	One
Size of Active Panel:	2'-5 3/4" (29 3/4") by 6'-7 1/8" (79 1/8") high
Sample B -1	

MATERIAL CHARACTERISTICS			
Members	Material**	Part Number**	Joint Type
Frame Head	14 gauge steel	N/A	Mitered Joint
Frame Jamb	14 gauge steel	N/A	Mitered Joint
Frame Corners Construction	Number of Fasteners	Size of Fasteners	
Upper corners fastened with	None	Welded	

Hardware				
Quantity	Description	Distance	Location	Method of Attachment
Three	**Design Hardware DI Series surface mount metallic dead bolt with key operator on the exterior, thumb turn on the interior and no visible product markings	11 1/2" 45 1/2" and 72" from bottom	Right side of panel	(2) 6 by 3/4" FH multithread screw (2) 10-32 by 2 1/2" OH MS
One	**Design Hardware X-Series surface mount metallic lever type handle key operator on the exterior, push button on the interior and no visible product markings	39 1/2" from bottom	Right side of panel	(2) 10-32 by 1 3/16" FH MS (2) 6 by 3/4" FH multithread screw
Three	**Design Hardware BBS-HW 4 1/2" long flush mount metallic butt hinge with no visible product marking	11 1/2", 42" and 72" from bottom	Left frame jamb	To panel and to frame using (4) 12-24 by 1/2" FH TC MS
Three	Surface mount metallic keepers with no visible product markings	12 1/2", 46 1/2" and 72 3/4" from bottom	Right frame jamb	(2) 6 by 3/4" FH multithread screw
One	Surface mount metallic strike plate with no visible product markings	48 1/2" from bottom	Right frame jamb	(2) 6 by 3/4" FH multithread screw



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Completion Date: 8/23/2017  
Expiration Date: 8/23/2021  
Page Number: 9 of 21  
Lab. Number: 9704  
Project Number: 17-7345

### OFFICIAL TEST REPORT

Reinforcement		
Quantity and Type	Location	Method of Attachment
One 16 gauge steel Govt. No. 161 cylindrical (C4) lock reinforcement	Inside the panel at the handle location	Spot welded
One 4" long by 8" gauge steel keeper reinforcement (part No. PVSRC)	Inside the right frame jamb located 12 1/2", 48", and 77" from bottom	Spot welded at each end
One 7 15/16" long by 14 gauge steel strike plate reinforcement (part No. PFSRU) welded to a 7 5/8" long by 14 gauge strike plate cover (part No. PFUPG)	Inside the right frame jamb located 40 5/16" from bottom	Spot welded at each end
One 1 1/2" by 8" long by 7 gauge steel hinge reinforcement	Inside the frame at each hinge location	Spot welded at each end
One 1 1/2" by 9 5/8" by 7 gauge steel hinge reinforcement	Inside the panel at each hinge location	Spot welded at each end
One 5/8" by 1 5/8" by 5/8" by 0.040" thick	Inside each panel and the top and bottom	Single row of spot welds 1 3/4" from each end and 2" on center
One 5" by 1 1/2" by 5" by 16" long steel channel	Inside the panel at the top left	**Hotmelt PUR glue

### Additional Information

14 gauge \*\* galvanized steel panel has a continuous welded seam with a gray primer finish on the interior and exterior. Panel has a \*\* polystyrene core that was bonded to the inside face of the panel, between the reinforcement.

### Sample Installation

The sample was tested in a steel chamber with Quikrete Non-Shrink Precision Grout (minimum \*\*3,000 psi after one day cure per specification) filled blocks on both sides. The frame jambs were fastened using a single row of tube anchors located 4 3/4", 22 1/8", 40 1/8", 58" and 75 1/8" from bottom. There were no installation screw at the frame head.



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Report Date: 10/24/2017  
 Completion Date: 8/23/2017  
 Expiration Date: 8/23/2021  
 Page Number: 10 of 21  
 Lab. Number: 9704  
 Project Number: 17-7345

### OFFICIAL TEST REPORT

<b>Sample: B-1</b>	<b>Temperature:</b> 89.4°F	<b>Barometric Reading:</b> 30.0 inches Hg
<b>Title of Test</b>	<b>Pressure</b>	<b>Notes</b>
1/2 Design Load Test Negative Load	105.0 psf	
	<b>Results</b>	Passed

<b>Sample: B-1</b>	<b>Temperature:</b> 89.5°F	<b>Barometric Reading:</b> 30.0 inches Hg		
<b>Title of Test</b>	<b>Pressure</b>	<b>Notes</b>		
Design Load Test Negative Load	210.0psf			
See appendix A for exact location of deflection points				
<b>Reading#</b>	<b>Deflection</b>	<b>Permanent Set</b>	<b>Results</b>	<b>Add. Info</b>
1	0.156"	0.020"	Passed	Frame head
2	0.234"	0.040"	Passed	Above the dead bolt
3	0.092"	0.027"	Passed	Frame jamb
4	0.244"	0.037"	Passed	Lower corner of panel
5	0.239"	0.037"	Passed	Bottom of panel at midspan

<b>Sample: B-1</b>	<b>Temperature:</b> 89.5°F	<b>Barometric Reading:</b> 30.0 inches Hg
<b>Title of Test</b>	<b>Pressure</b>	<b>Notes</b>
1/2 Structural Load Test Negative Load	126.0 psf	
	<b>Results</b>	Passed

<b>Sample: B-1</b>	<b>Temperature:</b> 89.6°F	<b>Barometric Reading:</b> 30.0 inches Hg		
<b>Title of Test</b>	<b>Pressure</b>	<b>Notes</b>		
Structural Load Test Negative Load	252.0 psf			
See appendix A for exact location of deflection points				
<b>Reading#</b>	<b>Deflection</b>	<b>Permanent Set</b>	<b>Results</b>	<b>Add. Info</b>
1	0.189"	0.031"	Passed	Frame head
2	0.274"	0.039"	Passed	Above the dead bolt
3	0.125"	0.035"	Passed	Frame jamb
4	0.310"	0.064"	Passed	Lower corner of panel
5	0.313"	0.062"	Passed	Bottom of panel at midspan

<b>Sample: B-1</b>	<b>Temperature:</b> 89.6°F	<b>Barometric Reading:</b> 30.0 inches Hg
<b>Title of Test</b>	<b>Pressure</b>	<b>Notes</b>
1/2 Design Load Test Negative Load	126.0 psf	
	<b>Results</b>	Passed



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 Completion Date: 8/23/2017  
 Expiration Date: 8/23/2021  
 Page Number: 11 of 21  
 Lab. Number: 9704  
 Project Number: 17-7345

## OFFICIAL TEST REPORT

<b>Sample: B-1</b>	<b>Temperature:</b> 89.6°F	<b>Barometric Reading:</b> 30.0 inches Hg		
<b>Title of Test</b>		<b>Pressure</b>	<b>Notes</b>	
Design Load Test Negative Load		252.0psf		
See appendix A for exact location of deflection points				
<b>Reading#</b>	<b>Deflection</b>	<b>Permanent Set</b>	<b>Results</b>	<b>Add. Info</b>
1	0.189"	0.031"	Passed	Frame head
2	0.274"	0.039"	Passed	Above the dead bolt
3	0.125"	0.035"	Passed	Frame jamb
4	0.310"	0.064"	Passed	Lower corner of panel
5	0.313"	0.062"	Passed	Bottom of panel at midspan

<b>Sample: B-1</b>	<b>Temperature:</b> 90.3°F	<b>Barometric Reading:</b> 30.20 inches Hg	
<b>Title of Test</b>		<b>Pressure</b>	<b>Notes</b>
1/2 Structural Load Test Negative Load		152.5psf	
		<b>Results</b>	Passed

<b>Sample: B-1</b>	<b>Temperature:</b> 90.3°F	<b>Barometric Reading:</b> 30.20 inches Hg		
<b>Title of Test</b>		<b>Pressure</b>	<b>Notes</b>	
Structural Load Test Negative Load		305.0 psf		
See appendix A for exact location of deflection points				
<b>Reading#</b>	<b>Deflection</b>	<b>Permanent Set</b>	<b>Results</b>	<b>Add. Info</b>
1	0.209"	0.046"	Passed	Frame head
2	0.418"	0.057"	Passed	Above the dead bolt
3	0.173"	0.036"	Passed	Frame jamb
4	0.341"	0.069"	Passed	Lower corner of panel
5	0.399"	0.070"	Passed	Bottom of panel at midspan

<b>Sample: B-1</b>	<b>Temperature:</b> 90.8°F	<b>Barometric Reading:</b> 30.0 inches Hg		
<b>Title of Test</b>		<b>Notes</b>		
Large Missile Impact Test				
<b>Missile Weight</b>		<b>Missile</b>		
15.0 pounds		2" by 4" by 13' long		
See appendix B for exact location of impact points				
<b>Impact</b>	<b>Speed</b>	<b>Results</b>	<b>Add. Info</b>	
1	145.8 ft./sec	Passed		
2	146.0 ft./sec	Passed		
3	145.6 ft./sec	Passed		



Quality Accuracy Assurance

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Report Date: 10/24/2017  
Completion Date: 8/23/2017  
Expiration Date: 8/23/2021  
Page Number: 12 of 21  
Lab. Number: 9704  
Project Number: 17-7345

## OFFICIAL TEST REPORT

DESCRIPTION OF SAMPLE	
Model Designation:	Series ICC-500 2014 Windstorm Rated Assembly Outswing Door
Overall Size:	2'-10" (34") by 6'-10 1/8" (82") high
Configuration:	X
Number of Panels:	One
Size of Active Panel:	2'-5 5/8" (29 5/8") by 6'-7 1/8" (79 1/8") high
Sample C-1	

MATERIAL CHARACTERISTICS			
Members	Material**	Part Number**	Joint Type
Frame Head	14 gauge steel	N/A	Mitered Joint
Frame Jambs	14 gauge steel	N/A	Mitered Joint
Frame Corners Construction	Number of Fasteners	Size of Fasteners	
Upper corners fastened with	None	Welded	

Hardware				
Quantity	Description	Distance	Location	Method of Attachment
Three	**Design Hardware DI Series surface mount metallic dead bolt with key operator on the exterior, thumb turn on the interior and no visible product markings	11 3/4" 47 1/4" and 76" from bottom	Right side of panel	(2) 6 by 3/4" FH multithread screw (2) 10-32 by 2 1/2" OH MS
One	**Design Hardware X-Series surface mount metallic lever type handle key operator on the exterior, push button on the interior and no visible product markings	39 1/2" from bottom	Right side of panel	(2) 10-32 by 1 3/16" FH MS (2) 6 by 3/4" FH multithread screw
Three	**Design Hardware BBS-HW 4 1/2" long flush mount metallic butt hinge with no visible product marking	13", 45" and 77" from bottom	Left frame jamb	To panel and to frame using (4) 12-24 by 1/2" FH TC MS
Three	Surface mount metallic keepers with no visible product markings	12 1/2", 48" and 76 3/4" from bottom	Right frame jamb	(2) 6 by 3/4" FH multithread screw
One	Surface mount metallic strike plate with no visible product markings	40 1/4" from bottom	Right frame jamb	(2) 6 by 3/4" FH multithread screw



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Report Date: 10/24/2017  
 Completion Date: 8/23/2017  
 Expiration Date: 8/23/2021  
 Page Number: 13 of 21  
 Lab. Number: 9704  
 Project Number: 17-7345

## OFFICIAL TEST REPORT

Reinforcement		
Quantity and Type	Location	Method of Attachment
One 16 gauge steel Govt. No. 161 cylindrical (C4) lock reinforcement	Inside the panel at the handle location	Spot welded
One 4" long by 8" gauge steel keeper reinforcement (part No. PVSRC)	Inside the right frame jamb located 12 1/2", 48", and 77" from bottom	Spot welded at each end
One 7 15/16" long by 14 gauge steel strike plate reinforcement (part No. PFSRU) welded to a 7 5/8" long by 14 gauge strike plate cover (part No. PFUPG)	Inside the right frame jamb located 40 5/16" from bottom	Spot welded at each end
One 1 1/2" by 8" long by 7 gauge steel hinge reinforcement	Inside the frame at each hinge location	Spot welded at each end
One 1 1/2" by 9 5/8" by 7 gauge steel hinge reinforcement	Inside the panel at each hinge location	Spot welded at each end
One 5/8" by 1 5/8" by 5/8" by 0.040" thick	Inside each panel and the top and bottom	Single row of spot welds 1 3/4" from each end and 2" on center
One 5" by 1 1/2" by 5" by 16" long steel channel	Inside the panel at the top left	**Hotmelt PUR glue

## Additional Information

14 gauge \*\* galvanized steel panel has a continuous welded seam with a gray primer finish on the interior and exterior. Panel has a \*\* polystyrene core that was bonded to the inside face of the panel, between the reinforcement.

## Sample Installation

The sample was tested in a steel chamber with Quikrete Non-shrink Precision Grout (minimum \*\*3,000 psi after one day cure time per specification) filled blocks on both sides. The frame jambs were fastened using a single row of wire anchors located 7 5/8", 22 7/8", 38 1/8", 53 3/8", 68 5/8" and 83 7/8" from bottom. There were no installation screws at the frame head. The frame jambs were filled with Quikrete Non-Shrink Precision Grout (minimum \*\* 3,000 psi after one day cure time per specification)

Sample: C-1	Temperature: 90.6°F	Barometric Reading: 30.0 inches Hg
Title of Test	Pressure	Notes
1/2 Design Load Test Negative Load	105.0 psf	
	Results	Passed



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Report Date: 10/24/2017  
 Completion Date: 8/23/2017  
 Expiration Date: 8/23/2021  
 Page Number: 14 of 21  
 Lab. Number: 9704  
 Project Number: 17-7345

## OFFICIAL TEST REPORT

<b>Sample: C-1</b>	<b>Temperature:</b> 90.7°F	<b>Barometric Reading:</b> 30.0 inches Hg		
<b>Title of Test</b>		<b>Pressure</b>	<b>Notes</b>	
Design Load Test Negative Load		252.0psf		
See appendix A for exact location of deflection points				
<b>Reading#</b>	<b>Deflection</b>	<b>Permanent Set</b>	<b>Results</b>	<b>Add. Info</b>
1	0.009"	0.003"	Passed	Frame head
2	0.287"	0.031"	Passed	Above the dead bolt
3	0.015"	0.002"	Passed	Frame jamb
4	0.344"	0.044"	Passed	Lower corner of panel
5	0.269"	0.044"	Passed	Bottom of panel at midspan

<b>Sample: C-1</b>	<b>Temperature:</b> 86.9°F	<b>Barometric Reading:</b> 30.0 inches Hg	
<b>Title of Test</b>		<b>Pressure</b>	<b>Notes</b>
1/2 Structural Load Test Negative Load		126.0 psf	
		<b>Results</b>	Passed

<b>Sample: C-1</b>	<b>Temperature:</b> 87.0°F	<b>Barometric Reading:</b> 30.0 inches Hg		
<b>Title of Test</b>		<b>Pressure</b>	<b>Notes</b>	
Structural Load Test Negative Load		252.0 psf		
See appendix A for exact location of deflection points				
<b>Reading#</b>	<b>Deflection</b>	<b>Permanent Set</b>	<b>Results</b>	<b>Add. Info</b>
1	0.014"	0.008"	Passed	Frame head
2	0.320"	0.042"	Passed	Above the dead bolt
3	0.020"	0.004"	Passed	Frame jamb
4	0.361"	0.048"	Passed	Lower corner of panel
5	0.292"	0.049"	Passed	Bottom of panel at midspan

<b>Sample: C-1</b>	<b>Temperature:</b> 86.9°F	<b>Barometric Reading:</b> 30.0 inches Hg	
<b>Title of Test</b>		<b>Pressure</b>	<b>Notes</b>
1/2 Design Load Test Negative Load		126.0 psf	
		<b>Results</b>	Passed





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Report Date: 10/24/2017  
Completion Date: 8/23/2017  
Expiration Date: 8/23/2021  
Page Number: 15 of 21  
Lab. Number: 9704  
Project Number: 17-7345

## OFFICIAL TEST REPORT

<b>Sample: C-1</b>		<b>Temperature: 87.0°F</b>		<b>Barometric Reading: 30.0 inches Hg</b>	
<b>Title of Test</b>			<b>Pressure</b>		<b>Notes</b>
Design Load Test Negative Load			252.0psf		
See appendix A for exact location of deflection points					
<b>Reading#</b>	<b>Deflection</b>	<b>Permanent Set</b>		<b>Results</b>	<b>Add. Info</b>
1	0.014"	0.008"		Passed	Frame head
2	0.320"	0.042"		Passed	Above the dead bolt
3	0.020"	0.004"		Passed	Frame jamb
4	0.361"	0.048"		Passed	Lower corner of panel
5	0.292"	0.049"		Passed	Bottom of panel at midspan

<b>Sample: C-1</b>		<b>Temperature: 87.1°F</b>		<b>Barometric Reading: 30.0 inches Hg</b>	
<b>Title of Test</b>			<b>Pressure</b>		<b>Notes</b>
1/2 Structural Load Test Negative Load			152.5psf		
			<b>Results</b>		Passed

<b>Sample: C-1</b>		<b>Temperature: 87.1°F</b>		<b>Barometric Reading: 30.0 inches Hg</b>	
<b>Title of Test</b>			<b>Pressure</b>		<b>Notes</b>
Structural Load Test Negative Load			305.0 psf		
See appendix A for exact location of deflection points					
<b>Reading#</b>	<b>Deflection</b>	<b>Permanent Set</b>		<b>Results</b>	<b>Add. Info</b>
1	0.086"	0.036"		Passed	Frame head
2	0.469"	0.060"		Passed	Above the dead bolt
3	0.081"	0.014"		Passed	Frame jamb
4	0.426"	0.069"		Passed	Lower corner of panel
5	0.389"	0.073"		Passed	Bottom of panel at midspan

<b>Sample: C-1</b>		<b>Temperature: 90.2°F</b>		<b>Barometric Reading: 30.0 inches Hg</b>	
<b>Title of Test</b>			<b>Notes</b>		
Large Missile Impact Test					
<b>Missile Weight</b>			<b>Missile</b>		
15.0 pounds			2" by 4" by 156" long		
See appendix B for exact location of impact points					
<b>Impact</b>	<b>Speed</b>	<b>Results</b>		<b>Add. Info</b>	
1	145.8 ft./sec	Passed			
2	146.1 ft./sec	Passed			
3	146.0 ft./sec	Passed			



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Report Date: 10/24/2017  
 Completion Date: 8/23/2017  
 Expiration Date: 8/23/2021  
 Page Number: 16 of 21  
 Lab. Number: 9704  
 Project Number: 17-7345

## OFFICIAL TEST REPORT

DESCRIPTION OF SAMPLE	
Model Designation:	Series ICC-500 2014 Windstorm Rated Assembly Outswing Door
Overall Size:	2'-10" (34") by 6'-10 1/8" (82 1/8") high
Configuration:	X
Number of Panels:	One
Size of Active Panel:	2'-5 3/4" (29 3/4") by 6'-7 1/8" (79 1/8") high
Sample D -1	

MATERIAL CHARACTERISTICS			
Members	Material**	Part Number**	Joint Type
Frame Head	14 gauge steel	N/A	Mitered Joint
Frame Jambs	14 gauge steel	N/A	Mitered Joint
Frame Corners Construction	Number of Fasteners	Size of Fasteners	
Upper corners fastened with	None	Welded	

Hardware				
Quantity	Description	Distance	Location	Method of Attachment
Three	**Design Hardware DI Series surface mount metallic dead bolt with key operator on the exterior, thumb turn on the interior and no visible product markings	11 1/2" 45 1/2" and 72" from bottom	Right side of panel	(2) 6 by 3/4" FH multithread screw (2) 10-32 by 2 1/2" OH MS
One	**Design Hardware X-Series surface mount metallic lever type handle key operator on the exterior, push button on the interior and no visible product markings	39 1/2" from bottom	Right side of panel	(2) 10-32 by 1 3/16" FH MS (2) 6 by 3/4" FH multithread screw
Three	**Design Hardware BBS-HW 4 1/2" long flush mount metallic butt hinge with no visible product marking	11 1/2", 42" and 72" from bottom	Left frame jamb	To panel and to frame using (4) 12-24 by 1/2" FH TC MS
Three	Surface mount metallic keepers with no visible product markings	12 1/2", 46 1/2" and 72 3/4" from bottom	Right frame jamb	(2) 6 by 3/4" FH multithread screw
One	Surface mount metallic strike plate with no visible product markings	48 1/2" from bottom	Right frame jamb	(2) 6 by 3/4" FH multithread screw



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Report Date: 10/24/2017  
Completion Date: 8/23/2017  
Expiration Date: 8/23/2021  
Page Number: 17 of 21  
Lab. Number: 9704  
Project Number: 17-7345

### OFFICIAL TEST REPORT

Reinforcement		
Quantity and Type	Location	Method of Attachment
One 16 gauge steel Govt. No. 161 cylindrical (C4) lock reinforcement	Inside the panel at the handle location	Spot welded
One 4" long by 8" gauge steel keeper reinforcement (part No. PVSRC)	Inside the right frame jamb located 12 1/2", 48", and 77" from bottom	Spot welded at each end
One 7 15/16" long by 14 gauge steel strike plate reinforcement (part No. PFSRU) welded to a 7 5/8" long by 14 gauge strike plate cover (part No. PFUPG)	Inside the right frame jamb located 40 5/16" from bottom	Spot welded at each end
One 1 1/2" by 8" long by 7 gauge steel hinge reinforcement	Inside the frame at each hinge location	Spot welded at each end
One 1 1/2" by 9 5/8" by 7 gauge steel hinge reinforcement	Inside the panel at each hinge location	Spot welded at each end
One 5/8" by 1 5/8" by 5/8" by 0.040" thick		Single row of spot welds 1 3/4" from each end and 2" on center
One 5" by 1 1/2" by 5" by 16" long steel channel	Inside the panel at the top left	**Hotmelt PUR glue

### Additional Information

14 gauge \*\* galvanized steel panel has a continuous welded seam with a gray primer finish on the interior and exterior. Panel has a \*\* polystyrene core that was bonded to the inside face of the panel, between the reinforcement.

### Sample Installation

The sample was tested in a steel chamber with Quikrete Non-shrink Precision Grout (minimum \*\*3,000 psi after one day cure time per specification) filled blocks on both sides. The frame jambs were fastened using a single row of wire anchors located 7 5/8", 22 7/8", 38 1/8", 53 3/8", 68 5/8" and 76 1/4" from bottom. There were no installation screws at the frame head. The frame jambs were filled with Quikrete Non-Shrink Precision Grout (minimum \*\* 3,000 psi after one day cure time per specification)



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Report Date: 10/24/2017  
 Completion Date: 8/23/2017  
 Expiration Date: 8/23/2021  
 Page Number: 18 of 21  
 Lab. Number: 9704  
 Project Number: 17-7345

## OFFICIAL TEST REPORT

<b>Sample: D-1</b>	<b>Temperature:</b> 90.3°F	<b>Barometric Reading:</b> 30.20 inches Hg	
<b>Title of Test</b>		<b>Pressure</b>	<b>Notes</b>
1/2 Design Load Test Negative Load		105.0 psf	
		<b>Results</b>	Passed

<b>Sample: D-1</b>	<b>Temperature:</b> 90.3°F	<b>Barometric Reading:</b> 30.20 inches Hg		
<b>Title of Test</b>		<b>Pressure</b>	<b>Notes</b>	
Design Load Test Negative Load		210.0psf		
See appendix A for exact location of deflection points				
<b>Reading#</b>	<b>Deflection</b>	<b>Permanent Set</b>	<b>Results</b>	<b>Add. Info</b>
1	0.007"	None	Passed	Frame head
2	0.275"	0.025"	Passed	Above the dead bolt
3	0.036"	0.001"	Passed	Frame jamb
4	0.329"	0.036"	Passed	Lower corner of panel
5	0.244"	0.029"	Passed	Bottom of panel at midspan

<b>Sample: D-1</b>	<b>Temperature:</b> 90.3°F	<b>Barometric Reading:</b> 30.20 inches Hg	
<b>Title of Test</b>		<b>Pressure</b>	<b>Notes</b>
1/2 Structural Load Test Negative Load		126.0 psf	
		<b>Results</b>	Passed

<b>Sample: D-1</b>	<b>Temperature:</b> 90.3°F	<b>Barometric Reading:</b> 30.20 inches Hg		
<b>Title of Test</b>		<b>Pressure</b>	<b>Notes</b>	
Structural Load Test Negative Load		252.0 psf		
See appendix A for exact location of deflection points				
<b>Reading#</b>	<b>Deflection</b>	<b>Permanent Set</b>	<b>Results</b>	<b>Add. Info</b>
1	0.019"	0.002"	Passed	Frame head
2	0.312"	0.033"	Passed	Above the dead bolt
3	0.059"	0.004"	Passed	Frame jamb
4	0.350"	0.039"	Passed	Lower corner of panel
5	0.278"	0.041"	Passed	Bottom of panel at midspan

<b>Sample: D-1</b>	<b>Temperature:</b> 90.3°F	<b>Barometric Reading:</b> 30.20 inches Hg	
<b>Title of Test</b>		<b>Pressure</b>	<b>Notes</b>
1/2 Design Load Test Negative Load		126.0 psf	
		<b>Results</b>	Passed



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Report Date: 10/24/2017  
 Completion Date: 8/23/2017  
 Expiration Date: 8/23/2021  
 Page Number: 19 of 21  
 Lab. Number: 9704  
 Project Number: 17-7345

## OFFICIAL TEST REPORT

Sample: D-1	Temperature: 90.3°F	Barometric Reading: 30.20 inches Hg		
Title of Test		Pressure	Notes	
Design Load Test Negative Load		252.0psf		
See appendix A for exact location of deflection points				
Reading#	Deflection	Permanent Set	Results	Add. Info
1	0.019"	0.002"	Passed	Frame head
2	0.312"	0.033"	Passed	Above the dead bolt
3	0.059"	0.004"	Passed	Frame jamb
4	0.350"	0.039"	Passed	Lower corner of panel
5	0.278"	0.041"	Passed	Bottom of panel at midspan

Sample: D-1	Temperature: 90.3°F	Barometric Reading: 30.20 inches Hg	
Title of Test		Pressure	Notes
1/2 Structural Load Test Negative Load		152.5psf	
		Results	Passed

Sample: D-1	Temperature: 90.3°F	Barometric Reading: 30.20 inches Hg		
Title of Test		Pressure	Notes	
Structural Load Test Negative Load		305.0 psf		
See appendix A for exact location of deflection points				
Reading#	Deflection	Permanent Set	Results	Add. Info
1	0.080"	0.021"	Passed	Frame head
2	0.449"	0.051"	Passed	Above the dead bolt
3	0.080"	0.016"	Passed	Frame jamb
4	0.409"	0.054"	Passed	Lower corner of panel
5	0.366"	0.066"	Passed	Bottom of panel at midspan



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Report Date: 10/24/2017  
Completion Date: 8/23/2017  
Expiration Date: 8/23/2021  
Page Number: 20 of 21  
Lab. Number: 9704  
Project Number: 17-7345

### OFFICIAL TEST REPORT

Sample: D-1	Temperature: 90.3°F	Barometric Reading: 30.20 inches Hg	
Title of Test		Notes	
Large Missile Impact Test			
Missile Weight		Missile	
15.0 pounds		2" by 4" by 156" long	
See appendix B for exact location of impact points			
Impact	Speed	Results	Add. Info
1	145.3 ft./sec	Passed	
2	145.9 ft./sec	Passed	
3	145.7 ft./sec	Passed	

Witnessed by: (All or Partial Viewing)  
Ms. Idalmis Ortega, FTL P.E.

Technicians:  
Mr. Yoenis Gonzalez

FENESTRATION TESTING LABORATORY, INC.

Mr. Jose Sanchez  
President of Operations

Appendix A: Design Load and Structural Load Deflection Points  
Appendix B: Large Missile Impact Points



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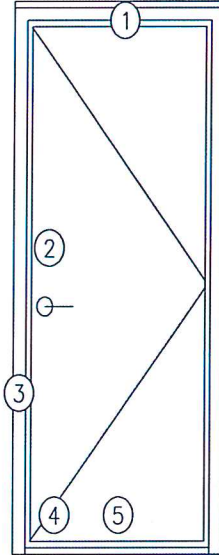
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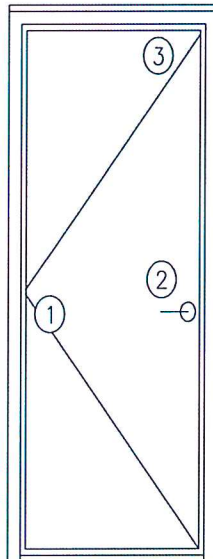
Report Date: 10/24/2017  
Completion Date: 8/23/2017  
Expiration Date: 8/23/2021  
Page Number: 21 of 21  
Lab. Number: 9704  
Project Number: 17-7345

## OFFICIAL TEST REPORT

### Appendix A: Design Load and Structural Load Deflection Points

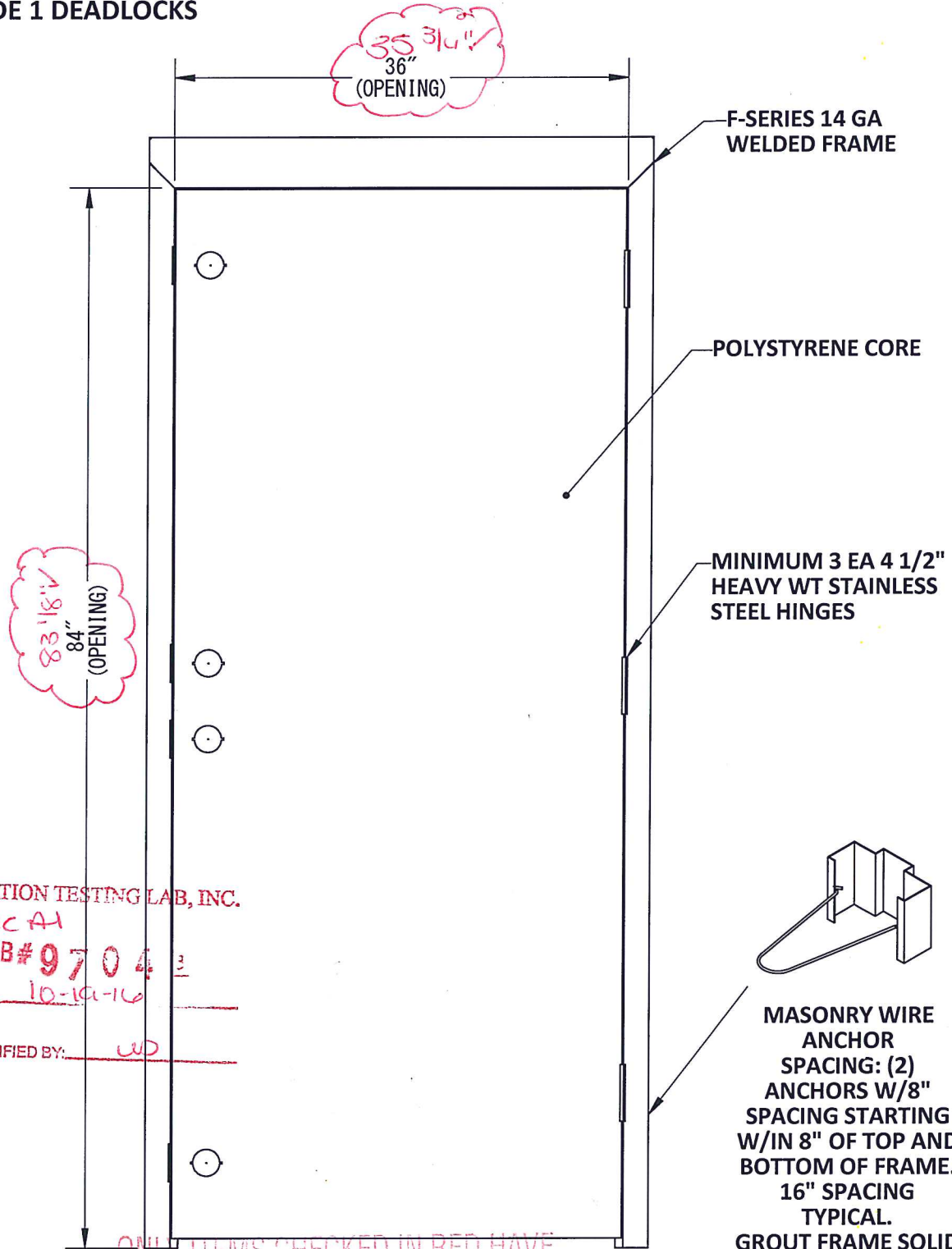


### Appendix B: Large Missile Impact Points



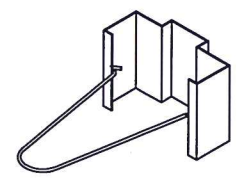
# TEST DOOR - FEMA 320 N-SERIES NVS 14 GA DOOR

3070 5 3/4" F-SERIES FRAME W/4" HEAD  
QTY 1 GRADE 1 LOCK  
QTY 3 GRADE 1 DEADLOCKS



REGISTRATION TESTING LAB, INC.  
Samac AI  
LAB# 97043  
DATE: 10-19-16  
DRAWING VERIFIED BY: WD

ONLY ITEMS CHECKED IN RED HAVE  
BEEN VERIFIED BY LABORATORY

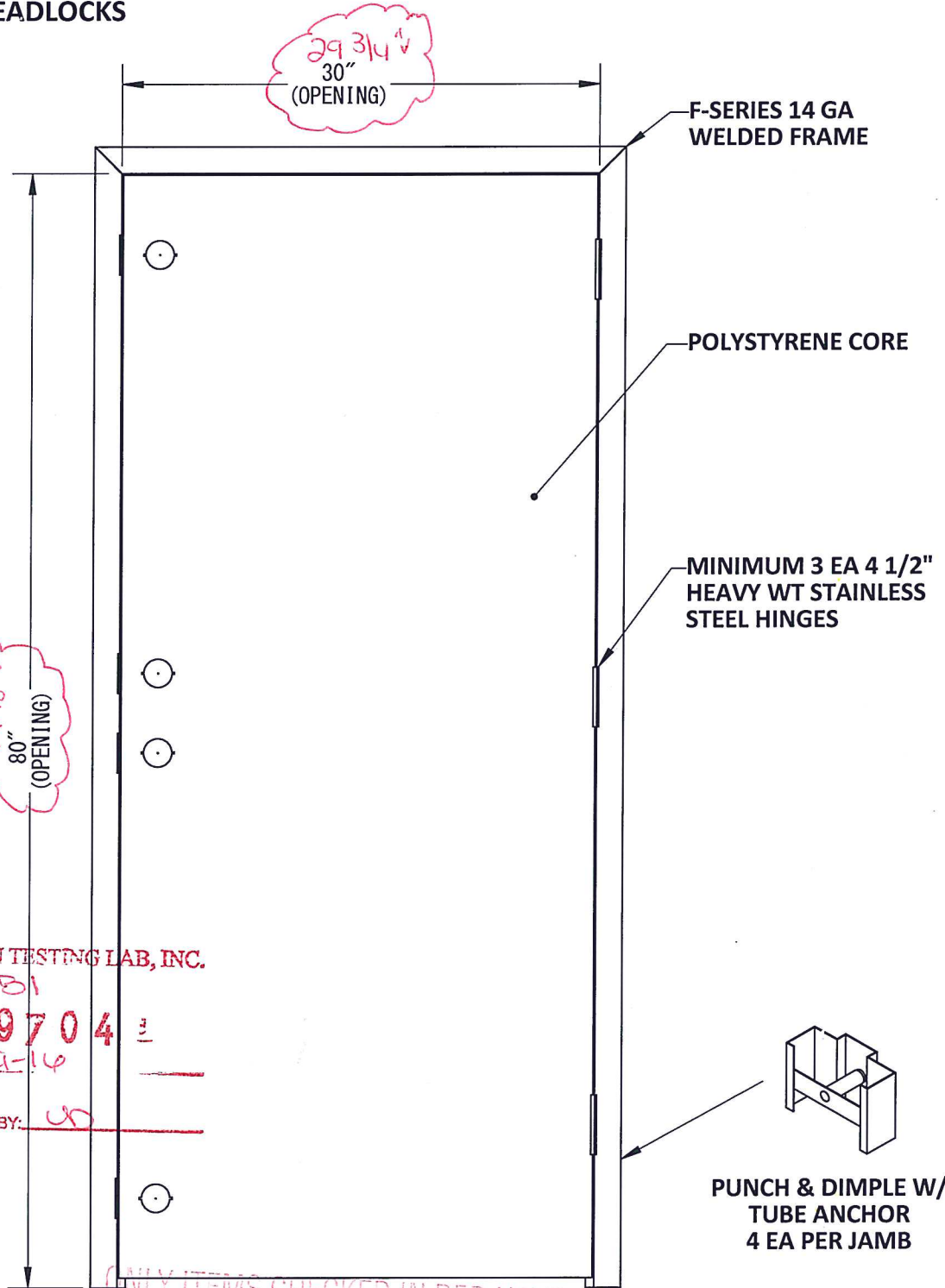


MASONRY WIRE  
ANCHOR  
SPACING: (2)  
ANCHORS W/8"  
SPACING STARTING  
W/IN 8" OF TOP AND  
BOTTOM OF FRAME.  
16" SPACING  
TYPICAL.  
GROUT FRAME SOLID



# TEST DOOR - FEMA 320 N-SERIES NVS 14 GA DOOR

2668 W/ 5 3/4" F-SERIES FRAME  
QTY 1 GRADE 1 LOCK  
QTY 3 GRADE 1 DEADLOCKS



PERNESTRATION TESTING LAB, INC.

Sample B1

LAB # 9704

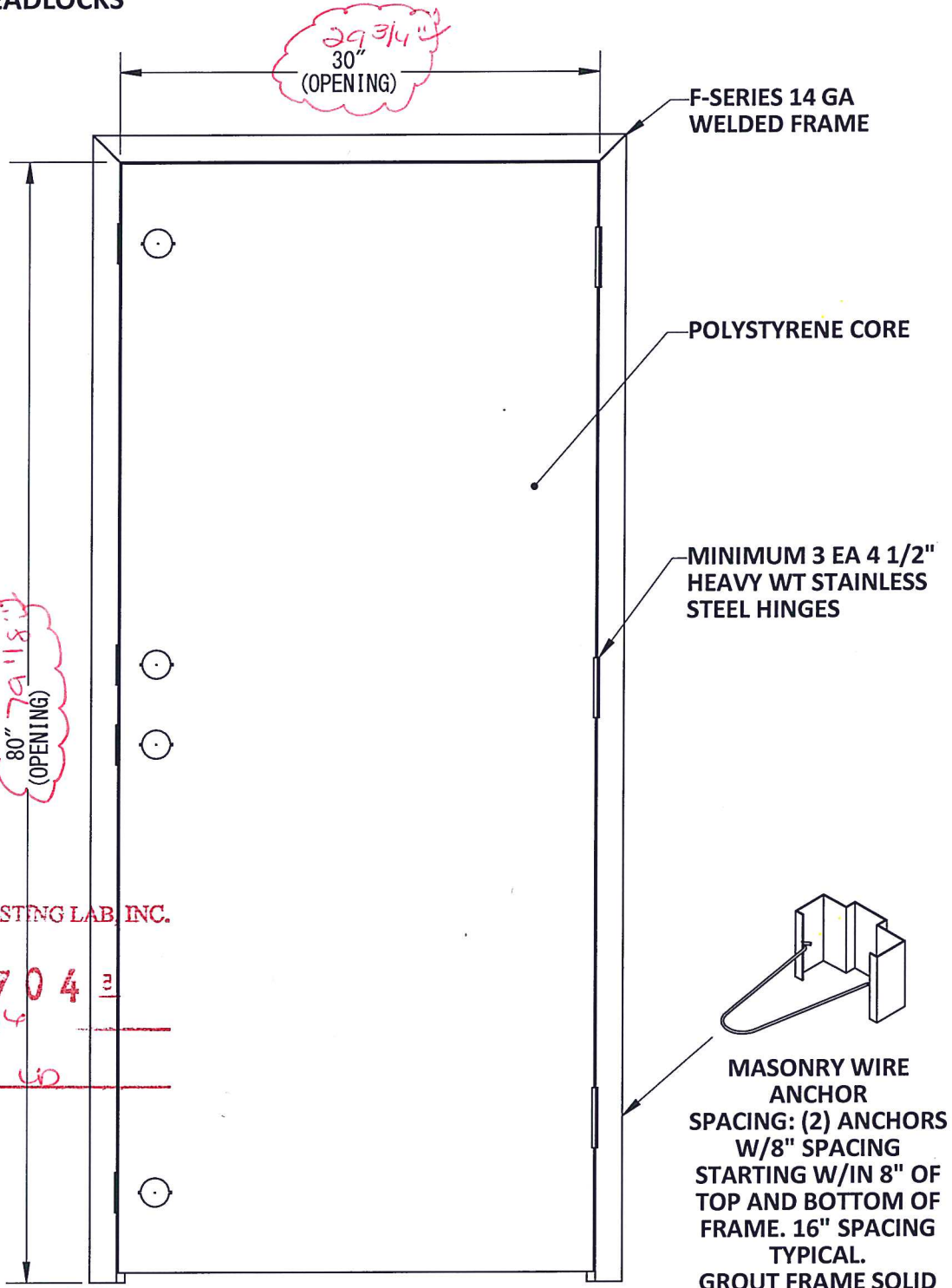
DATE 10-19-14

DRAWING VERIFIED BY: UP

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BEEN VERIFIED BY LABORATORY

**TEST DOOR - FEMA 320  
N-SERIES NVS 14 GA DOOR**

2668 W/ 5 3/4" F-SERIES FRAME  
QTY 1 GRADE 1 LOCK  
QTY 3 GRADE 1 DEADLOCKS



PENESTRATION TESTING LAB INC.  
Sample D-1

LAB# 9704

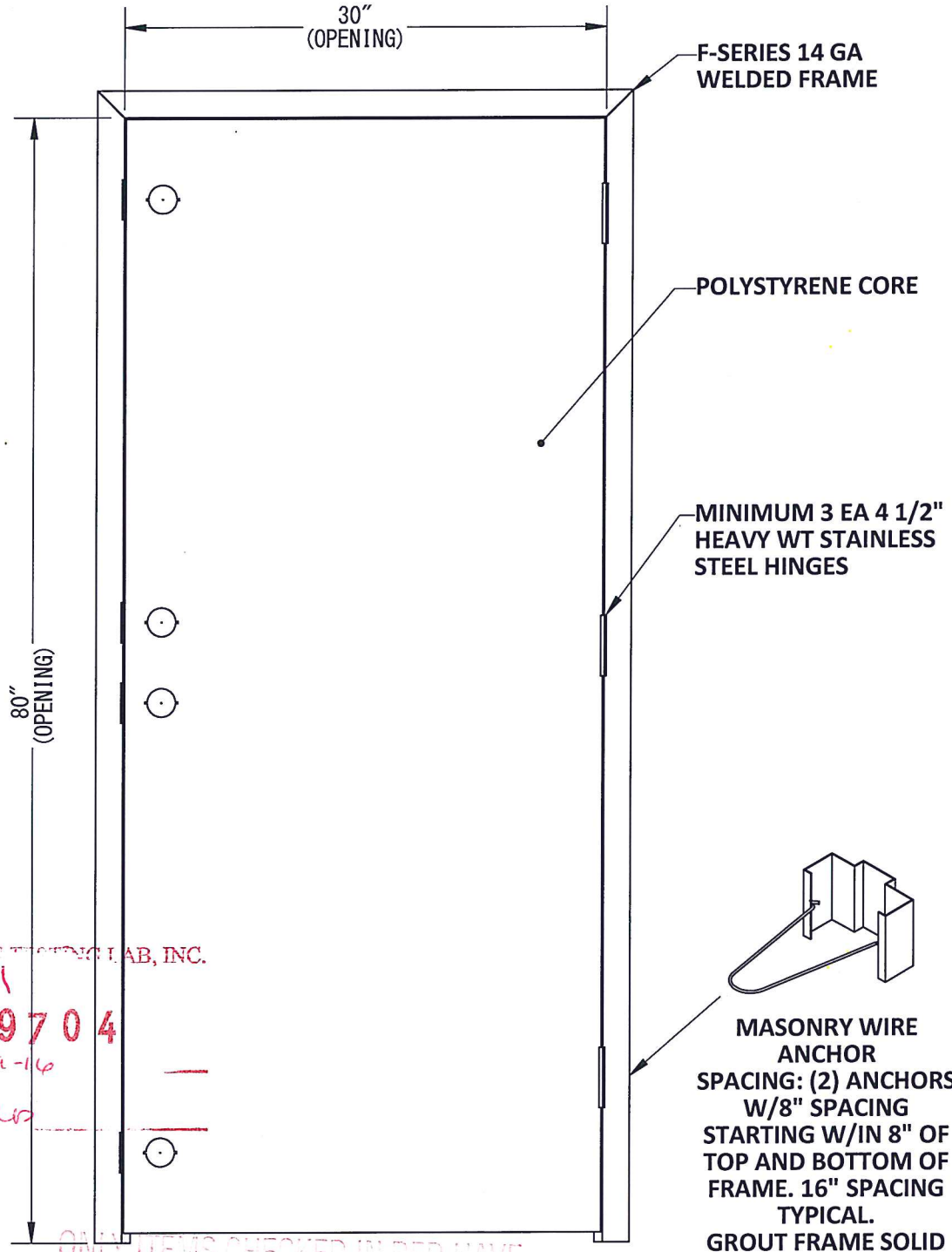
DATE: 10-19-14

DRAWING VERIFIED BY: LD

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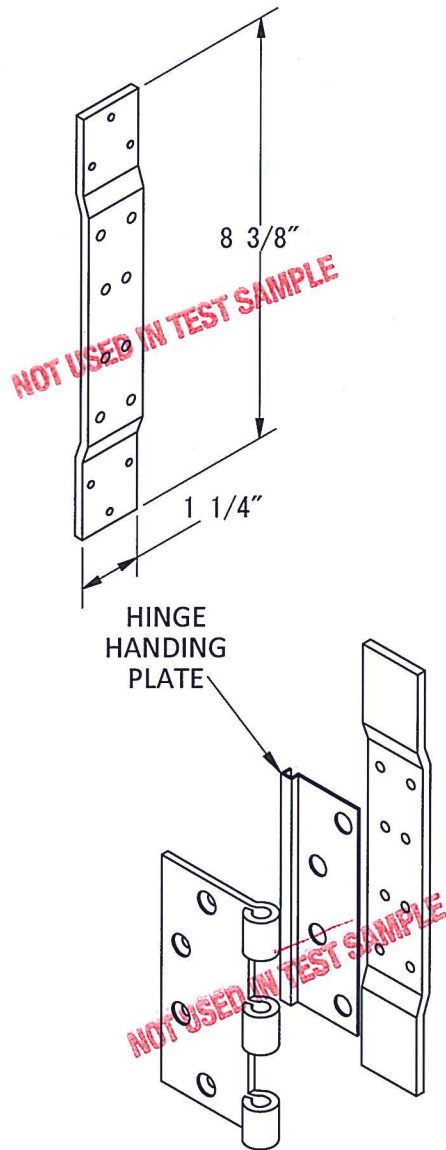
# TEST DOOR - FEMA 320 N-SERIES NVS 14 GA DOOR

2668 W/ 5 3/4" F-SERIES FRAME  
QTY 1 GRADE 1 LOCK  
QTY 3 GRADE 1 DEADLOCKS



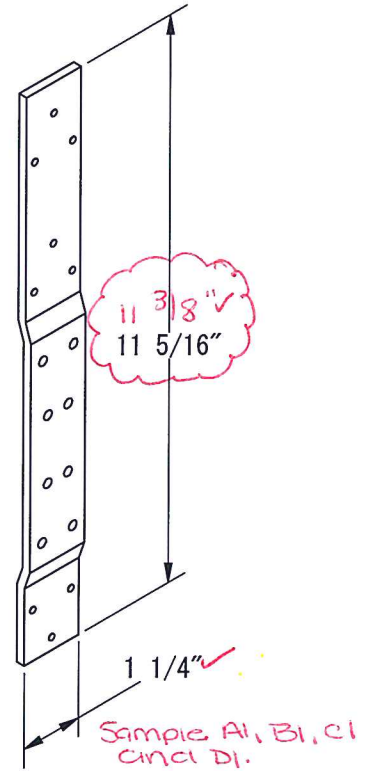
STANDARD HINGE REINFORCEMENTS

STANDARD HINGE REINFORCEMENT FOR MIDDLE AND BOTTOM HINGES (7 GA MATERIAL)



FOR HEAVY WEIGHT HINGES, A THINNER HANDING PLATE IS AVAILABLE.

EXTRA LONG HIGH FREQUENCY TOP HINGE REINFORCEMENT (7 GA MATERIAL)



7 GAUGE HINGE REINFORCEMENT EXTENDED TO TOP OF DOOR FOR EXTRA RIGIDITY WITH 3 EXTRA PROJECTION WELDS TO PREVENT DOOR SAG.

FENESTRATION TESTING LAB, INC.

LAB # 9704

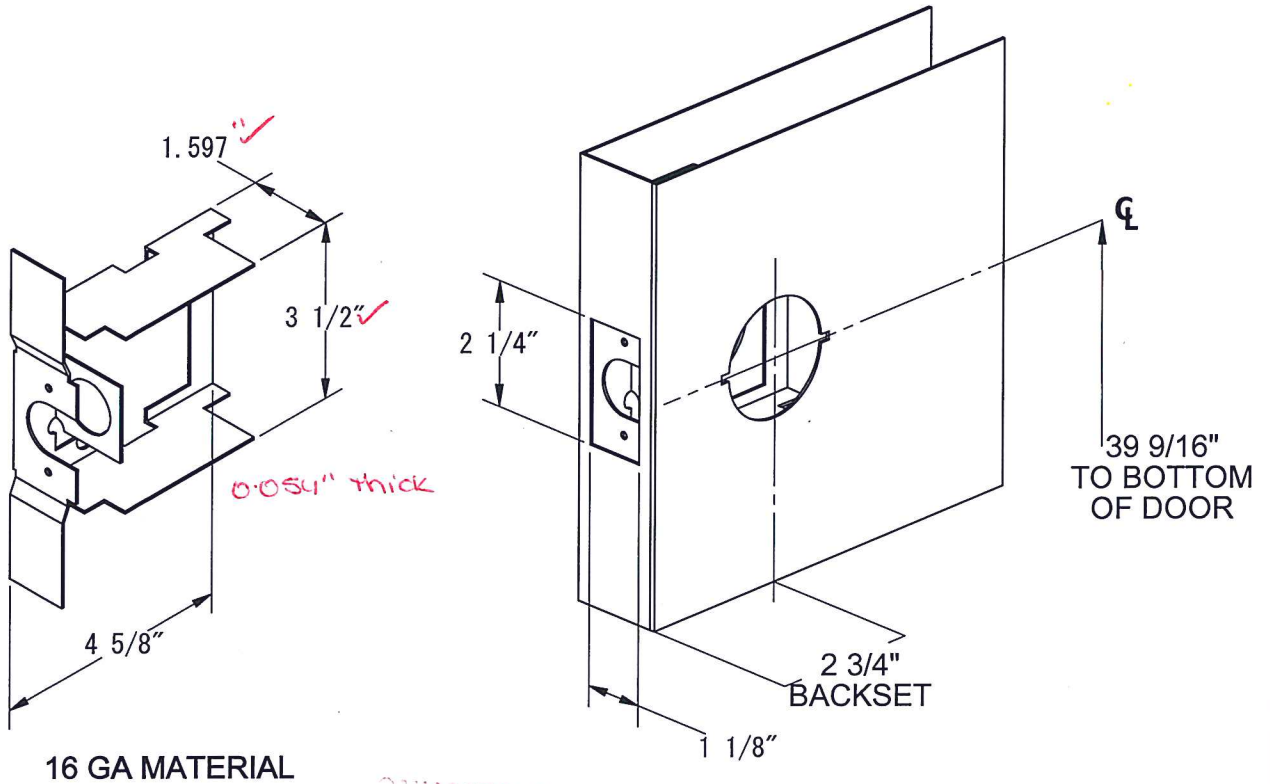
DATE 10-19-16

DRAWING VERIFIED BY UD

ONLY ITEMS CHECKED IN RED HAVE BEEN VERIFIED BY LABORATORY

DP-23

GOVT NO. 161  
CYLINDRICAL (C4) LOCK PREPARATION 1 3/4" DOOR



ONLY ITEMS CHECKED IN FIELD HAVE  
BEEN VERIFIED BY LABORATORY

Sample A1, B1, C1 and D1  
FENESTRATION TESTING LAB, INC.

LAB # 9704

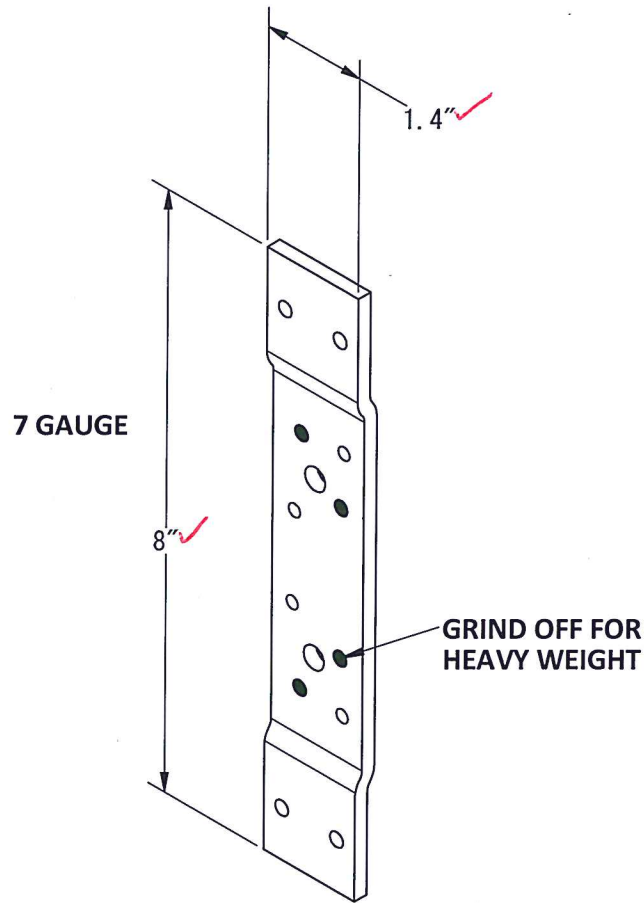
DATE: 10-19-17

DRAWING VERIFIED BY: LD



**MESKER™**  
The newest innovations in hollow metal from the  
oldest hollow metal door company in America

PARTS - FRAME  
HINGE REINFORCEMENT



- 3 1/2" PART # PF3HR
- 4 1/2" PART # PF4HR
- 5" PART # PF5HR
- 4 1/2" HEAVY WEIGHT PART # PF4HHR
- 5" HEAVY WEIGHT PART # PF5HHR

Sample A1, B1, C1 and D1  
FENESTRATION TESTING LAB, INC.

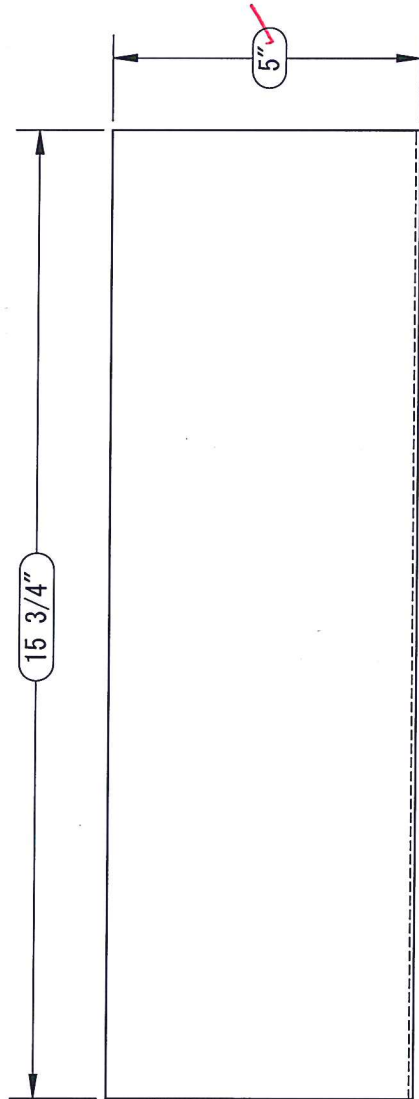
LAB # 9704

DATE 10-19-17

DRAWING NUMBER 00

ALL ITEMS CHECKED BY  
BEEN VERIFIED BY LAB

ONLY ITEMS CHECKED IN RED HAVE BEEN VERIFIED BY LABORATORY



$1 \frac{5}{8}''$  (MAX)  
1.605  
 $1 \frac{19}{32}''$  (MIN)

CLOSER REINFORCEMENT (14 GA CR STEEL)

SHEAR SIZE: 15 3/4" x 11 3/8"  
FLATNESS: W/IN 1/32"

FENESTRATION TESTING LAB, INC.  
Same as A1.B1, C1 and D1

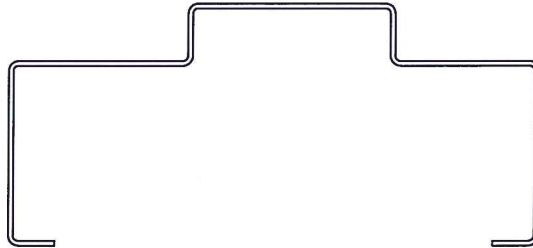
LAB # 9704

DATE: 10-19-17

DRAWING VERIFIED BY: [Signature]

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UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES			
TOLERANCES:			
FRACTIONAL ±			
ANGULAR: MACH ± BEND ±			
TWO PLACE DECIMAL ±			
THREE PLACE DECIMAL ±			
INTERPRET GEOMETRIC TOLERANCING PER:			
MATERIAL:			
FINISH			
USED ON			
NEXT ASSY			
APPLICATION			
			DO NOT SCALE DRAWING
DRAWN			
CHECKED			
ENG APPR.			
MFG APPR.			
Q.A.			
COMMENTS:			
TITLE:			
SIZE	DWG. NO.	REV	
ACloser w poly			
SCALE: 1:8	WEIGHT:	SHEET 4 OF 4	

**F SERIES****Frame Construction**

12, 14, or 16 gauge, cold-rolled, galvanized, or galvanized G90 steel to be break-formed to the design specifications required. (See pages F-3 TO F-9 for sizes and profiles available). Frames shall be furnished knocked-down or welded, ground smooth upon request. Mitered corners shall have a strong, secure, four tab interlocking system to maintain neat mitered joints and corners. Standard frame to have 1/2" returns; standard stop heights to be 5/8" high. Soffit dimensions can vary. Frames can be single or double rabbeted. Frames will be supplied with welded on sill anchors. (Note: Bending tabs in on the jamb rabbets will increase door opening dimension).

**Installation & Applications**

Frames to be installed in accordance with ANSI A250.11-2001. Standard series frames to be used in a number of applications including masonry, wood stud and steel stud construction.

**Hardware Reinforcements**

Frames to be furnished with 4-1/2" or 5" standard or heavy weight 7 gauge steel hinge reinforcements and shall be adequately reinforced for all hardware. Standard arm or parallel closer reinforcements available upon request.

Strike and hinge reinforcements shall be protected by mortar guards. Single frames shall be prepared to receive (3) rubber mutes.

**Finish**

Exposed frame surfaces to be cleaned and treated then coated with rust inhibitive primer. Color painted frames to receive a durable, flow coated, baked on finish. Water-based primer and color paint finishes to be free of Hazardous Air Pollutants (HAPS) and Volatile Organic Compounds (VOCs).

**Compliance**

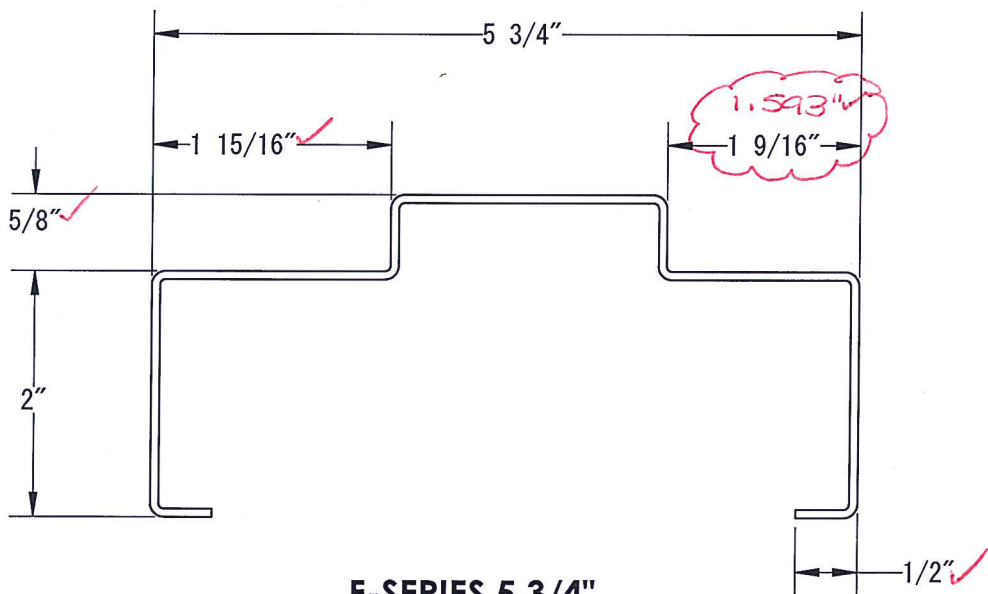
All Mesker frame components comply with ANSI A250.8(R2008). Fire labeling in accordance NFPA and available in FM (standard), WHI (Intertek) and Underwriters Laboratories. For a complete list of product compliance per ANSI/ASTM test methods, consult the labeling section.



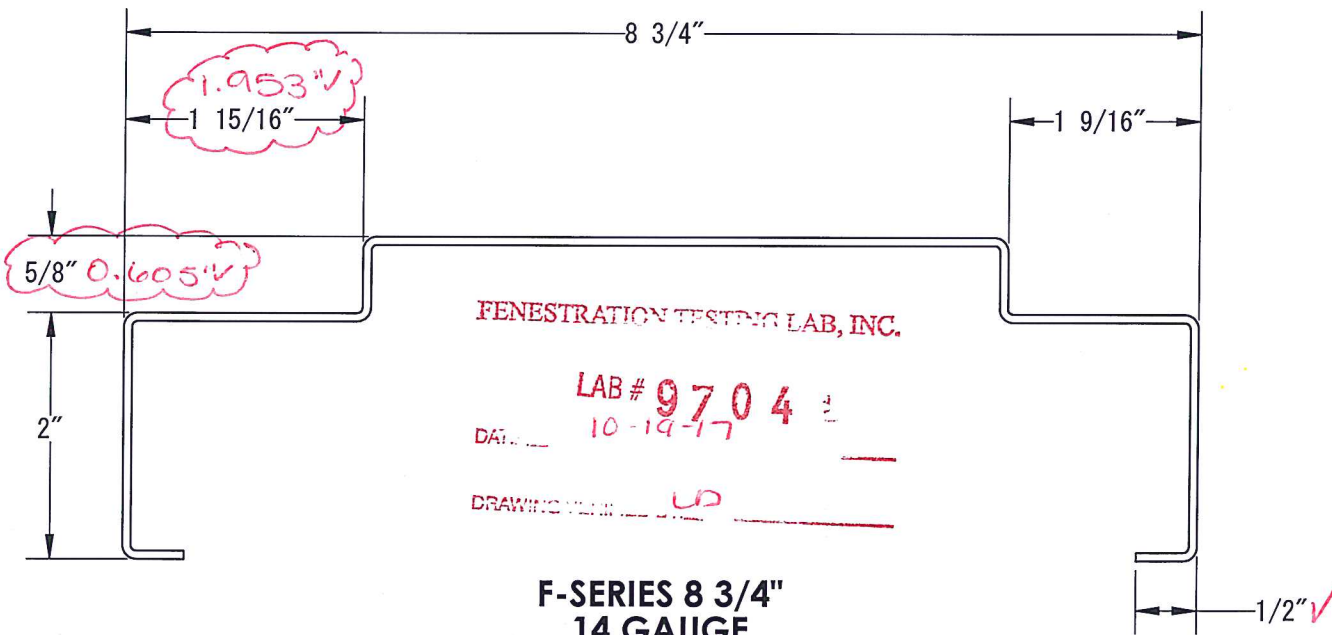
**MESKER™**  
The newest innovations in hollow metal from the  
eldest hollow metal door company in America



**FRAME PROFILES**



**F-SERIES 5 3/4"**  
**14 GAUGE**  
*Sample B1 and D1*



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LAB # 9704

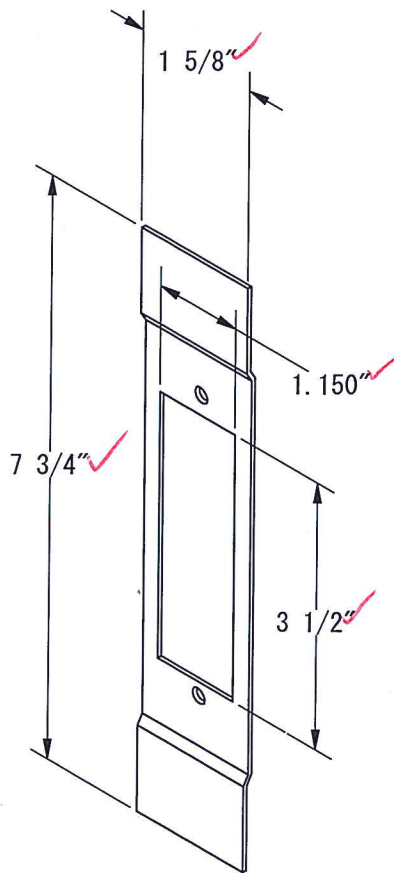
DATE 10-19-17

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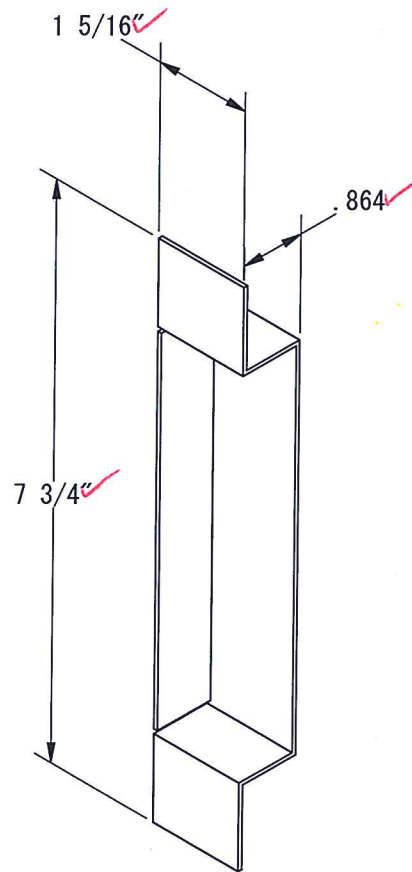
**F-SERIES 8 3/4"**  
**14 GAUGE**  
*Sample A1 and C1*

ONLY ITEMS CHECKED IN RED HAVE  
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PARTS - FRAME  
U STRIKE (ASA) REINFORCEMENT AND PLASTER GUARD



PART # PFSRU



PART # PFUPG

14 GAUGE

ONLY ITEMS CHECKED IN RED HAVE  
BEEN VERIFIED BY LABORATORY

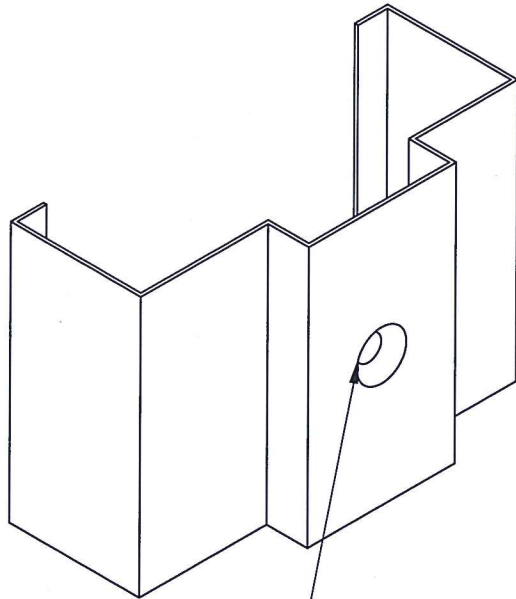
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LAB # 9704

DA: 10-12-17

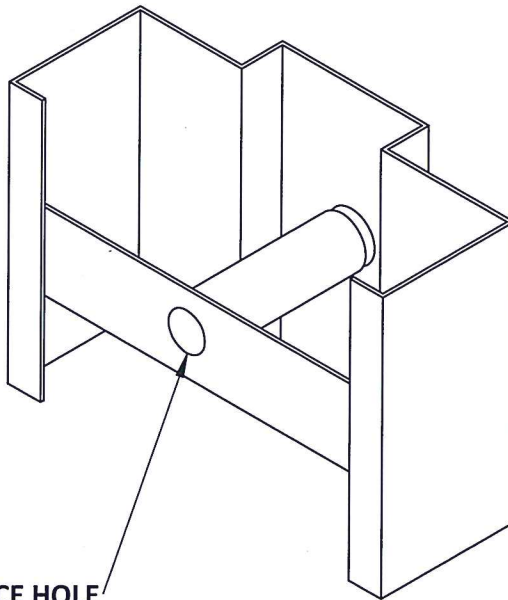
DATE: 10-12-17

F SERIES  
FRAME ANCHOR - PUNCH & DIMPLE WITH TUBE



COUNTERSINK

PREPARED FOR 3/8" DIAMETER EXPANSION  
ANCHOR OR #24 WOOD SCREW



9/16" <sup>✓</sup>CLEARANCE HOLE

Sample B1

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FENESTRATION TESTING LAB, INC.

LAB # 9704 -

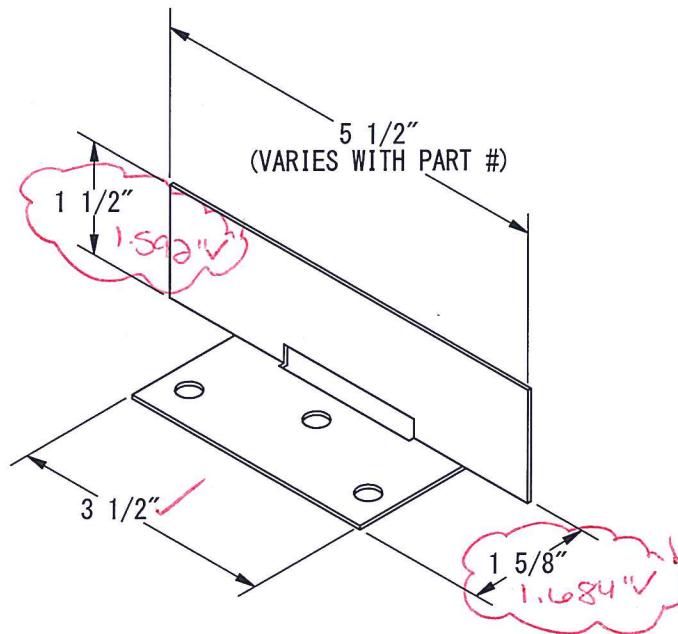
10-19-14

US



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The newest innovations in hollow metal from the  
eldest hollow metal door company in America

PARTS - FRAME  
SILL ANCHOR



- 4 3/4" PART # PFSA4
- 5 3/4" PART # PFSA5
- 6 3/4" PART # PFSA6
- 7 3/4" PART # PFSA7
- 8 3/4" PART # PFSA8

16 GAUGE ONLY ITEMS CHECKED IN RED HAVE  
BEEN VERIFIED BY LABORATORY

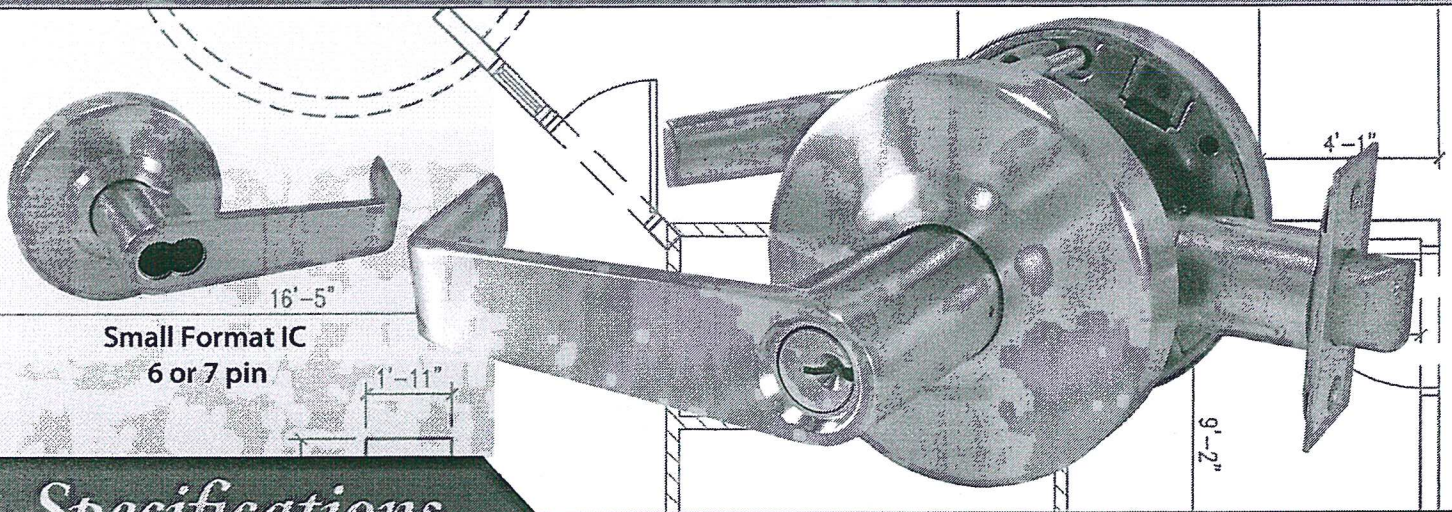
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LAB # 9704

DATE: \_\_\_\_\_

DRAWING CHECKED BY: \_\_\_\_\_

# X Series Heavy Duty Grade 1 Lock



## Specifications

- ANSI :** Meets & Exceeds ANSI - A156.2, Series 4000, Grade 1 Standards
  - UL Listings :** UL Listed for "A" Label 3 Hour Fire Doors
  - ADA Compliance :** Meets ADA and ANSI A117.1 accessibility codes
  - Lock Chassis :** Steel, Zinc dichromated for corrosion resistance
  - Clutching :** Clutching levers standard for vandal resistance on locking functions
  - Trim :** 5" Solid zinc diecast levers, 3 3/8" wrought brass roses
  - Lever Return :** Anti-sag mechanism with independent lever return springs to prevent lever sag
  - Handing :** Non-handed - Completely reversible (S-A & S-B lever styles are handed)
  - Backset & Latchface :** 2 3/4" backset std. with 1 1/8" x 2 1/4" latchface, 2 3/8" backset is available with 1" x 2 1/4" latchface both with self adjusting front for square or beveled edge doors
  - Latchbolt :** Stainless Steel with 1/2" projection, Deadlocking on keyed functions & exit latch
  - Cylinder Options :** 6 Pin Brass, C Kwy, with 2 Keys std, Prepared for Small format IC core (less core)
  - Optional Keyways :** 11 popular competitor keyways available with replacement cylinders (extra charge applies)
- Note: Replacement cylinders are supplied loose and not installed in locksets
- Strikes :** 4 7/8" x 1 1/4" ASA standard - T strike & Full lip strikes available
  - Door Preparation :** ANSI A115.2 - 2 1/8" crossbore with (2) 3/8" thru bolt holes
  - Door Thickness :** Factory Set for 1 3/4" - 1 3/8" require shims, can be adjusted to fit up to 2" thick
  - Lever Designs :** Flat (standard, shown above), Curved, Half Curved, S-A & S-B
  - Standard Finishes :** US3 PVD\*, US4, US10B, US15, US26 PVD\*, US26D (PVD = Lifetime Finish)
  - Marine Grade Option :** Marine Grade 316 Stainless steel lever and rose cover upgrade available
  - Fasteners :** Combination screws for wood or metal doors & frames
  - Warranty :** Limited lifetime warranty



FENESTRATION SYSTEMS LAB, INC.  
\*\* AS per manufacture

LAB# 9704

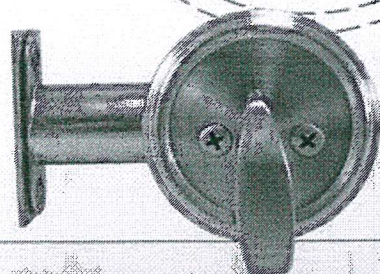
DA: 10/20/10

PH 877-258-1262 FX 877-888-0150  
www.designhardware.net

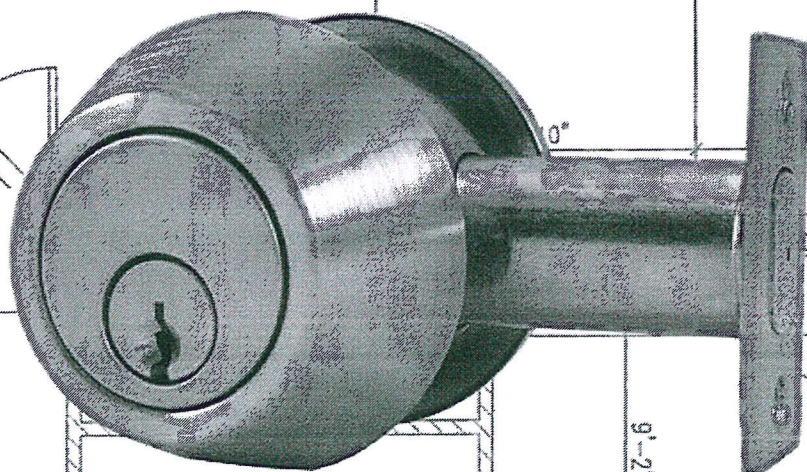


# D1 Series

Extra Heavy Duty Deadbolt Lock



2" ADA Approved Thumb Turn  
with 1/8" Steel Mounting Plate



## Specifications



**ANSI:** Meets ANSI - A156.2, Grade 1 Standards

**UL Listings:** UL Listed for "A" Label 3 Hour Fire Doors

**ADA Compliance:** 2" ADA Thumbturn Meets ADA & ANSI A117.1 accessibility codes

**Lock Chassis:** Steel, Zinc dichromated for Corrosion Resistance

**Steel Security Shield** included to protect bolt from ice pick attack through door

**Trim:** Free spinning Solid Steel cylinder collar resists wrenching and prying

**Handing:** Non-Handed - Completely reversible

**Backset & Latchface:** 2 3/4" fixed backset std. with 1 1/8" x 2 1/4" latchface, 2 3/8" backset available with 1" x 2 1/4" latchface both with self adjusting front for square or beveled doors

**Latchbolt:** Solid Brass with 1" Throw & Anti-Saw Hardened Steel Pin Insert

**Cylinder Options:** 6 Pin Brass, C Kwy, with 2 Keys std, Prepared for Small format IC core (less core)  
Prepared for Schlage Large Format IC core (less core)

**Optional Keyways:** 11 popular competitor keyways available with replacement cylinders (extra charge applies)

Note: Replacement cylinders are supplied loose and not installed in deadlocks

**Strike:** 1 1/8" x 2 3/4" Square corner, Wood Frame Reinforcer & 3" screws also included

**Door Preparation:** ANSI A115.2 - 2 1/8" crossbore on doors

**Door Thickness:** 1 3/4" thick doors

**Standard Finishes:** US3 PVD\*, US10B, US15, US26 PVD\*, US26D (PVD = Lifetime Finish)

**Fasteners:** Combination screws for wood or metal doors & frames

**Warranty:** Limited Lifetime Warranty

FENESTRATION TECHNOLOGY, INC.

XX AS PER MANUFACTURER

LAB # 9704

DATE 10-10-10

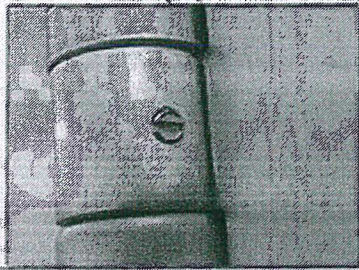
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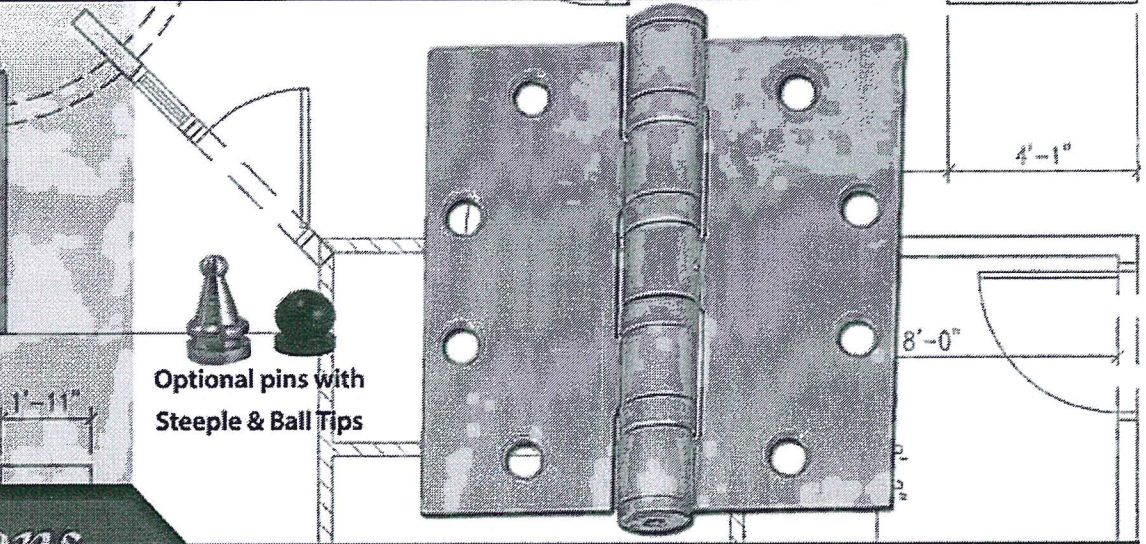
PH 877-258-1262 FX 877-888-0150  
www.designhardware.net

# BB5-HW

## Heavy Weight Ball Bearing Hinges



BB5-HW NRP  
Non Removable Pin



### Specifications

**ANSI:** Meets ANSI A156.1 - Dimensions and tolerances conform to ANSI - A156.7

**Gauge of metal:** .180" for 4.5" x 4.5" & .190 for 5" x 4.5" & 5" x 5" sizes

**Base Material:** Steel (ANSI A8111) or Stainless Steel (Grade 304 standard)(ANSI A5111)  
Marine Grade 316 US32D Stainless Steel also available

**Design & Templating:** 5 Knuckle Design & Templated hole locations for wood or metal doors & frames

**Fire Door Use:** Approved for most types of fire doors up to 4' x 10', 8' x 10' pairs - Refer to NFPA80

**Swaging:** 1/16" Swage standard which provides 1/16" of clearance between leaves

**Security NRP:** NRP - Non removable pin standard on all BB5-HW hinges

**Pin & Tip Options:** Easily seated non-rising pin with button head. Steeple & Ball Tips also available

**Pin Removal:** Hole in bottom knuckle tip enables quick pin removal for ease of installation

**Bearings:** Each hinge has 4 sets of maintenance free non detachable ball bearings

**Electrification:** Concealed thru wire and monitoring options available, See electrified section

**Fasteners:** Each box of 3 hinges contains full set of machine and wood screws

**Warranty:** Limited Lifetime Warranty

FENESTRATION TESTING LAB, INC.

### Available Finishes

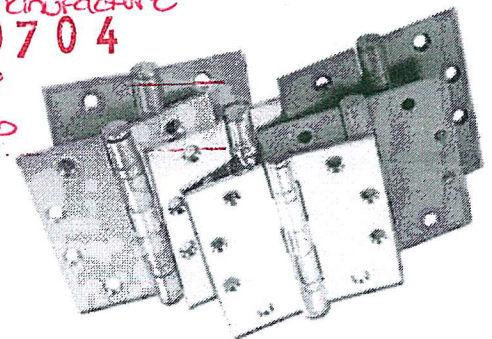
US #	BHMA #	Finish Description
US10B	640	Oil Rubbed Bronze
US26D	652	Brushed/Satin Chrome
US32D	630	Brushed/Satin Stainless Steel (type 304 or 316 marine grade)

Note: 4.5" x 5" & 5" x 5" sizes are not stocked in all finishes, check availability

FX AS per manufacture  
LAB # 9704

10-12-14

DRAWING VERIFIED



\*\*Other Finishes Available upon request