

A156.32 PARKING LOT – As of March 5, 2019

#1 ASSA ABLOY – February 7th, 2019 (Josh Peabody #2)

1. Sections/Tables/Figures Proposed for Revision (e.g. Section 1.2 or 1.2.2.):

- 5.3.1 Before Cycle Test (Initial Values) &
- 5.3.2 After Cycle Test (Qualification Values)

2. Revise as follows:

- Add **new text** as follows ...”A156.2 **Bored and Preamsembled Locks and Latches** – Force to Retract Unloaded Bolt (9.1), Force to Retract Preloaded Bolt (9.2) and Force to Latch Door (9.5).”
- Add **new text** as follows ...”A156.3 Exit Devices – Exit Tests (8.2.1), Outside Trim – Torque or Force to Release Latch Test (9.1) and Cylinder Operation Test (9.2)”
- Add **new text** as follows ...”A156.12 **Interconnected Locks** – Force to Latch Door (8.2), Force to Retract Unloaded Bolt (8.1) and Force to Retract Preloaded Bolt (8.5)”
- Add **new text** as follows ...”A156.13 **Mortise Locks & Latches** – Dead Bolt Torque (8.1), Force or Torque or Retract Latch Bolt or Latch Bolt and Dead Bolt (8.2), Force to Latch Door (8.3), Torque to Retract Latch Bolt by Key (8.4) and Warped Door Test (8.7)”

3. Reason/ Supporting Information:

Clarity of intent.

Notes from Feb 7th meeting

1. 5.3.1 add location (sections) of information located in referenced standards.
 - Group discussed that adding locations of information in other standards could be problematic if the standard number changes before .31 is revisited.
 - Dick Kreidel (ASSA ABLOY) proposed that the values could be placed within .32 so that an individual would not have to be referred to other standards to obtain the information.
 - After further discussion the group agreed to place in the parking lot and revisit at a later time.

#2 ASSA ABLOY – February 7th, 2019 (Josh Peabody #6)

1. Sections/Tables/Figures Proposed for Revision (e.g. Section 1.2 or 1.2.2.):

5.4.1 – Regular Cycle Tests (Grade 1) &

5.4.2 – Regular Cycle Tests (Grade 2)

2 Revise as follows:

- Update Section 5.4 with the following:

5.4.1 - **Cycle Tests (Grade 1)** With the door latched, apply a force to the door, that results in a net 20 to 22 lbf load on the latch(es), approximately 3 in. (76mm) from the latch edge and 40 in. (1020 mm) from the floor in the direction of the door swing until the door is opened. The force shall be applied using weights (see typical methods below). Doors shall be opened by pushing on the actuating bar. The door shall be required to close and latch after each cycle. Suggested methods shown below:

5.4.2 - **Cycle Tests (All Other Grades)** Doors shall be opened by pushing on the actuating bar. The door shall be required to close and latch by operation of the door closer.

Requirements		
Grade 1	Grade 2	Grade 3
500,000	250,000	100,000

3. Reason/ Supporting Information:

This is a direct 'cut and paste' from A156.3. The methods of how we cycle and the cycle count defining grades should be the same between the two specs.

Notes from Feb 7th meeting

Proposal to update Section 5.4 on cycles to align with A156.3.

- Patricia Yulkowski (Total Door) noted that there are multiple cycles based on the hardware (as referenced to other standards), and that the cycles should not be hardware components, but the entire system.
- Jen Manning stated that customers can drop into std door opening and get the same products without going to integrated systems, which saves them money. So group should consider aligning the standard to the component levels of other standards.
- Group discussed the varying amount of cycles across products and decided to place the item in the parking lot until the breadth of the hardware cycle requirements in the other standards could be reviewed.

#3 – March 5th, 2019 (Patricia Yulkowski #4)

1. Section 3.6

3.6 **Reference to Other Standards.** American National Standards referenced in this Standard are available from www.buildershardware.com and the American National Standards Institute, 1430 Broadway, New York, NY 10018.

ANSI/BHMA A156.1-2013 for Hinges, A156.2-2011 for Bored and Preassembled Locks and Latches, A156.3-2014 for Exit Devices, A156.4-2013 for Door Controls – Closers, A156.12-2013 for Interconnected Locks and Latches, A156.13-2012 for Mortise Locks and Latches, A 156.26-2010 for Continuous Hinges. Other ANSI/BHMA Standards may also apply to additional hardware included on Integrated Door Opening Assemblies.

ANSI/SDI A250.4-2011 Test Methods for Steel Doors

ASTM F476-2014 Standard Test Method for Security of Swinging Door Assemblies

2 Remove in entirety:

~~3.6 **Reference to Other Standards.** American National Standards referenced in this Standard are available from www.buildershardware.com and the American National Standards Institute, 1430 Broadway, New York, NY 10018.~~

~~ANSI/BHMA A156.1-2013 for Hinges, A156.2-2011 for Bored and Preassembled Locks and Latches, A156.3-2014 for Exit Devices, A156.4-2013 for Door Controls – Closers, A156.12-2013 for Interconnected Locks and Latches, A156.13-2012 for Mortise Locks and Latches, A 156.26-2010 for Continuous Hinges. Other ANSI/BHMA Standards may also apply to additional hardware included on Integrated Door Opening Assemblies.~~

~~ANSI/SDI A250.4-2011 Test Methods for Steel Doors~~

~~ASTM F476-2014 Standard Test Method for Security of Swinging Door Assemblies~~

3 Reason:

A) One should not have to buy 7 other standards to test to one

B) The standards referenced do not reference other standards. Why should this standard be any different

C) It confuses spec writers. Rather than referring to just 156.32 in specifications, they end up listing all the standards referenced, with integrated door assemblies are not required to comply

with. Integrated Opening Assemblies will not be able to provide proof of certification to the other standards.

BHMA STAFF: Parking Lot- while group reviews impact

#4 – March 5th, 2019 (Patricia Yulkowski #6)

1 Section 5.2

5.2 Initial Vertical and Lateral Hinge Wear Measurement At the start of the testing, the specimen shall be accurately measured to determine any vertical or lateral clearance between hinge leaves and knuckles. Measurements shall be taken at mid-travel of door. Angle of opening shall be the same for final measurements as for original measurements within 2 degrees. Vertical measurement is between adjacent jamb and door knuckles. Lateral measurement is between inner edge of jamb leaf and adjacent door knuckle. If this location is at the center of the hinge, one measurement per hinge at the center shall suffice. If this location is not at the center of the hinge, two measurements, as equally distant from center of hinge as practicable, shall be taken; the qualifying lateral measurement is the average of these two.

2 Remove in entirety:

~~5.2 Initial Vertical and Lateral Hinge Wear Measurement~~ At the start of the testing, the specimen shall be accurately measured to determine any vertical or lateral clearance between hinge leaves and knuckles. Measurements shall be taken at mid-travel of door. Angle of opening shall be the same for final measurements as for original measurements within 2 degrees. Vertical measurement is between adjacent jamb and door knuckles. Lateral measurement is between inner edge of jamb leaf and adjacent door knuckle. If this location is at the center of the hinge, one measurement per hinge at the center shall suffice. If this location is not at the center of the hinge, two measurements, as equally distant from center of hinge as practicable, shall be taken; the qualifying lateral measurement is the average of these two.

3 Reason:

We are testing an assembly not just a hinge. If excessive displacement occurs door will not close.

BHMA STAFF: Parking lot- while group reviews (Patricia -potentially proposes new test/criteria)

#5 – March 5th, 2019 (Patricia Yulkowski #7)

1 Section 5.3.1

5.3.1 Before Cycle Test (Initial Values)

A156.2 Force to Retract Unloaded Bolt, Force to Retract Preloaded Bolt, Force to Latch Door.

A156.3 Exit Devices - Exit Tests Section 8.2.1 only. Outside Trim – Torque or Force to Release Latch, Cylinder Operation.

A156.12 Force to Latch Door, Force to Retract Unloaded Bolt, Force to Retract Preloaded Bolt.

A156.13 Dead Bolt Torque, Force to Torque or Retract Latch Bolt or Latch Bolt and Dead Bolt, Force to Latch Door, Torque to Retract Latch Bolt by Key, Warped Door Test.

5.3.2 After Cycle Test (Qualification Values)

A156.2 Force to Retract Unloaded Bolt, Force to Retract Preloaded Bolt, Force to Latch Door.

A156.3 Exit Devices – Exit Tests, Outside Pull Tests, Inside Pull Tests, Push Test, Force to Latch Door Test. Outside Trim – Torque or Force to Release Latch, Cylinder Operation, Preloaded Door Test for Lever, Knob or Thumbpiece.

A156.12 Force to Latch Door, Force to Retract Unloaded Bolt, Force to Retract Preloaded Bolt.

A156.13 Dead Bolt Torque, Force to Torque or Retract Latch Bolt or Latch Bolt and Dead Bolt, Force to Latch Door, Torque to Retract Latch Bolt by Key, Warped Door Test.

2 Replace with something similar to:

lbf-in	Bored & pre locks		Mortised locks			Exit Devices			Interconn locks	
	156.2		1561.3			156.3			156.12	
Device	Unloaded	Loaded	Unloaded	Loaded	50 % comp	Unloaded	Loaded	After test	Unloaded	Loaded
Knob	9	45	9 max 14	45	11	15	50	18	12	45
Lever	28	70	28	70	34	45	70	50	28	70
Thumb Piece	9	40	9	40	11	15	50			
Paddle	40	80	40	65	48					
Key	9	33	9	33	11	12				33
Turn	9	50	9			22.5		27	9	50
Exit Device						15				

Existing requirements. Recommend finding commonality and simplifying.

3 Reason:

- A) One should not have to Multiple other standards to test to one
- B) The standards referenced do not reference other standards. Why should this standard be any different
- C) It is confusing

BHMA STAFF: Parking Lot- while group reviews

#6 – March 5th, 2019 (Patricia Yulkowski #8)

1 Section 5.9

5.9 Vertical and Lateral Wear Test Measure the specimen to determine the displacement between leaves and knuckles compared to the initial reading. Record measurements of wear for all hinges. The measurements of the greatest wear shall be compared to the permissible figures.

Requirements Vertical Wear Maximum	
Grade 1	Grade 2
.020 in (0.5 mm)	.030 in (0.76 mm)
Requirements Lateral Wear Maximum	
All Grades: .062 in (1.6 mm)	

2 Revise as follows:

Remove




3 Reason:

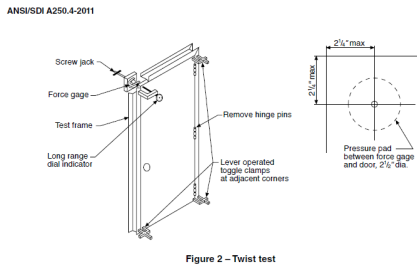
We are testing an assembly not just a hinge. If excessive displacement occurs door will not close.

BHMA STAFF: Parking Lot

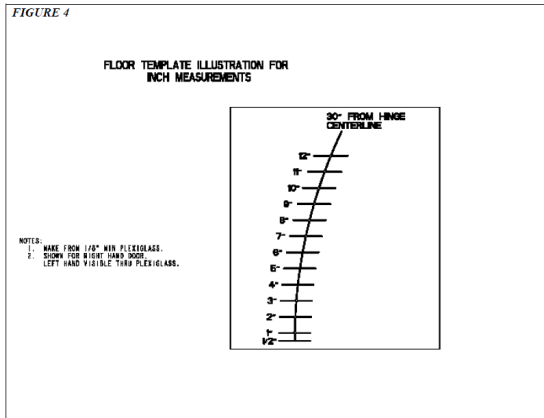
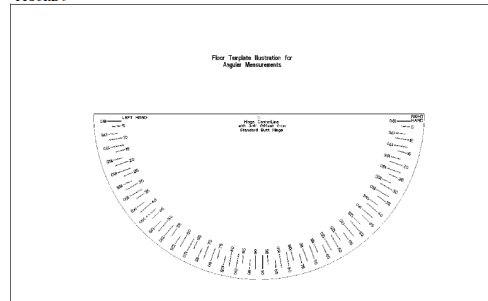
#7 – March 5th, 2019 (Patricia Yulkowski #9)

2 Provide necessary figures:

<p>7.5.7 Vertical Impactor Pendulum System ASTM F476 FIG. X1.6</p> 	<p>7.5.8 Component Ram ASTM F476 paragraph 5.1.2</p> 	<p>7.5.9 Door Ram ASTM F476 FIG. X1.2</p> 
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Floor Template Illustration for Angular Measurements
FIGURE 5



3 Reason:

Provide all of the information, figures required to complete the test in standard.
BHMA STAFF: Parking Lot – for further discussion – and rights to pics

8. 5.5 Identifying cycle time (slam test) review SDI 250.4, and BHMA A156.25 (group discussion March 5, 2019)

A. **Degree of opening** required varies –

A156.32 – 30 degrees

A156.25 – 20 degrees

SDI 250.4 – 60 degrees

B. **ANSI/SDI 250.4**

2.1 Door opener The door opener shall be an air motor positioned at 65° to the plane of the door in its closed position that will actuate an exit device mounted on the test door. The contact point shall be set to push the door open 60° ± 5°, and retract to allow the door closer to bring the door back into its original closed position and then begin the cycle again. See the specifications in figures 1 and 1A.

2.2 Hardware The exit device, door closer and hinges used in testing shall be selected based on the manufacturer's recommendations for the testing level described in Swing Test Form 1. The manufacturer and model number shall be recorded in the report. All hardware shall be applied to the door and frame with fasteners provided by the hardware manufacturer (for example, machine screws or sex bolts) in the location recommended by the door manufacturer. The hardware shall conform to the latest editions of American National Standards ANSI/BHMA A156.1, 3, 4 and 7. The device shall be set to close the door at a rate of 15 cycles, ± 1 , per minute.

C. **A156.25**

5.1 Door closing speed shall be 2.5 seconds or less from 90 degrees open to fully closed with no deceleration during the closing cycle. Adjust the cycling mechanism to open the door 20 degrees (13 in. [330 mm] linear measurement at the latch stile of the door measured at the latch edge perpendicular to the door in the closed position).

9. **SSC Sponsor Question (Earl Delph – March 5, 2019):** What is the pass/fail criteria for each test or for the entire sequence of testing? The standard does not specify anyplace the failure criteria when testing the product. To my knowledge, all other standards identify what is considered to be pass/fail for the products being tested.

Examples: The maximum measured torque or force to retract the latch bolt to clear the strike without contact shall not exceed the maximum specified. Upon completion of Strength Tests, the test locks shall be subjected to Operational Tests 9.1 and 9.2, and 9.3 to the requirements listed below. Locks shall operate per the applicable functional descriptions. At the completion of the cycle test, locks shall operate per the applicable functional descriptions. Failure occurs if, as a result of the test, the door swings open, or the latch bolt withdrawn to 1/8 in. of the face plate.

10. **SSC Sponsor Question (Earl Delph – March 5, 2019):** What is the relationship of the Operational and Cycle testing and the other tests called out for the product?

The sequence chart is vague regarding the testing of the product

Example: Note: Perform all of the strength tests in order on each of the three samples followed by the qualification tests of 10.8. The lock shall remain in the same mount and not be repositioned or adjusted throughout the strength tests. When the knob is unidirectional, test only in the direction of operation. For Grade 1 only, measure rotational lever position before strength tests are performed (needed for qualification requirements)