

[INCH-POUND]
FF-L-2890B
April 17, 2012
Superseding
FF-L-2890A
August 1, 2004

FEDERAL SPECIFICATION
LOCK EXTENSIONS (PEDESTRIAN DOOR LOCK ASSEMBLY PREASSEMBLED,
PANIC AND AUXILIARY DEADBOLT)

The General Services Administration has authorized the use of this federal specification by all federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers lock extensions: pedestrian door preassembled lock (PDPL), pedestrian door lock assembly panic, (PDLAP) and auxiliary deadbolts (ADB) for use with changeable combination locks and strikes. Pedestrian door assemblies and auxiliary deadbolts include designs that meet applicable requirements of the Americans with Disabilities Act (ADA), the Architectural Barriers Act (ABA), Uniform Federal Accessibility Standards (UFAS), the International Building Code (IBC), the National Fire Protection Association (NFPA), and International Fire Code (IFC).

1.1.1 Limited use. Lock extensions tested and qualified under this specification are to be sold only to the Federal Government, Government contractors specifically authorized to purchase these lock extensions, or other organizations or persons specifically authorized or required by the government to use these lock extensions.

1.2 Intent. The intent of this specification is to provide door locking hardware that meets the labeling requirements of the door lock assemblies and auxiliary deadbolts and that provides security. Lock extensions shall have been submitted to a testing laboratory listed for fire door application testing and issuing the mark "F" stamped/etched on the latch for listed fire door assembly under each of the categories. These lock extensions shall be listed for aftermarket installation on existing fire door assemblies as the only locking device on the door.

1.3 Application. Pedestrian door preassembled locks (PDPL) are used on fire labeled and non-labeled doors as the only locking device. Pedestrian door lock assemblies panic (PDLAP) are used in applications with assembly occupancies. Auxiliary door deadbolts are used as door auxiliary deadbolts (ADB) for security.

1.4 Classification. These lock extensions shall be of the following types and strike configurations:

Type I – PDPL – ANSI/BHMA A156.2 Grade 1 F44 key access control – combination preassembled lock

Type II – PDPL – ANSI/BHMA A156.2 Grade 1 F44 keyless access control – combination preassembled lock

Type III – PDLAP – ANSI/BHMA A156.3 Grade 1 Type I key access control – rim lock exit device

Type IV – PDLAP – ANSI/BHMA A156.3 Grade 1 Type I keyless access control – rim lock exit device

Type V – ADB – ANSI/BHMA A156.36 Grade 1 key access control – lock auxiliary deadbolt

Type VI – ADB – ANSI/BHMA A156.36 Grade 1 keyless access control – lock auxiliary deadbolt

Strike 1 – Single or double door in-swing mortise

Strike 2 – Single door out-swing

Strike 3 – Single or double door in-swing surface

Strike 9 – Double door out-swing surface

1.5 Classification descriptions.

Type I – PDPL with *integrated mechanical* access control capability, FF-L-2740 electromechanical combination lock and ADA compliant one-function egress mechanism. For use on standard egress doors, right and left hand interchangeable, standard and reverse bevel capable.

Type II – PDPL with *integrated electronic* access control capability, FF-L-2740 electromechanical combination lock and ADA compliant one-function egress mechanism. For use on standard egress doors, right and left hand interchangeable, standard and reverse bevel capable.

Type III – PDLAP with *integrated mechanical* access control capability, FF-L-2740 electromechanical combination lock and fire rated panic hardware. For use on fire exit doors, right and left hand interchangeable, standard and reverse bevel capable.

Type IV – PDLAP with *integrated electronic* access control capability, FF-L-2740 electromechanical combination lock and fire rated panic hardware. For use on fire exit doors, right and left hand interchangeable, standard and reverse bevel capable.

Type V – ADB with FF-L-2740 electromechanical combination lock and escape mechanism extension with a manually operated life safety device. For use on standard egress doors, right and left hand interchangeable, standard and reverse bevel

capable.

Type VI – ADB with FF-L-2740 electromechanical combination lock and escape mechanism extension with an automatic life safety device with keyed reset function. For use on standard egress doors, right and left hand interchangeable, standard and reverse bevel capable.

Compliance requirement for Types I through VI:

ANSI/BHMA A156.2, A156.3, & A156.36 – ADA/UFAS compliant

ANSI/BHMA A156.2, A156.3, & A156.36 – ADA/UFAS compliant with access control interface

ANSI/BHMA A156.2, A156.3, & A156.36 – Compliant with ANSI/BHMA A117.1

2. APPLICABLE DOCUMENTS

2.1 Government publications. The following documents, of the issues in effect on the date of invitation for bids or request for proposals, form a part of this specification to the extent specified herein.

Federal Specifications:

FF-L-2740 – Locks, Combination, Electromechanical

(Activities outside the Federal Government may obtain copies of federal specifications, standards, and commercial item descriptions as specified in the General Information section of the Index of Federal Specifications, Standards and Commercial Item Descriptions. The Index is for sale on a subscription basis by the Superintendent of Documents, U. S. Government Printing Office, Washington, DC 20402.)

(Single copies of this specification, and other federal specifications and commercial item descriptions required by activities outside the Federal Government for bidding purposes are available without charge from the General Services Administration, Federal Supply Service Bureau, Specification Section, Suite 8100, 470 L'Enfant Plaza, SW, Washington, DC 20407.)

(Federal Government activities may obtain copies of federal standardization documents and the Index of Federal Specifications, Standards and Commercial Item Descriptions from established distribution points in their agencies or contact the DoD Lock Program at: Comm. 1-800-290-7607, DSN 551-1212.)

Military Standards:

MIL-STD-129 – Military Marking for Shipment and Storage

MIL-STD-810 – Environmental Test Methods and Engineering Guidelines

MIL-STD-889 – Dissimilar Metals

(Copies of military specifications and standards required by contractors in connection with specific procurement functions are obtained from the Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

Code of Federal Regulations:

Uniform Federal Accessibility Standards (UFAS)
Architectural Barriers Act (ABA)

Department of Justice (DOJ) ADA Standards

DOJ – ADA Standards 2010

These standards, as adopted by the Department of Justice (DOJ) in September 2010, will take effect March 15, 2012 and replace DOJ's original ADA standards. DOJ is allowing immediate use of the 2010 standards as an alternative to the original 1991 standards. DOJ's standards apply to facilities covered by the ADA, including places of public accommodation, commercial facilities, and state and local government facilities.

United States Code:

Americans with Disabilities Act of 1990 (ADA)

Architectural Barriers Act of 1968

(Federal agencies are responsible for ensuring compliance with the ABA standards when funding the design, construction, alteration, or leasing of facilities.)

Individual State Code:

International Building Code	(IBC)
International Fire Code	(IFC)
National Fire Protection Association 80 and 101	(NFPA)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless a specific issue is identified, the issue in effect on the date of invitation for bids or request for proposals shall apply.

American Society for Quality:

ANSI/ASQ Z1.4 – Sampling Procedures and Tables for Inspection by
Attributes

(Private sector and civil agencies may purchase copies of these voluntary standards from the American Society for Quality, P. O. Box 3005, Milwaukee, WI 53201-3005.)

American Society for Testing and Materials:

ASTM D 3951 – Standard Practice for Commercial Packaging

(Private sector and civil agencies may purchase copies of these voluntary standards from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.)

Builders Hardware Manufacturers Association:

ANSI/BHMA A117.1 – Accessible and Usable Buildings and Facilities
ANSI/BHMA A156.2 – Bored and Preassembled Locks and Latches
ANSI/BHMA A156.3 – Exit Devices
ANSI/BHMA A156.36 – Auxiliary Locks

(Private sector and civil agencies may purchase copies of these voluntary standards from BHMA c/o Techstreet, 1327 Jones Drive, Ann Arbor MI 48105.)

International Code Council:

International Building Code
International Fire Code

(Private sector and civil agencies may purchase copies of these voluntary standards from the International Code Council, 4051 W. Flossmoor Road, Country Club Hills, IL 60478.)

National Fire Protection Association:

NFPA 80 – Standard for Fire Doors
NFPA 101 – Life Safety Code
NFPA 252 – Fire Door Assembly Testing

(Private sector and civil agencies may purchase copies of these voluntary standards from the National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.)

Underwriters Laboratories Inc.:

ANSI/UL 10B – Fire Tests of Door Assemblies
ANSI/UL 10C – Positive Pressure Fire Tests of Door Assemblies

(Private sector and civil agencies may purchase copies of these voluntary standards from Underwriters Laboratories Inc., 333 Pfingsten Rd., Northbrook, IL 60062-2096.)

(DoD activities may obtain copies of these adopted voluntary standards listed in the DoD Index of Specifications and Standards free of charge from the Standardization Document Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence. Nothing in this specification, however, shall supersede applicable laws and regulations unless a specific exemption is obtained.

3. REQUIREMENTS

3.1 Qualification. The lock extensions furnished under this specification shall be products which have been tested and have passed the qualification tests specified in section 4, and have been listed on or approved for listing on the applicable qualified products list (QPL). No changes may be made in the design or construction of listed products without prior written approval from the General Services Administration.

3.1.1 Qualification suspension.

3.1.1.1 Development of entry techniques. The lock extensions qualified under this specification will be continually tested by the Government during the term of qualification to determine whether the entry protection afforded by the lock extensions can be improved. At any time, if entry techniques which affect a lock extension's integrity are developed, the lock extension shall be disqualified and removed from the QPL.

3.1.1.2 Change in specification requirements. This specification will be continually reviewed by the Government to determine whether specification requirements should or can be changed to improve product quality. If, at any time, requirements are changed, and such changes affect the qualification status of a qualified lock extension, it shall be removed from the QPL and the manufacturer will be required to modify the product to the extent necessary to comply with specification changes and have the product requalified.

3.2 Description. A lock extension shall consist of a mounting plate (as specified by this specification), a combination lock that meets Federal Specification FF-L-2740, and a strike (as specified by this specification). The lock extension may also contain an access control component.

3.3 Materials. Material used shall be free from defects that would adversely affect the performance or maintainability of the individual components or of the overall assembly. Materials not specified herein shall be of the same quality used for the intended purpose in the commercial market.

3.3.1 Material deterioration and control. The lock extension shall be fabricated from compatible materials inherently corrosion or deterioration resistant or treated to provide protection against corrosion. Dissimilar metals, as defined in MIL-STD-889, shall be plated or compatible to prevent operationally destructive corrosion.

3.4 Design.

3.4.1 Lock extension interface. Lock extensions shall be designed for use with combination locks having standard dimensions and footprints as described in Federal Specification FF-L-2740 and must be listed for fire door assemblies by a testing laboratory and marked with their label stating same.

3.4.2 Compliance with access and egress requirements. Lock extensions shall comply with requirements of the UFAS, the ADA, the IBC, the NFPA Code 80 and 101 and ANSI/BHMA A117.1.

3.4.3 Automatic deadbolt mechanism. The lock extensions shall have a trip device that operates in such a manner that when the combination lock is in the locked position, the deadbolt shall automatically extend into the locked position upon engagement of the strike. Once the lock bolt has been extended to the locked position it shall not be possible to unlock the lock extension from outside the door without completely redialing the lock combination.

3.4.4 Life safety feature. The lock extensions shall incorporate a life safety feature to meet the requirements of ICC (IBC & IFC), and NFPA 80 and 101. The operating devices should be capable of being operated with one hand and should not require tight grasping, tight pinching, or twisting of the wrist to operate once the lock is in the open condition. The life safety feature must ensure a quick, safe exit in the case of an emergency. Type V ADB shall use a keyed cylinder. Each Type V ADB shall be furnished with a minimum of two keys.

3.4.5 Access control key bypass. Type I and II PDLAPs and Type III and IV ADBs may be fitted with an exterior key bypass that will allow entry without use of the access control when the combination lock bolt is retracted. Removal of the key cylinder shall not permit access to the FF-L-2740 lock mechanism.

3.4.6 Mounting plate. The lock extensions shall be provided with a mounting plate that shall increase the strength of the lock mount, be resistant to crushing of the door during installation, and aid in maintaining proper alignment between the lock extension and the mounting plate. The mounting plate shall be designed for door thickness between 1-3/8 and 2 inches (41 mm to 49 mm) thick. All parts required for proper operation over the range of door thickness shall be provided. The mounting plate shall have a corrosion resistant decorative finish or cover. In no case may the plate interfere with the door stop on the jamb.

3.4.7 Strikes. The lock extensions shall be furnished with one or more strikes, as specified. The strikes shall withstand without damage a force of 600 pounds from outside of the door, when tested as specified in 4.7.4.

3.5 Operation and performance.

3.5.1 Lock bolt operation. The torque required to retract the lock extension, using either the lock dial or exit actuator, shall not exceed 50 inch-ounces (353 N-m).

3.5.2 Case and bolt strength. The lock extension's case and bolt shall withstand the test specified in 4.7.3 without any fracture or bending of the bolt or case.

3.5.3 Temperature. The lock extensions shall operate in a temperature range of -10°F to 158°F (-23.3°C to 70°C). Lock extensions shall be tested in accordance with 4.7.6.

3.5.4 Humidity. The lock extensions shall be designed to operate in a humidity range of 10 to 98 percent relative humidity for its operating life. Lock extensions shall be tested in accordance with 4.7.2.

3.5.5 Vibration. The lock extensions shall be subjected to environmental vibration tests, as specified in 4.7.5. Operation and security performance and tolerances shall remain within standards.

3.5.6 Lock extension operation. All features of the lock extension and all internal parts shall operate smoothly for the operating life of the lock extension, without the addition of anything but proper lubricants and without showing appreciable wear. Lock extensions shall be tested for compliance as specified in 4.7.1.2. Each type of lock extension will be tested and listed for fire door application by a laboratory certified to test for this standard for door hardware. Testing shall be done to the following standards:

- ANSI/UL 10C, Positive Pressure Fire Tests of Door Assemblies
- ANSI/UL 10B, Fire Tests of Door Assemblies
- NFPA 252, Standard Methods of Fire Tests of Door Assemblies (National Fire Codes, vol. 6)

Testing by any nationally recognized testing laboratory to these standards is acceptable with a certification of testing completion and passing. Nationally recognized testing laboratories are listed at <http://www.osha.gov/dts/otpca/nrtl/index.html#nrtls> .

3.5.7 Electrostatic discharge. The lock extensions with a properly mounted FF-L-2740 lock shall be subjected to the electrostatic discharge tests, as specified in 4.7.7. The tests shall be performed with the lock extension mounted on a wood stand. Operation, security performance and tolerances shall remain within standards.

3.6 Security.

3.6.1 Government testing. The Government reserves the right of testing the lock extension in accordance with standards that are privileged to the Government.

3.6.2 Surreptitious entry. The lock extensions shall resist surreptitious entry for a period of 20 man-hours when tested as specified in 4.7.8.

3.7 Finish and workmanship. All surfaces shall have a uniform finish of sufficient smoothness to accept marking required. The lock extension shall be free of sharp edges, burrs, slivers and any defects affecting appearance, operations or serviceability.

3.8 Instructions. Complete instructions on the installation, applications, and operation of the lock extension shall be provided with each lock extension. Each lock extension body will have the listing mark for fire door application. The maximum door undercut shall not exceed ¼ inch. Frames are to be secured tight in the opening. Drywall must extend ½ inch under the frame. Height of installation for lock extensions should not be lower than 34 inches above the finished floor and no higher than 42 inches above the finished floor. The auxiliary deadbolt should be installed no lower than 44 inches above the finished floor and no higher than 48 inches above the finished floor.

3.9 Regulatory requirements. The contract officer/contractor is encouraged to use recovered materials in accordance with Public Law 94-580, as amended, to the maximum extent practicable.

4. QUALITY ASSURANCE PROVISIONS

4.1 Manufacturer. The supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. Inspection records of the examination and tests with itemized results shall be kept complete at the manufacturer's facility, available to the Government throughout the duration of the contract, or a minimum of two years, whichever is longer. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items shall meet all requirements of sections 3 and 5. The inspections set forth in this specification shall become a part of the supplier's overall inspection system or quality program. The absence of any inspection requirements in this specification shall not relieve the supplier of the responsibility for ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the specification. Sampling in quality conformance does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to acceptance of defective material.

4.1.2 Component and material inspection. In accordance with 4.1, the supplier is responsible for insuring that components and materials are manufactured, tested and inspected in accordance with the requirements of referenced specifications and standards to the extent specified or, if none, in accordance with this specification.

4.2 Testing procedures and tests.

4.2.1 Testing agency. Qualification tests accomplished on lock extensions submitted for approval for inclusion on the applicable Qualified Products List (QPL) and any retesting that may be required shall be performed by a testing agency specifically designated by the General Services Administration.

4.2.2 Test costs. All testing costs entailed in determining the qualification of the supplier's product, including costs of retesting of a qualified product if subsequently disqualified under 3.1.1.1 or 3.1.1.2, shall be borne by the supplier, and shall be payable to the General Services Administration.

4.2.3 Test procedures. The following procedures shall govern the testing of all lock extensions submitted for qualification under this specification:

4.2.3.1 Test discontinuation. A qualification test may be discontinued at the Government's testing facility at any time the product fails to meet any one or more of the requirements set forth in this specification. The manufacturer may be permitted to make modifications on the sample during the testing phase where such modifications, in the judgment of the General Services Administration and the testing facility, are clearly in the interest of the Government.

4.2.3.2 Retest. In case of failure of the sample, consideration will be given to the request of the manufacturer for resubmission for retest only after it has been clearly shown that changes have been made in the product which the Government considers sufficient to warrant retest.

4.2.3.3 Disclosure to manufacturer. The manufacturer or his representative will not be permitted to observe the actual tamper resistance tests conducted on his product at the testing facility. However, when samples tested fail to comply with the requirements of this specification, the sample may be examined by the manufacturer or his representatives and full details of the failure may be made known to them in a manner which, for reasons of security, will be in the best interest of the Government.

4.2.3.4 Test samples. Ten qualification test samples shall be forwarded at a time and to a place designated by the General Services Administration. In the event the samples are destroyed or damaged to such an extent during testing that testing cannot be completed, the Government reserves the right to require the manufacturer to furnish additional samples to complete the testing. Samples delivered to the test facility shall have a tag attached, which shall reference this specification and identify the sample by type and strike.

4.2.3.5 Drawings and material specifications. The manufacturer shall furnish two complete sets of construction and assembly drawings and material specifications with the sample submitted for qualification. When samples have been tested and the product is approved for inclusion on the applicable QPL, the manufacturer shall furnish three additional complete sets of the assembly and construction drawings and material specifications lists to the General Services Administration for the Government's use in inspection and acceptance of the product after award of contract. All material so furnished by the manufacturer will be held in proprietary confidence.

4.2.3.6 Changes in construction or construction drawings. No changes shall be made in the construction or construction drawings of the pedestrian door lock assembly preassembled, panic and auxiliary deadbolts after they have become qualified and are furnished under contract or order unless prior written authorization to make changes is obtained from the GSA contracting officer.

4.3 Qualification testing. Qualification testing shall consist of the tests described under test methods in 4.7. Failure of the sample to withstand one or more of these tests shall provide reason to consider the product as having failed to meet qualification requirements.

4.4 Classification of inspections. The inspection requirements specified herein are classified as follows:

- a. Quality conformance inspection (see 4.5)
- b. Inspection of preparation for delivery (see 4.5.4)

4.5 Quality conformance inspection. The lock extensions shall be examined for defects in accordance with Table 1. Presence of any defect listed shall provide reason to reject the product. Rejected lock extensions may be reworked to correct defects and they may be submitted for acceptance. Reworked lock extensions shall be so indicated to the Government inspector.

4.5.1 Component and material inspection. The supplier is responsible for insuring that components and materials are manufactured, tested and inspected in accordance with the requirements of referenced specifications and standards to the extent specified or, if none, in accordance with this specification.

4.5.2 End item inspection. All items must meet all requirements of section 3. Sampling for inspection shall be in accordance with ANSI/ASQ Z1.4. The inspections set forth in this specification shall become a part of the supplier's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the specification. Sampling in quality conformance does not authorize the submission of known defective material, either indicated or actual, nor does it commit the Government to acceptance of defective material. The inspection level shall be level II with an Acceptable Quality Level of 2.5 percent defective.

4.5.3 Quality conformance testing. Periodically, during the term of the contract, the Government inspector, at a time convenient to the Government, may select samples of the manufacturer's regular production to subject them to the tests in 4.7. This acceptance testing shall be performed by a Government agency specifically designated by the contracting officer. Failure of the lock extension to meet any one or more of these tests shall provide reason to suspend acceptance of the manufacturer's product until the Government is satisfied that all defects have been corrected.

Table 1. Examination for nonconformance.

Material is not resistant to corrosion and deterioration or treated to be resistant to corrosion and deterioration for the applicable storage and operating conditions.
Dissimilar metals as defined in MIL-STD-889 are not treated or plated to prevent corrosion. Supplier does not have documentation available for identification of material, material finishes or treatment.
Used, rebuilt, or remanufactured components incorporated in the lock extensions.
Design not as specified.
Life safety feature does not work as specified.
Automatic deadbolt mechanism does not operate as specified.
Mounting plate not provided as specified.
Dimensions not as specified.
Bolt holdback device not as specified.
Lock extension torque not as specified.
Finish not as specified.
Listing for fire door assemblies.
Instructions not furnished, or not as specified.

4.5.4 Inspection of preparation for delivery. An inspection shall be made to determine that packaging, packing and marking comply with those specified in section 5 of this specification. For examination of interior packaging, the sample unit shall be one shipping container fully prepared for delivery, selected at random just prior to the closing operations. Sampling shall be in accordance with ANSI/ASQ Z1.4. Nonconformity of closure listed shall be examined on shipping containers fully prepared for delivery. The lot size shall be the number of shipping containers in the end item inspection lot. The inspection level shall be S-2 with an AQL of 4.0 nonconformities per hundred units.

Table 2. Classification of preparation for delivery defects.

Packaging	Change key not in unit container with lock. Key not in unit container with lock as specified (key access control only). Instruction sheet not in unit container with lock. Unit container not sealed with reinforced tape.
Packing	Shipping container not as specified. Shipping container weights exceed specified limitations.
Marking	Marking not in accordance with MIL-STD-129. Marking not in accordance with the contract or order. Item description marked on unit container. Unit containers not marked or labeled with special instructions as specified.

4.6 Acceptance after award of contract. The Government reserves the right to inspect and test each lock extension, including all component parts thereof, delivered for acceptance under this specification after award of contract.

4.7 Test methods.

4.7.1 Cycle test. The lock extension shall be subjected to 500,000 cycles of operation without replacement of any component. One cycle shall consist of the activation of every aspect of the lock extension. The lock extension shall operate smoothly and the torque shall be in the range specified in 3.5.1. Any failure of the lock extension during test shall be cause for rejection.

4.7.2 Moisture absorption test. The lock extension shall be tested in accordance with MIL-STD-810, Method 507.3.

4.7.3 Case and bolt strength. Mount the lock extension on a test stand so that the bolt extends beyond the edge of the stand, as shown in Figure 1. Apply a force of 600 pounds to the face of the bolt as shown in the figure. Examine the extension and bolt for damage. Apply a force of 200 pounds to the end of the bolt as shown in Figure 2. Any fracture or bending of the bolt or case shall be a failure.

4.7.4 Strike test. Mount the strike on a test stand as shown in Figure 3. Apply a force of 600 pounds in the direction of the door swing for the strike being tested. The force shall be applied to the strike opening as would be applied on the lock extension in an attempt to force the lock extension. Any fracture or bending of the strike shall be a failure.

4.7.5 Environmental vibration. The category 21 environmental vibration test of MIL-STD-810 shall be conducted. Lock extensions shall be checked for conformance to the operation and tolerance requirements. There shall be no movement or damage that affects normal operation or security.

4.7.6 Temperature test.

4.7.6.1 Low temperature test. The lock extensions shall be placed in a chamber maintained at a temperature of -10°F for a period of three hours or until the lock extension temperature has stabilized. At the end of that period, without removing the lock from the chamber, the lock extensions shall be examined for proper operation and for any defects that would affect the operation or life of the product. The lock extensions shall be removed from the chamber and allowed to return to room temperature. The lock extensions shall be examined for any damage or defects due to the low temperature exposure. There shall be no defects affecting the operation or life of the lock extensions.

4.7.6.2 High temperature test. The lock extensions shall be placed in a chamber maintained at a temperature of 158°F for a period of three hours. At the end of that period, the lock extensions shall be removed from the chamber and, without allowing time to cool, the lock extensions shall be examined for proper operation and for any defects that would affect the operation or life of the product. There shall be no defects affecting the operation or life of the lock extensions.

4.7.7 Electrostatic discharge. The lock extension dial shall be subjected to five electrostatic discharges of 250kV. After exposure, the lock system shall operate normally.

4.7.8 Surreptitious entry. Attempts shall be made to unlock the lock extension when properly installed on a standard door in the secured condition from the exterior through means other than manipulation of the combination lock or the required interior ADA and life safety approved exit/escape mechanisms.

5. PREPARATION FOR DELIVERY

5.1 Packaging and packing. Unless otherwise specified in the contract or order, the lock extension shall be packaged and packed in accordance with the manufacturer's normal commercial practice. Packed units shall be in accordance with ASTM D 3951 and shall ensure carrier acceptance under the National Motor Freight Classification and Uniform Freight Classification.

5.2 Marking. Marking shall be in accordance with MIL-STD-129, as specified.

6. NOTES

6.1 Intended use. The lock extensions covered by this specification are intended for use on interior pedestrian doors used for normal entrance and egress during day-to-day operations.

6.2 Ordering data. Purchasers shall specify the following:

- a) Title, number and date of this specification
- b) Type, and strike required (see 1.4)
- c) Bid sample requirements
- d) First article requirements
- e) Special packaging, packing and marking, if required

6.3 Definitions.

6.3.1 Entry. For the purpose of this specification, entry means retracting the bolt.

6.3.2 Normal use. For the purpose of this specification, normal use means retracting and extending the bolt using the lock dial or the extension exit actuator.

6.3.3 Surreptitious entry. For the purpose of this specification, surreptitious entry means a method of entry which would not be detectable during normal use or during inspection by a qualified person.

6.4 Reference identification number. The reference identification number (RIN) system may be used for items covered by this specification. An example of the RIN is as follows:

FFL2890-I-9

1st Position

I – Type I

II – Type II

- III – Type III
- IV – Type IV
- V – Type V
- VI – Type VI

2nd Position

- 1 – Strike 1
- 2 – Strike 2
- 3 – Strike 3
- 9 – Strike 9

MILITARY INTERESTS:

Military Coordinating Activity:

DLA-IS

Custodians:

DLA-IS

AF-99

Army-AR

Preparing Activity:

GSA-FAS

FSC 5340

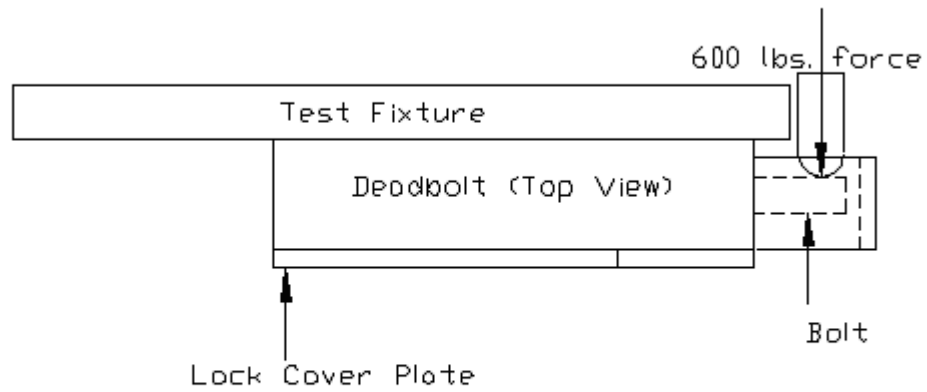


Figure 1 Case and Bolt Strength Test

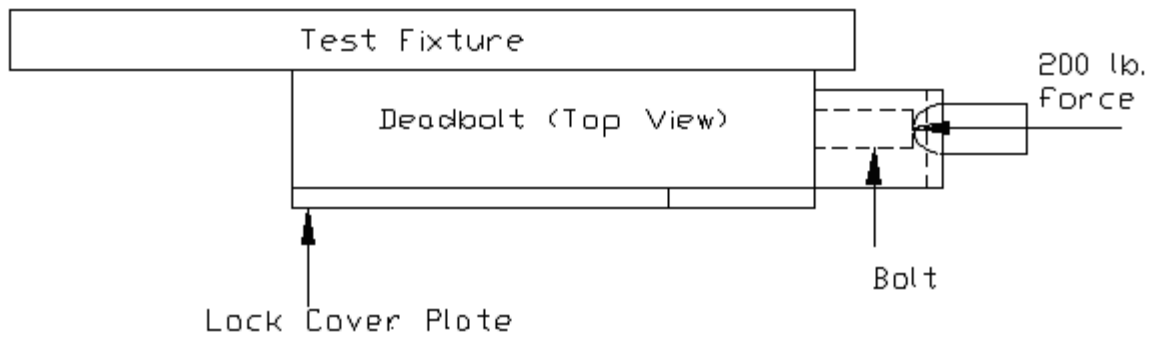


Figure 2 Bolt End Pressure Test

Pedestrian Door Lock Test Fixture:

- (1) Vertically mounted, 1-5/8 to 1-3/4 inch thick plate approx. 19 inches wide by 11 inches high.
- (2) Drilled and topped to allow for mounting deadbolt.
- (3) Hinged to allow for cyclic test using strike.

Alternatively, the lock may be mounted to a fixed plate with the strike mounted to a moveable fixture.

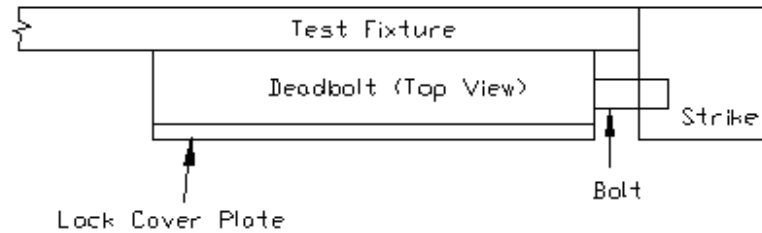


Figure 3 - Test Fixture Configuration