

PRODUCT EVALUATION REPORT	
Project No.: ACE-2025-126	Report No.: ACE-PER-1167, Rev. 0

Product Description: See Below

- Series HP Steel Door, Inswing/Outswing, Impact (X) (HMF0001)
- Series HSS Steel Door, Outswing, Impact (X, XX) (HMF0002)
- Series HP Steel Door W/Wo Sidelight & Transom, Outswing, Impact (X, XO, O/XO) (HMF0003)
- Series louvered / Glazed Steel Door, Outswing, Impact (X, XX) (HMF0004)
- Series Flush Steel Commercial Door, Outswing, Impact (XX) (HMF0005)

Product Manufacturer: HMF Express LLC, 2501 Northchase Pkwy SE, Wilmington, NC 28405

Code Compliance Statement: This report evaluates the fenestration product(s) listed above to the requirements of FAC Product Approval Rule 61G20-3.005. This product complies with the requirements of the 8th Edition (2023) Florida Building Code including the High Velocity Hurricane Zone (HVHZ) unless otherwise noted by the product testing standards listed below.

Compliance Method: Product Approval Rule 61G20-3.005(1)(d) – Product Evaluation Report by a Licensed Professional Engineer

Documentation/References:

- Drawing No. HMF0001, Rev. C, Series HP Steel Door, Inswing/Outswing, Impact (X), Installation Anchorage Details, signed and sealed by Robert J. Amoruso, P.E., FL No. 49752.
 - Test Report No. TEL02990623, dated 5/15/2013 by Testing Evaluation Laboratories, Inc., signed and sealed by William B. Shelton, P.E., FL No. 26686.
 - TAS 201 - 1994
 - TAS 202 - 1994
 - TAS 203 - 1994
 - Test Report No. TEL02990624, dated 5/15/2013 by Testing Evaluation Laboratories, Inc.
 - ASTM E330-02
 - ASTM E331-00
 - ASTM E283-04
 - ASTM E1886-05
 - ASTM E1996-06
 - Test Report No. TEL02991411, dated 8/24/2015 by Testing Evaluation Laboratories, Inc., signed and sealed by William B. Shelton, P.E., FL No. 26686.
 - TAS 201 - 1994
 - TAS 202 - 1994
 - TAS 203 - 1994

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- Drawing No. HMF0002, Rev. C, Series HSS Steel Door, Outswing, Impact (X, XX), Installation Anchorage Details, signed and sealed by Robert J. Amoruso, P.E., FL No. 49752.
 - Test Report No. CTLA 887W Revised, dated 4/2/2003 by Certified Testing Laboratories, Inc., signed and sealed by Ramesh Patel, P.E., FL No. 20224.
 - TAS 201 - 1994
 - TAS 202 - 1994
 - TAS 203 - 1994
 - Test Report No. CTLA 887W-1 Revised, dated 4/2/2003 by Certified Testing Laboratories, Inc., signed and sealed by Ramesh Patel, P.E., FL No. 20224.
 - TAS 201 - 1994
 - TAS 202 - 1994
 - TAS 203 - 1994
 - Drawing No. HMF0003, Rev. C, Series HP Steel Door W/Wo Sidelight & Transom, Outswing, Impact, Installation Anchorage Details, signed and sealed by Robert J. Amoruso, P.E., FL No. 49752.
 - Test Report No. TEL02991411, dated 8/24/2015 by Testing Evaluation Laboratories, Inc., signed and sealed by William B. Shelton, P.E., FL No. 26686.
 - TAS 201 - 1994
 - TAS 202 - 1994
 - TAS 203 - 1994
 - Drawing No. HMF0004, Rev. C, Series louvered / Glazed Steel Door, Outswing, Impact (X, XX), Installation Anchorage Details, signed and sealed by Robert J. Amoruso, P.E., FL No. 49752.
 - Test Report No. CTLA 1698W, dated 9/10/2007 by Certified Testing Laboratories, Inc., signed and sealed by Ramesh Patel, P.E., FL No. 20224.
 - ASTM E330-02
 - ASTM E1886-02
 - ASTM E1996-02
 - Test Report No. CTLA 1698W-1, dated 9/10/2007 by Certified Testing Laboratories, Inc., signed and sealed by Ramesh Patel, P.E., FL No. 20224.
 - ASTM E330-02
 - ASTM E1886-02
 - ASTM E1996-02
 - Drawing No. HMF0005, Rev. C, Series Flush Steel Commercial Door, Outswing, Impact (XX), Installation Anchorage Details, signed and sealed by Robert J. Amoruso, P.E., FL No. 49752.
 - Test Report No. CTLA 1098W Revised, dated 4/21/2003 by Certified Testing Laboratories, Inc., signed and sealed by Ramesh Patel, P.E., FL No. 20224.
 - TAS 201 - 1994
 - TAS 202 - 1994
 - TAS 203 - 1994

Engineering Analysis: The following engineering and/or rational analysis/calculations have been performed.

- Anchorage and product verification has been substantiated by calculation (Report. No. ACE- Calc- 1167) prepared, signed, and sealed by Robert J. Amoruso, P.E. in accordance with the current edition of the Florida Building Code.
- Hardware substitutions have been evaluated (Report No. ACE- EVAL-1167) in accordance with ANSI/WMA 100-18 and Florida Product Approvals listed in Appendix A and found to be acceptable.
 - Appendix A list the Hardware Component Manufacturers (Companies) and associated Florida Product Approvals used in the evaluation.

Limitations & Conditions of Use:

- The following products have been evaluated for use inside the HVHZ (High Velocity Hurricane Zone). These products are Impact Resistance; therefore, a protective impact-rated device (i.e., shutter(s)) is not required.
 - Series HP steel Door, Inswing/Outswing, Impact (X) (HMF0001)
 - Series HSS Steel Door, Outswing, Impact (X, XX) (HMF0002)
 - Series HP Steel Door W/Wo Sidelight & Transom, Outswing, Impact (X, XO, O/XO) (HMF0003)
 - Series Flush Steel Commercial Door, Outswing, Impact (XX) (HMF0005)
- The following product has not been evaluated for use inside the HVHZ (High Velocity Hurricane Zone). This product is Impact Resistance; therefore, a protective impact-rated device (i.e., shutter(s)) is not required.
 - Series Louvered / Glazed Steel Door, Outswing, Impact (X, XX) (HMF0004)
- Refer to Product Installation Instructions noted above for:
 - Maximum allowable wind loads at related maximum allowable size(s).
 - Overall dimensions and material/grade of main product components, accessories, etc.
 - Illustrated diagrams of the attachment of the product to the structure.
 - Anchor type(s), size(s), substrate(s), embedment, edge distance, and spacing/locations.
- Site wind pressures shall be determined by a licensed professional engineer in accordance with the current edition of the Florida Building Code (and/or ASCE 7 as referenced in the current edition of the Florida Building Code) for components and cladding based on allowable stress design.
- Site conditions not covered in this product evaluation document are subject to additional engineering analysis by a licensed professional engineer or registered architect as required by the authority having jurisdiction.
- Adequacy of the existing structural substrates as a main wind force resisting system capable of withstanding and transferring applied product loads to the foundation is the responsibility of the licensed professional engineer or registered architect acting as the design professional of record for the project of installation.

**Certificate of Independence per Product
Approval Rule 61G20-3.009**

Robert J. Amoruso, P.E., does not have, nor will he acquire, any financial interest in the company manufacturing or distributing product(s) covered by this Product Evaluation Report.

Robert J. Amoruso, P.E., does not have, nor will he acquire any financial interest in any other entity involved in the approval process or testing of the product(s) covered by this Product Evaluation Report.



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Robert J
Amoruso

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Evaluated by:
Robert J. Amoruso, P.E.
FL P.E. License No. 49752

Appendix A – Approved Hardware Evaluation List

The following tables summarize the As-Tested Hardware and Approved Hardware tables shown in HFM0001, HFM0002, HFM0003, HFM0004 and HFM0005 drawings.

The As-Tested Hardware tables list the associated testing labs and test report numbers used by HMF Express to determine that Design Pressure for the door assemblies with the hardware listed.

The Approved Hardware tables list those hardware options that were evaluated in ACE-EVAL-1167.

The evaluation consisted of listing all hardware options to be considered for each drawing product into and Excel spreadsheet and comparing it to the as-test hardware list to determine enveloping of the panel width and height, door panel skin thickness and door assembly Design Pressure (DP in psf) based on the lower of the door panel size and DP and the higher of the door panel skin thickness.

Assembly of the door will follow that of the approved installation drawings listed including but not limited to such items as:

1. Use of flush bolts or surface bolts on inactive panels on Double Door Pairs shown in the subject installation drawing.
2. Include any additional reinforcement mandated by the Approved Hardware's associated Florida Product Approval listed in the following tables.
 - a. Hardware substitutions may require different/additional door reinforcement from those shown in the as-tested drawing assemblies. As such, the Approved Hardware's associated Florida Product Approval will be consulted and address those requirements.
3. Maintain the overall frame widths and heights consistent with the as-tested products based on the summarized door panel width and height unless the Approved Hardware mandates a decreased door panel width and height.

The tables below are listed for each installation drawings number with the AS-TESTED HARDWARE table first and the APPROVED HARDWARE second.

Appendix A – HFM0001

Company Name	Type of Hardware	Testing Evaluation Laboratories Report No. (6)	Hardware Model (used in testing) (6)	HVHZ (Y/N) (2)	Impact Tested (Y/N) (2)	Water Infiltration (Y/N) (1)	Swing Type (In/Out)	DP (Positive) (psf) (1)	DP (Negative) (psf) (1)	Max Panel Width (in) (3)	Max Panel Height (in) (3)	Skin Thickness (6)
Hager Companies	161 w/ TB + DB	TEL 02991411	3500 Series Lockset w/ 3200 Series DB	Y	Y	N	Inswing	66	76	35.75	83.5	18 GA
Design Hardware	161 w/ TB + DB	TEL 02990623	X-75-F Lockset w/D2-S DB	Y	Y	N	Outswing	66	66	35.75	83.5	18 GA
Falcon	161 w/ TB + DB	TEL 02990623	T500 Lockset w/D131 DB	Y	Y	N	Outswing	66	66	35.75	83.5	18 GA
Design Hardware	161 w/ TB + DB	TEL 02990623	X-75-F Lockset w/D2-S DB	Y	Y	N	Outswing	70	70	35.75	83.5	16 GA
Falcon	161 w/ TB + DB	TEL 02990623	T500 Lockset w/D131 DB	Y	Y	N	Outswing	70	70	35.75	83.5	16 GA
Design Hardware	161 w/ TB + DB	TEL 02990624	X-75-F Lockset w/D2-S DB	N	Y	N	Outswing	66	66	35.75	83.5	18 GA
Falcon	161 w/ TB + DB	TEL 02990624	T500 Lockset w/D131 DB	N	Y	N	Outswing	66	66	35.75	83.5	18 GA
Design Hardware	161 w/ TB + DB	TEL 02990624	X-75-F Lockset w/D2-S DB	N	Y	N	Outswing	70	70	35.75	83.5	16 GA
Falcon	161 w/ TB + DB	TEL 02990624	T500 Lockset w/D131 DB	N	Y	N	Outswing	70	70	35.75	83.5	16 GA

Company Name	Type of Hardware	Hardware FBC Product Approval Number (4) (5)	Hardware Model (4)	HVHZ (Y/N) (2)	Impact Tested (Y/N) (2)	Water Infiltration (Y/N) (1)	Swing Type (In/Out)	DP (Positive) (psf) (1)	DP (Negative) (psf) (1)	Max Panel Width (in) (3)	Max Panel Height (in) (3)	Skin Thickness (8)
Cal-Royal Products	161 w/ TB	13922.5	Genysis Series	Y	Y	N	Inswing	66	70	35.75	83.5	18 GA
Allegion-Schlage	161 w/ TB	14482.1	Falcon B Series	Y	Y	N	Inswing	60	70	35.75	83.5	18 GA
Allegion-Schlage	161 w/ TB	14482.1	Falcon T & TM Series	Y	Y	N	Inswing	60	70	35.75	83.5	18 GA
Cal-Royal Products	161 w/ TB + DB	13922.6	Pioneer Series + T300 Series	Y	Y	N	Inswing	55	55	35.75	83.5	18 GA
Cal-Royal Products	Mortise Lock	13922.10	M Series	Y	Y	N	Inswing	66	76	35.75	83.5	18 GA
Allegion-Schlage	Mortise Lock	14482.1	Falcon MA-Series	Y	Y	N	Inswing	66	70	35.75	83.5	18 GA
Allegion-Schlage	Mortise Lock + DB	3905.1	Schlage L/LV 9400 + Deadbolt	Y	Y	N	Inswing	66	76	35.75	83.5	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.1	Falcon MA-Series + Deadbolt	Y	Y	N	Inswing	66	76	35.75	83.5	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.1	Schlage AD-MD & CO-MD +Deadbolt	Y	Y	N	Inswing	66	76	35.75	83.5	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.1	Schlage LE & LEB +Deadbolt	Y	Y	N	Inswing	66	76	35.75	83.5	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.1	Schlage XE360-M-D + Deadbolt	Y	Y	N	Inswing	66	76	35.75	83.5	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.1	Schlage PM400 + Deadbolt	Y	Y	N	Inswing	66	76	35.75	83.5	16 GA
Cal-Royal Products	161 w/ TB	13922.5	Genysis Series	Y	Y	N	Outswing	66	66	35.75	83.5	18 GA
Allegion-Schlage	161 w/ TB	14482.1	Falcon B Series	Y	Y	N	Outswing	66	60	35.75	83.5	18 GA
Allegion-Schlage	161 w/ TB	14482.1	Falcon T & TM Series	Y	Y	N	Outswing	66	66	35.75	83.5	18 GA

Allegion-Schlage	161 w/ TB	14482.5	Schlage D, ND, NDE Series	Y	Y	N	Outswing	70	70	35.75	83.5	16 GA
Dormakaba	161 w/ TB	16202.2	Best 9K	Y	Y	N	Outswing	66	66	35.75	83.5	18 GA
Dormakaba	161 w/ TB	16202.8	Dorma C100 Series	Y	Y	N	Outswing	66	66	35.75	83.5	18 GA
Cal-Royal Products	161 w/ TB + DB	13922.6	Pioneer Series + T300 Series	Y	Y	N	Outswing	66	66	35.75	83.5	18 GA
Cal-Royal Products	161 w/ TB + DB	13922.6	Pioneer Series + T300 Series	Y	Y	N	Outswing	66	66	35.75	83.5	18 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 100 Series + QDB 100 Series	Y	Y	N	Outswing	66	66	35.75	83.5	18 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 100 Series + QDB 200 Series	Y	Y	N	Outswing	66	66	35.75	83.5	18 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 200 Series + QDB 100 Series	Y	Y	N	Outswing	66	66	35.75	83.5	18 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 200 Series + QDB 200 Series	Y	Y	N	Outswing	66	66	35.75	83.5	18 GA
Hager Companies	161 w/ TB + DB	22010.1 22010.2 22010.3 22010.4 22010.5	2500/3400/3500 Series + 3100/3200 Series	N	Y	N	Outswing	65	65	35.75	83.5	18 GA
Hager Companies	161 w/ TB + DB	22010.3 & 22010.5	3500 Series Lockset w/ 3200 Series DB	N	Y	N	Outswing	65	65	35.75	83.5	16 GA
Hager Companies	161 w/ TB + DB	22010.3 & 22010.5	3500 Series Lockset w/ 3200 Series DB	N	Y	N	Outswing	65	65	35.75	83.5	18 GA
Allegion-Schlage	Mortise Exit Device	14482.5	Von Duprin 8875	Y	Y	N	Outswing	70	70	35.75	83.5	16 GA
Cal-Royal Products	Mortise Lock	13922.10	M Series	Y	Y	N	Outswing	66	66	35.75	83.5	18 GA
Allegion-Schlage	Mortise Lock	14482.1	Falcon MA-Series	Y	Y	N	Outswing	66	66	35.75	83.5	18 GA
Dormakaba	Mortise Lock	16202.1	Best 45H & 47H	Y	Y	N	Outswing	60	60	35.75	83.5	18 GA
Schlage	Mortise Lock	14482.5	L9000 MORTISE LOCK SERIES WITH ASA STRIKE	Y	Y	N	Outswing	60	60	35.75	83.5	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.2	Schlage L/LV 9400 + Deadbolt	Y	Y	N	Outswing	70	70	35.75	83.5	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.2	Falcon MA-Series + Deadbolt	Y	Y	N	Outswing	70	70	35.75	83.5	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.2	Schlage AD-MD & CO-MD +Deadbolt	Y	Y	N	Outswing	70	70	35.75	83.5	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.2	Schlage LE & LEB +Deadbolt	Y	Y	N	Outswing	70	70	35.75	83.5	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.2	Schlage XE360-M-D + Deadbolt	Y	Y	N	Outswing	70	70	35.75	83.5	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.2	Schlage PM400 + Deadbolt	Y	Y	N	Outswing	70	70	35.75	83.5	16 GA
Dormakaba	Mortise Lock + DB	16202.1	Best 45H & 47H with Deadbolt	Y	Y	N	Outswing	60	60	35.75	83.5	18 GA
Dormakaba	Mortise Lock + DB	16202.1	Best 48H & 49H with Deadbolt	Y	Y	N	Outswing	40.5	40.5	35.75	83.5	18 GA
Hager Companies	Mortise Lock + DB	22010.6	3800 Series	N	Y	N	Outswing	65	65	35.75	83.5	18 GA
Allegion-Schlage	Mortise Rim Exit	14482.2	Falcon F-25-M	Y	Y	N	Outswing	70	70	35.75	83.5	16 GA
Cal-Royal Products	Rim Exit	13922.7	7700 Series	Y	Y	N	Outswing	66	66	35.75	83.5	18 GA
Allegion-Schlage	Rim Exit	14482.2	Falcon F-25-R	Y	Y	N	Outswing	70	55	35.75	83.5	16 GA
Dormakaba	Rim Exit	16202.3	Best ARM-A-DOR	Y	Y	N	Outswing	70	70	35.75	83.5	16 GA
Dormakaba	Rim Exit	16202.4	Best HC2100	Y	Y	N	Outswing	70	70	35.75	83.5	16 GA
Von Duprin	Rim Exit	14482.5	Von Duprin Rim Exit No. 98/99 SERIES	Y	Y	N	Outswing	70	70	35.75	83.5	16 GA

Appendix A – HFM0002

Company Name	Type of Hardware	Certified Testing Laboratories Report No. (6)	Hardware Model (used in testing) (6)	HVHZ (Y/N) (2)	Impact Tested (Y/N) (2)	Water Infiltration (Y/N) (1)	Swing Type (In/Out)	Single/Pair	DP (Positive) (psf)	DP (Negative) (psf)	Max Panel Width (in)	Max Panel Height (in)	Skin Thickness (6)
Schlage	161 w/ TB + DB	CTLA 887W	LOCK: D-SERIES & DEADBOLT: D100	Y	Y	Y	Outswing	Single	47	47	47.75	95.5	18 GA
Schlage	Mortise Lock + DB	CTLA 887W	MORTISE LOCK: L9457 W/DEADBOLT	Y	Y	Y	Outswing	Single	47	47	47.75	95.5	18 GA
Von Duprin	Mortise Rim Exit	CTLA 887W	9975 PANIC EXIT DEVICE W/MORTISE LOCK (575 STRIKE PLATE) for use on one active panel only	Y	Y	Y	Outswing	Single	47	47	47.75	95.5	18 GA
Von Duprin	Rim Exit	CTLA 887W	98NL PANIC EXIT DEVICE (499 STRIKE PLATE) for use on one active panel only	Y	Y	Y	Outswing	Single	47	47	47.75	95.5	18 GA
Schlage	161 w/ TB + DB	CTLA 887W-1	LOCK: D-SERIES & DEADBOLT: D100	Y	Y	Y	Outswing	Pair	47	47	35.75	95.5	18 GA
Schlage	Mortise Lock + DB	CTLA 887W-1	MORTISE LOCK: L9457 W/DEADBOLT	Y	Y	Y	Outswing	Pair	47	47	35.75	95.5	18 GA
Von Duprin	Mortise Rim Exit	CTLA 887W-1	9975 PANIC EXIT DEVICE W/MORTISE LOCK (575 STRIKE PLATE) for use on one active panel only	Y	Y	Y	Outswing	Pair	47	47	35.75	95.5	18 GA
Von Duprin	Rim Exit	CTLA 887W-1	98NL PANIC EXIT DEVICE (499 STRIKE PLATE) for use on one active panel only	Y	Y	Y	Outswing	Pair	47	47	35.75	95.5	18 GA

Company Name	Type of Hardware	Hardware FBC Product Approval Number (4) (5)	Hardware Model (4)	HVHZ (Y/N) (2)	Impact Tested (Y/N) (2)	Water Infiltration (Y/N) (1)	Swing Type (In/Out)	Single/Pair	DP (Positive) (psf) (1)	DP (Negative) (psf) (1)	Max Panel Width (in) (3)	Max Panel Height (in) (3)	Skin Thickness (8)
Allegion-Schlage	161 w/ TB	14482.3	Schlage AL Series	Y	Y	N	Outswing	Pair	47	47	35.75	95.5	16 GA
Allegion-Schlage	161 w/ TB	14482.3	Schlage D, ND, NDE Series	Y	Y	N	Outswing	Pair	47	47	35.75	95.5	16 GA
Dormakaba	161 w/ TB	16202.2	Best 9K	Y		N	Outswing	Pair	47	47	35.75	84	18 GA
Dormakaba	161 w/ TB	16202.8	Dorma C100 Series	Y	Y	N	Outswing	Pair	47	47	35.75	84	18 GA
Cal-Royal Products	161 w/ TB + DB	13922.6	Pioneer Series + T300 Series	Y	Y	N	Outswing	Pair	47	47	35.75	84	18 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 100 Series + QDB 100 Series	Y	Y	N	Outswing	Pair	47	47	35.75	95.5	18 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 100 Series + QDB 200 Series	Y	Y	N	Outswing	Pair	47	47	35.75	95.5	18 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 200 Series + QDB 100 Series	Y	Y	N	Outswing	Pair	47	47	35.75	95.5	18 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 200 Series + QDB 200 Series	Y	Y	N	Outswing	Pair	47	47	35.75	95.5	18 GA
Allegion-Schlage	Mortise Lock	14482.3	Schlage LE & LEB	Y	Y	N	Outswing	Pair	47	47	35.75	95.5	16 GA
Allegion-Schlage	Mortise Lock	14482.3	Falcon MA-Series	Y	Y	N	Outswing	Pair	47	47	35.75	95.5	16 GA
Dormakaba	Mortise Lock	16202.1	Best 45H & 47H	Y	Y	N	Outswing	Pair	35	35	35.75	95.5	18 GA
Schlage	Mortise Lock	14482.3	SCHLAGE L9000 MORTISE LOCK SERIES WITH ASA STRIKE	Y	Y	N	Outswing	Pair	47	47	35.75	95.5	16 GA

Allegion-Schlage	Mortise Lock + DB	14482.3	Schlage L/LV 9400 + Deadbolt	Y	Y	N	Outswing	Pair	47	47	35.75	95.5	16 GA
Allegion-Schlage	Mortise Lock + DB	14482.3	Schlage LE & LEB +Deadbolt	Y	Y	N	Outswing	Pair	47	47	35.75	95.5	16 GA
Allegion-Schlage	Mortise Lock + DB	14482.3	Falcon MA-Series + Deadbolt	Y	Y	N	Outswing	Pair	47	47	35.75	95.5	16 GA
Dormakaba	Mortise Lock + DB	16202.1	Best 45H & 47H with Deadbolt	Y	Y	N	Outswing	Pair	35	35	35.75	95.5	18 GA
Dormakaba	Mortise Lock + DB	16202.1	Best 48H & 49H with Deadbolt	Y	Y	N	Outswing	Pair	40.5	40.5	35.75	95.5	18 GA
Allegion-Schlage	Mortise Rim Exit	14482.2	Falcon F-25-M	Y	Y	N	Outswing	Pair	47	47	35.75	95.5	16 GA
Allegion-Schlage	Rim Exit	14482.2	Falcon F-25-R + HH9954 Removable Mullion	Y	Y	N	Outswing	Pair	47	47	35.75	95.5	16 GA
Dormakaba	Rim Exit	16202.4	Best HC2100 + HCKR822 Mullion	Y	Y	N	Outswing	Pair	47	47	35.75	95.5	16 GA
Von Duprin	Rim Exit	14482.3	Von Duprin NO. 98/99 SERIES WITH HH9954 HARDWARE MULLION	Y	Y	N	Outswing	Pair	47	70	35.75	95.5	16 GA
Allegion-Schlage	Surface Vertical Rod	14482.2	Falcon F-25-V	Y	Y	N	Outswing	Pair	47	47	35.75	95.5	16 GA
Dormakaba	Surface Vertical Rod	16202.4	Best HC2200	Y	Y	N	Outswing	Pair	47	47	35.75	95.5	16 GA
Von Duprin	Surface Vertical Rod	14482.3	Von Duprin SVR EXIT DEVICES NO. 9827/9927 SERIES	Y	Y	N	Outswing	Pair	47	70	35.75	95.5	16 GA

Company Name	Type of Hardware	Hardware FBC Product Approval Number (4) (5)	Hardware Model (4)	HVHZ (Y/N) (2)	Impact Tested (Y/N) (2)	Water Infiltration (Y/N) (1)	Swing Type (In/Out)	Single/Pair	DP (Positive) (psf) (1)	DP (Negative) (psf) (1)	Max Panel Width (in) (3)	Max Panel Height (in) (3)	Skin Thickness (8)
Cal-Royal Products	161 w/ TB	13922.5	Genysis Series	Y	Y	N	Outswing	Single	47	47	35.75	83.125	18 GA
Allegion-Schlage	161 w/ TB	14482.1	Falcon B Series	Y	Y	N	Outswing	Single	47	47	36	84	18 GA
Allegion-Schlage	161 w/ TB	14482.1	Falcon T & TM Series	Y	Y	N	Outswing	Single	47	47	36	84	18 GA
Allegion-Schlage	161 w/ TB	14482.5	Schlage D, ND, NDE Series	Y	Y	N	Outswing	Single	47	47	47.75	95.5	16 GA
Dormakaba	161 w/ TB	16202.2	Best 9K	Y	Y	N	Outswing	Single	47	47	47.75	95.5	18 GA
Dormakaba	161 w/ TB	16202.8	Dorma C100 Series	Y	Y	N	Outswing	Single	47	47	47.75	95.5	18 GA
Cal-Royal Products	161 w/ TB + DB	13922.6	Pioneer Series + T300 Series	Y	Y	N	Outswing	Single	47	47	35.75	83.125	18 GA
Cal-Royal Products	161 w/ TB + DB	13922.6	Pioneer Series + T300 Series	Y	Y	N	Outswing	Single	47	47	47.75	95	18 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 100 Series + QDB 100 Series	Y	Y	N	Outswing	Single	47	47	47.75	95.5	18 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 100 Series + QDB 200 Series	Y	Y	N	Outswing	Single	47	47	47.75	95.5	18 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 200 Series + QDB 100 Series	Y	Y	N	Outswing	Single	47	47	47.75	95.5	18 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 200 Series + QDB 200 Series	Y	Y	N	Outswing	Single	47	47	47.75	95.5	18 GA

Hager Companies	161 w/ TB + DB	22010.1 22010.2 22010.3 22010.4 22010.5	2500/3400/3500 Series + 3100/3200 Series	N	Y	N	Outswing	Single	47	47	47.75	95.5	18 GA
Cal-Royal Products	Mortise Lock	13922.10	M Series	Y	Y	N	Outswing	Single	47	47	35.75	83.125	18 GA
Allegion-Schlage	Mortise Lock	14482.1	Falcon MA-Series	Y	Y	N	Outswing	Single	47	47	36	84	18 GA
Dormakaba	Mortise Lock	16202.1	Best 45H & 47H	Y	Y	N	Outswing	Single	47	47	47.75	95.5	18 GA
Schlage	Mortise Lock	14482.5	Schlage L9000 MORTISE LOCK SERIES WITH ASA STRIKE (4-7/8")	Y	Y	N	Outswing	Single	47	60	47.75	95.5	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.2	Schlage L/LV 9400 + Deadbolt	Y	Y	N	Outswing	Single	47	47	36	84	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.2	Falcon MA-Series + Deadbolt	Y	Y	N	Outswing	Single	47	47	36	84	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.2	Schlage AD-MD & CO-MD +Dadbolt	Y	Y	N	Outswing	Single	47	47	36	84	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.2	Schlage LE & LEB +Dadbolt	Y	Y	N	Outswing	Single	47	47	36	84	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.2	Schlage XE360-M-D + Deadbolt	Y	Y	N	Outswing	Single	47	47	36	84	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.2	Schlage PM400 + Deadbolt	Y	Y	N	Outswing	Single	47	47	36	84	16 GA
Dormakaba	Mortise Lock + DB	16202.1	Best 45H & 47H with Deadbolt	Y	Y	N	Outswing	Single	47	47	47.75	95.5	18 GA
Dormakaba	Mortise Lock + DB	16202.1	Best 48H & 49H with Deadbolt	Y	Y	N	Outswing	Single	40.5	40.5	47.75	95.5	18 GA
Hager Companies	Mortise Lock + DB	22010.6	3800 Series	N	Y	N	Outswing	Single	47	47	47.75	95.5	18 GA
Allegion-Schlage	Mortise Exit Device	14482.5	Von Duprin 8875	Y	Y	N	Outswing	Single	47	47	47.75	95.5	16 GA
Allegion-Schlage	Mortise Rim Exit	14482.2	Falcon F-25-M	Y	Y	N	Outswing	Single	47	47	47.75	95.5	16 GA
Cal-Royal Products	Rim Exit	13922.7	7700 Series	Y	Y	N	Outswing	Single	47	47	36	84	18 GA
Allegion-Schlage	Rim Exit	14482.2	Falcon F-25-R	Y	Y	N	Outswing	Single	47	47	47.75	95.5	16 GA
Dormakaba	Rim Exit	16202.3	Best ARM-A-DOR	Y	Y	N	Outswing	Single	47	47	47.75	86	16 GA
Dormakaba	Rim Exit	16202.4	Best HC2100	Y	Y	N	Outswing	Single	47	47	47.75	86	16 GA
Von Duprin	Rim Exit	14482.5	Von Duprin Rim Exit No. 98/99 SERIES	Y	Y	N	Outswing	Single	47	70	47.75	95.5	16 GA
Allegion-Schlage	Surface Vertical Rod	14482.2	Falcon F-25-V	Y	Y	N	Outswing	Single	47	47	47.75	95.5	16 GA
Dormakaba	Surface Vertical Rod	16202.4	Best HC2200	Y	Y	N	Outswing	Single	47	47	47.75	95.5	16 GA

Appendix A – HFM0003

Company Name	Type of Hardware	Testing Evaluation Laboratories Report No. (6)	Hardware Model (used in testing) (6)	HVHZ (Y/N) (2)	Impact Tested (Y/N) (2)	Water Infiltration (Y/N) (1)	Swing Type (In/Out)	Single/Pair	DP (Positive) (psf) (1)	DP (Negative) (psf) (1)	Max Panel Width (in) (3)	Max Panel Height (in) (3)	Skin Thickness (6)
Corbin/Ruswin	161 w/ TB + DB	TEL 02991411	3500 Series Lockset w/ 3200 Series DB	Y	Y	N	Outswing	Single	65	70	47.75	95.5	18 GA

Company Name	Type of Hardware	Hardware FBC Product Approval Number (4) (5)	Hardware Model (4)	HVHZ (Y/N) (2)	Impact Tested (Y/N) (2)	Water Infiltration (Y/N) (1)	Swing Type (In/Out)	Single/Pair	DP (Positive) (psf) (1)	DP (Negative) (psf) (1)	Max Panel Width (in) (3)	Max Panel Height (in) (3)	Skin Thickness (8)
Cal-Royal Products	161 w/ TB	13922.5	Genysis Series	Y	Y	N	Outswing	Single	65	70	35.75	83.125	18 GA
Allegion-Schlage	161 w/ TB	14482.1	Falcon B Series	Y	Y	N	Outswing	Single	65	60	36	84	18 GA
Allegion-Schlage	161 w/ TB	14482.1	Falcon T & TM Series	Y	Y	N	Outswing	Single	65	70	36	84	18 GA
Allegion-Schlage	161 w/ TB	14482.5	Schlage D, ND, NDE Series	Y	Y	N	Outswing	Single	65	70	47.75	95.5	16 GA
Dormakaba	161 w/ TB	16202.2	Best 9K	Y	Y	N	Outswing	Single	65	70	47.75	95.5	18 GA
Dormakaba	161 w/ TB	16202.8	Dorma C100 Series	Y	Y	N	Outswing	Single	65	70	47.75	95.5	18 GA
Cal-Royal Products	161 w/ TB + DB	13922.6	Pioneer Series + T300 Series	Y	Y	N	Outswing	Single	65	70	35.75	83.125	18 GA
Cal-Royal Products	161 w/ TB + DB	13922.6	Pioneer Series + T300 Series	Y	Y	N	Outswing	Single	65	70	47.75	95	18 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 100 Series + QDB 100 Series	Y	Y	N	Outswing	Single	65	70	47.75	95.5	18 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 100 Series + QDB 200 Series	Y	Y	N	Outswing	Single	65	70	47.75	95.5	18 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 200 Series + QDB 100 Series	Y	Y	N	Outswing	Single	65	70	47.75	95.5	18 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 200 Series + QDB 200 Series	Y	Y	N	Outswing	Single	65	70	47.75	95.5	18 GA
Hager Companies	161 w/ TB + DB	22010.1 22010.2 22010.3 22010.4 22010.5	2500/3400/3500 Series + 3100/3200 Series	N	Y	N	Outswing	Single	65	65	47.75	95.5	18 GA
Allegion-Schlage	Mortise Exit Device	14482.5	Von Duprin 8875	Y	Y	N	Outswing	Single	65	70	47.75	95.5	16 GA
Cal-Royal Products	Mortise Lock	13922.10	M Series	Y	Y	N	Outswing	Single	65	70	35.75	83.125	18 GA
Allegion-Schlage	Mortise Lock	14482.1	Falcon MA-Series	Y	Y	N	Outswing	Single	65	70	36	84	18 GA
Dormakaba	Mortise Lock	16202.1	Best 45H & 47H	Y	Y	N	Outswing	Single	60	60	47.75	95.5	18 GA

Schlage	Mortise Lock	14482.5	Schlage L9000 MORTISE LOCK SERIES WITH ASA STRIKE (4-7/8")	Y	Y	N	Outswing	Single	60	60	47.75	95.5	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.2	Schlage L/LV 9400 + Deadbolt	Y	Y	N	Outswing	Single	65	70	36	84	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.2	Falcon MA-Series + Deadbolt	Y	Y	N	Outswing	Single	65	70	36	84	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.2	Schlage AD-MD & CO-MD +Deadbolt	Y	Y	N	Outswing	Single	65	70	36	84	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.2	Schlage LE & LEB +Deadbolt	Y	Y	N	Outswing	Single	65	70	36	84	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.2	Schlage XE360-M-D + Deadbolt	Y	Y	N	Outswing	Single	65	70	36	84	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.2	Schlage PM400 + Deadbolt	Y	Y	N	Outswing	Single	65	70	36	84	16 GA
Dormakaba	Mortise Lock + DB	16202.1	Best 45H & 47H with Deadbolt	Y	Y	N	Outswing	Single	60	60	47.75	95.5	18 GA
Dormakaba	Mortise Lock + DB	16202.1	Best 48H & 49H with Deadbolt	Y	Y	N	Outswing	Single	40.5	40.5	47.75	95.5	18 GA
Hager Companies	Mortise Lock + DB	22010.6	3800 Series	N	Y	N	Outswing	Single	65	65	47.75	95.5	18 GA
Allegion-Schlage	Mortise Rim Exit	14482.2	Falcon F-25-M	Y	Y	N	Outswing	Single	65	70	47.75	95.5	16 GA
Cal-Royal Products	Rim Exit	13922.7	7700 Series	Y	Y	N	Outswing	Single	65	70	36	84	18 GA
Allegion-Schlage	Rim Exit	14482.2	Falcon F-25-R	Y	Y	N	Outswing	Single	65	55	47.75	95.5	16 GA
Dormakaba	Rim Exit	16202.3	Best ARM-A-DOR	Y	Y	N	Outswing	Single	65	70	47.75	86	16 GA
Dormakaba	Rim Exit	16202.4	Best HC2100	Y	Y	N	Outswing	Single	65	70	47.75	86	16 GA
Von Duprin	Rim Exit	14482.5	Von Duprin Rim Exit No. 98/99 SERIES	Y	Y	N	Outswing	Single	65	70	47.75	95.5	16 GA

Appendix A – HFM0004

Company Name	Type of Hardware	Certified Testing Laboratories Report No. (6)	Hardware Model (used in testing) (6)	HVHZ (Y/N) (2)	Impact Tested (Y/N) (2)	Water Infiltration (Y/N) (1)	Swing Type (In/Out)	Single/Pair	DP (Positive) (psf)	DP (Negative) (psf)	Max Panel Width (in)	Max Panel Height (in)	Skin Thickness (6)
Schlage	161 w/ TB + DB	CTLA 1698W-1	Schlage Lockset #ND96PD x ASA 4-7 /8" strike	N	Y	N	Outswing	Pair	55	55	35.75	83.5	16 GA
Schlage	161 w/ TB + DB	CTLA 1698W	Schlage Lockset #ND96PD x ASA 4-7 /8" strike	N	Y	N	Outswing	Single	65	70	35.75	83.5	16 GA

Company Name	Type of Hardware	Hardware FBC Product Approval Number (4) (5)	Hardware Model (4)	HVHZ (Y/N) (2)	Impact Tested (Y/N) (2)	Water Infiltration (Y/N) (1)	Swing Type (In/Out)	Single/Pair	DP (Positive) (psf) (1)	DP (Negative) (psf) (1)	Max Panel Width (in) (3)	Max Panel Height (in) (3)	Skin Thickness (8)
Allegion-Schlage	161 w/ TB	14482.3	Schlage AL Series	Y	Y	N	Outswing	Pair	55	55	35.75	83.5	16 GA
Allegion-Schlage	161 w/ TB	14482.3	Schlage D, ND, NDE Series	Y	Y	N	Outswing	Pair	55	55	35.75	83.5	16 GA
Dormakaba	161 w/ TB	16202.2	Best 9K	Y		N	Outswing	Pair	50	50	35.75	83.5	18 GA
Dormakaba	161 w/ TB	16202.8	Dorma C100 Series	Y	Y	N	Outswing	Pair	50	50	35.75	83.5	18 GA
Cal-Royal Products	161 w/ TB + DB	13922.6	Pioneer Series + T300 Series	Y	Y	N	Outswing	Pair	55	55	35.75	83.5	18 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 100 Series + QDB 100 Series	Y	Y	N	Outswing	Pair	55	55	35.75	83.5	18 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 100 Series + QDB 200 Series	Y	Y	N	Outswing	Pair	55	55	35.75	83.5	18 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 200 Series + QDB 100 Series	Y	Y	N	Outswing	Pair	55	55	35.75	83.5	18 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 200 Series + QDB 200 Series	Y	Y	N	Outswing	Pair	55	55	35.75	83.5	18 GA
Allegion-Schlage	Mortise Lock	14482.3	Schlage LE & LEB	Y	Y	N	Outswing	Pair	55	55	35.75	83.5	16 GA
Allegion-Schlage	Mortise Lock	14482.3	Falcon MA-Series	Y	Y	N	Outswing	Pair	50	50	35.75	83.5	16 GA
Dormakaba	Mortise Lock	16202.1	Best 45H & 47H	Y	Y	N	Outswing	Pair	35	35	35.75	83.5	18 GA
Schlage	Mortise Lock	14482.3	SCHLAGE L9000 MORTISE LOCK SERIES WITH ASA STRIKE	Y	Y	N	Outswing	Pair	55	55	35.75	83.5	16 GA
Allegion-Schlage	Mortise Lock + DB	14482.3	Schlage L/LV 9400 + Deadbolt	Y	Y	N	Outswing	Pair	55	55	35.75	83.5	16 GA
Allegion-Schlage	Mortise Lock + DB	14482.3	Schlage LE & LEB +Deadbolt	Y	Y	N	Outswing	Pair	55	55	35.75	83.5	16 GA
Allegion-Schlage	Mortise Lock + DB	14482.3	Falcon MA-Series + Deadbolt	Y	Y	N	Outswing	Pair	55	55	35.75	83.5	16 GA

Dormakaba	Mortise Lock + DB	16202.1	Best 45H & 47H with Deadbolt	Y	Y	N	Outswing	Pair	35	35	35.75	83.5	18 GA
Dormakaba	Mortise Lock + DB	16202.1	Best 48H & 49H with Deadbolt	Y	Y	N	Outswing	Pair	40.5	40.5	35.75	83.5	18 GA
Allegion-Schlage	Mortise Rim Exit	14482.2	Falcon F-25-M	Y	Y	N	Outswing	Pair	55	55	35.75	83.5	16 GA
Allegion-Schlage	Rim Exit	14482.2	Falcon F-25-R + HH9954 Removable Mullion	Y	Y	N	Outswing	Pair	55	55	35.75	83.5	16 GA
Dormakaba	Rim Exit	16202.4	Best HC2100 + HCKR822 Mullion	Y	Y	N	Outswing	Pair	55	55	35.75	83.5	16 GA
Von Duprin	Rim Exit	14482.3	Von Duprin NO. 98/99 SERIES WITH HH9954 HARDWARE MULLION	Y	Y	N	Outswing	Pair	55	55	35.75	83.5	16 GA
Allegion-Schlage	Surface Vertical Rod	14482.2	Falcon F-25-V	Y	Y	N	Outswing	Pair	55	55	35.75	83.5	16 GA
Dormakaba	Surface Vertical Rod	16202.4	Best HC2200	Y	Y	N	Outswing	Pair	55	55	35.75	83.5	16 GA
Von Duprin	Surface Vertical Rod	14482.3	Von Duprin SVR EXIT DEVICES NO. 9827/9927 SERIES	Y	Y	N	Outswing	Pair	55	55	35.75	83.5	16 GA

Company Name	Type of Hardware	Hardware FBC Product Approval Number (4) (5)	Hardware Model (4)	HVHZ (Y/N) (2)	Impact Tested (Y/N) (2)	Water Infiltration (Y/N) (1)	Swing Type (In/Out)	Single/Pair	DP (Positive) (psf) (1)	DP (Negative) (psf) (1)	Max Panel Width (in) (3)	Max Panel Height (in) (3)	Skin Thickness (8)
Cal-Royal Products	161 w/ TB	13922.5	Genysis Series	Y	Y	N	Outswing	Single	65	70	35.75	83.125	18 GA
Allegion-Schlage	161 w/ TB	14482.1	Falcon B Series	Y	Y	N	Outswing	Single	65	60	35.75	83.5	18 GA
Allegion-Schlage	161 w/ TB	14482.1	Falcon T & TM Series	Y	Y	N	Outswing	Single	65	70	35.75	83.5	18 GA
Allegion-Schlage	161 w/ TB	14482.5	Schlage D, ND, NDE Series	Y	Y	N	Outswing	Single	65	70	35.75	83.5	16 GA
Dormakaba	161 w/ TB	16202.2	Best 9K	Y	Y	N	Outswing	Single	65	70	35.75	83.5	18 GA
Dormakaba	161 w/ TB	16202.8	Dorma C100 Series	Y	Y	N	Outswing	Single	65	70	35.75	83.5	18 GA
Cal-Royal Products	161 w/ TB + DB	13922.6	Pioneer Series + T300 Series	Y	Y	N	Outswing	Single	65	70	35.75	83.125	18 GA
Cal-Royal Products	161 w/ TB + DB	13922.6	Pioneer Series + T300 Series	Y	Y	N	Outswing	Single	65	70	35.75	83.5	18 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 100 Series + QDB 100 Series	Y	Y	N	Outswing	Single	65	70	35.75	83.5	18 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 100 Series + QDB 200 Series	Y	Y	N	Outswing	Single	65	70	35.75	83.5	18 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 200 Series + QDB 100 Series	Y	Y	N	Outswing	Single	65	70	35.75	83.5	18 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 200 Series + QDB 200 Series	Y	Y	N	Outswing	Single	65	70	35.75	83.5	18 GA
Hager Companies	161 w/ TB + DB	22010.1 22010.2 22010.3 22010.4 22010.5	2500/3400/3500 Series + 3100/3200 Series	N	Y	N	Outswing	Single	65	65	35.75	83.5	18 GA
Cal-Royal Products	Mortise Lock	13922.10	M Series	Y	Y	N	Outswing	Single	65	70	35.75	83.125	18 GA

Allegion-Schlage	Mortise Lock	14482.1	Falcon MA-Series	Y	Y	N	Outswing	Single	65	70	35.75	83.5	18 GA
Dormakaba	Mortise Lock	16202.1	Best 45H & 47H	Y	Y	N	Outswing	Single	60	60	35.75	83.5	18 GA
Schlage	Mortise Lock	14482.5	Schlage L9000 MORTISE LOCK SERIES WITH ASA STRIKE (4-7/8")	Y	Y	N	Outswing	Single	60	60	35.75	83.5	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.2	Schlage L/LV 9400 + Deadbolt	Y	Y	N	Outswing	Single	65	70	35.75	83.5	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.2	Falcon MA-Series + Deadbolt	Y	Y	N	Outswing	Single	65	70	35.75	83.5	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.2	Schlage AD-MD & CO-MD +Deadbolt	Y	Y	N	Outswing	Single	65	70	35.75	83.5	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.2	Schlage LE & LEB +Deadbolt	Y	Y	N	Outswing	Single	65	70	35.75	83.5	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.2	Schlage XE360-M-D + Deadbolt	Y	Y	N	Outswing	Single	65	70	35.75	83.5	16 GA
Allegion-Schlage	Mortise Lock + DB	3905.2	Schlage PM400 + Deadbolt	Y	Y	N	Outswing	Single	65	70	35.75	83.5	16 GA
Dormakaba	Mortise Lock + DB	16202.1	Best 45H & 47H with Deadbolt	Y	Y	N	Outswing	Single	60	60	35.75	83.5	18 GA
Dormakaba	Mortise Lock + DB	16202.1	Best 48H & 49H with Deadbolt	Y	Y	N	Outswing	Single	40.5	40.5	35.75	83.5	18 GA
Hager Companies	Mortise Lock + DB	22010.6	3800 Series	N	Y	N	Outswing	Single	65	65	35.75	83.5	18 GA
Allegion-Schlage	Mortise Exit Device	14482.5	Von Duprin 8875	Y	Y	N	Outswing	Single	65	70	35.75	83.5	16 GA
Allegion-Schlage	Mortise Rim Exit	14482.2	Falcon F-25-M	Y	Y	N	Outswing	Single	65	70	35.75	83.5	16 GA
Cal-Royal Products	Rim Exit	13922.7	7700 Series	Y	Y	N	Outswing	Single	65	70	35.75	83.5	18 GA
Allegion-Schlage	Rim Exit	14482.2	Falcon F-25-R	Y	Y	N	Outswing	Single	65	55	35.75	83.5	16 GA
Dormakaba	Rim Exit	16202.3	Best ARM-A-DOR	Y	Y	N	Outswing	Single	65	70	35.75	83.5	16 GA
Dormakaba	Rim Exit	16202.4	Best HC2100	Y	Y	N	Outswing	Single	65	70	35.75	83.5	16 GA
Von Duprin	Rim Exit	14482.5	RIM EXIT X EXIT NO. 98/99 SERIES	Y	Y	N	Outswing	Single	65	70	35.75	83.5	16 GA
Allegion-Schlage	Surface Vertical Rod	14482.2	Falcon F-25-V	Y	Y	N	Outswing	Single	65	70	35.75	83.5	16 GA
Dormakaba	Surface Vertical Rod	16202.4	Best HC2200	Y	Y	N	Outswing	Single	65	70	35.75	83.5	16 GA

Appendix A – HFM0005

Company Name	Type of Hardware	Certified Testing Laboratories Report No. (6)	Hardware Model (used in testing) (6)	HVHZ (Y/N) (2)	Impact Tested (Y/N) (2)	Water Infiltration (Y/N) (1)	Swing Type (In/Out)	Single/Pair	DP (Positive) (psf) (1)	DP (Negative) (psf) (1)	Max Panel Width (in) (3)	Max Panel Height (in) (3)	Skin Thickness (6)
Corbin/Ruswin	161 w/ TB + DB	CTLA-1089W	Corbin Ruswin CK 4251 GRC 260 Heavy Duty Cylindrical Lockset with Corbin Ruswin DL3000 Series Cylindrical Deadlock	Y	Y	N	Outswing	Pair	80	80	35.6875	85.5	16 GA
Corbin/Ruswin	Mortise Lock + DB	CTLA-1089W	Corbin Ruswin ML2000 Series Mortise Lock & Deadbolt w/Lever	Y	Y	N	Outswing	Pair	80	80	35.6875	85.5	16 GA
Dormakaba	Rim Exit Device	CTLA-1089W	Dorma 9300 Serie Rim Device w/Panic Bar and Removable F1300 Mullion	Y	Y	N	Outswing	Pair	80	80	35.6875	85.5	18 GA
Dormakaba	Surface Vertical Rod	CTLA-1089W	Dorma 9400 Series Surface Vertical Rods w/Panic Bar	Y	Y	N	Outswing	Pair	80	80	35.6875	85.5	18 GA

Company Name	Type of Hardware	Hardware FBC Product Approval Number (4) (5)	Hardware Model (4)	HVHZ (Y/N) (2)	Impact Tested (Y/N) (2)	Water Infiltration (Y/N) (1)	Swing Type (In/Out)	Single/Pair	DP (Positive) (psf) (1)	DP (Negative) (psf) (1)	Max Panel Width (in) (3)	Max Panel Height (in) (3)	Skin Thickness (8)
Allegion-Schlage	161 w/ TB	14482.3	Schlage AL Series	Y	Y	N	Outswing	Pair	55	55	35.6875	85.5	16 GA
Allegion-Schlage	161 w/ TB	14482.3	Schlage D, ND, NDE Series	Y	Y	N	Outswing	Pair	65	65	35.6875	85.5	16 GA
Dormakaba	161 w/ TB	16202.2	Best 9K	Y	Y	N	Outswing	Pair	50	50	35.6875	84	16 GA
Dormakaba	161 w/ TB	16202.8	Dorma C100 Series	Y	Y	N	Outswing	Pair	50	50	35.6875	84	16 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 100 Series + QDB 100 Series	Y	Y	N	Outswing	Pair	65	65	35.6875	85.5	16 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 100 Series + QDB 200 Series	Y	Y	N	Outswing	Pair	65	65	35.6875	85.5	16 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 200 Series + QDB 100 Series	Y	Y	N	Outswing	Pair	65	65	35.6875	85.5	16 GA
Dormakaba	161 w/ TB + DB	16202.5	Dorma QCL 200 Series + QDB 200 Series	Y	Y	N	Outswing	Pair	65	65	35.6875	85.5	16 GA
Cal-Royal Products	161 w/ TB + DB	13922.6	Pioneer Series + T300 Series	Y	Y	N	Outswing	Pair	55	55	35.6875	84	16 GA
Allegion-Schlage	Mortise Lock + DB	14482.3	Schlage L/LV 9400 + Deadbolt	Y	Y	N	Outswing	Pair	75	75	35.6875	85.5	16 GA
Allegion-Schlage	Mortise Lock + DB	14482.3	Schlage LE & LEB +Deadbolt	Y	Y	N	Outswing	Pair	75	75	35.6875	85.5	16 GA
Allegion-Schlage	Mortise Lock + DB	14482.3	Falcon MA-Series + Deadbolt	Y	Y	N	Outswing	Pair	75	75	35.6875	85.5	16 GA
Dormakaba	Mortise Lock + DB	16202.1	Best 45H & 47H + 48H & 49H Deadbolt	Y	Y	N	Outswing	Pair	35	35	35.6875	85.5	16 GA

Allegion-Schlage	Mortise Lock w/o DB	14482.3	Schlage L9000 w/o Deadbolt	Y	Y	N	Outswing	Pair	60	60	35.6875	85.5	16 GA
Allegion-Schlage	Rim Exit Device	14482.2	Falcon F-25-R + HH9954 Removable Mullion	Y	Y	N	Outswing	Pair	70	55	35.6875	85.5	16 GA
Allegion-Schlage	Rim Exit Device	14482.3	Von Duprin 98, 99 Rim Exit Device with HH9954 Hardware Mullion	Y	Y	N	Outswing	Pair	70	70	35.6875	85.5	16 GA
Dormakaba	Rim Exit Device	16202.4	Best HC2100 + HCKR822 Mullion	Y	Y	N	Outswing	Pair	65	65	35.6875	85.5	16 GA
Allegion-Schlage	Surface Vertical Rod	14482.2	Falcon F-25-V	Y	Y	N	Outswing	Pair	70	70	35.6875	85.5	16 GA
Allegion-Schlage	Surface Vertical Rod	14482.3	Von Duprin 9827, 9927 SVR Exit Device at Both Doors	Y	Y	N	Outswing	Pair	70	70	35.6875	85.5	16 GA
Dormakaba	Surface Vertical Rod	16202.4	Best HC2200	Y	Y	N	Outswing	Pair	80	80	35.6875	85.5	16 GA