

A-A-1930
July 29, 1982

COMMERCIAL ITEM DESCRIPTION

PADLOCK
(DISK OR BLADE TUMBLER)

The General Services Administration has authorized the use of this commercial item description in preference to Federal Specification FF-P-101, Amendment 2, type EF.

This description covers disk or blade tumbler mechanism padlocks.

Salient characteristics:

Size. Shall be according to case width, 1-1/2 inch (38.1 mm) or 1-3/4 inch (44.45 mm), as specified (tolerance \pm 1/16 inch (1.59 mm)).

Case. Padlock shall have a solid or laminated underground case without outside pins or rivets, fabricated from brass or bronze, malleable iron casting, zinc alloy die casting or steel.

Shackle. Shall be self-locking unless otherwise specified. The shackles may be spring released alone or spring released triggered by pressing firmly. Shall be of case hardened steel. It shall lock at both toe and heel by means of a cam and two steel balls or an equivalent means. It shall be of extended type when specified.

Mechanism. Shall be of brass or bronze, or zinc alloy die casting and shall have ten or more disc or blade tumblers giving not less than 1200 key changes.

Keys. No less than two grooved single or double-bitted keys fabricated from brass or bronze shall be furnished with each lock.

Lubrication. Working parts shall be lubricated with graphite or molybdenum disulfide.

Performance tests. Padlocks shall withstand performance testing as follows:

Hardness. Test shall be performed in accordance with ASTM E 18.

- a. Steel shackles shall have a minimum hardness of 85 on the Rockwell N Scale
- b. Keys shall have a minimum hardness of 75 on the Rockwell B Scale

Tension. The locked padlock shall be supported in a fixture bearing against the top surface of the case without interfering with the shackle or giving support through the top of the case to the shackle retaining mechanism. A 560 pound (254 kg) force shall be applied slowly along the vertical centerline of the padlock in a direct and equal tension along each leg of the shackle. Failure occurs if the padlock is opened.

Impact. The padlock shall be dropped from a minimum height of 6 ft (1.8 m) onto a concrete floor. Eight drops shall be conducted on each sample, four with the shackle in the open position and four with the shackle in the locked position. Two drops in the open position and two in the locked position shall be so conducted that the initial impact is directly on the shackle. The remaining drops shall be conducted in proper attitudes to allow various portions of the case to strike the floor first. Padlocks shall suffer no damage which impairs normal operation and no parts (including shackle) shall be dislodged or fractured when subjected to this test.

Jar. The shackle shall be fastened to a solid hardened upright by means of a staple. The body shall be held loosely with one hand and the padlock shall be struck a substantial blow with a mallet. The mallet shall be hardwood, weighing 1 pound, and shall be swung from a starting point 78-inches (457.2 mm) from the padlock. The padlock shall be released immediately before the blow so as to jar the lock forcibly against the wood upright. This procedure shall be repeated six times, striking the padlock from six different directions. Padlocks shall not be jarred open and shall not be damaged in any manner to the extent that their protective function is defeated.

Cycle.

- a. Prior to conducting the cycle test, insert key into each padlock cylinder 25 times and manually rotate both clockwise and counterclockwise (if possible, otherwise in the same direction of opening) after each insertion.
- b. In a test fixture which will horizontally hold the padlock and mechanically operate the key, activate through a cycle consisting of the following:
 - 1) Fully inserting the key in the keyway
 - 2) Rotating the key and cylinder plug the necessary number of degrees to open the padlock either clockwise or counterclockwise
 - 3) Returning the key and cylinder plug to the home position
 - 4) Retracting the key from the cylinder plug until the key tip no longer touches the front tumbler
 - 5) Reengaging the shackle to the locked position

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c. Operate for 10,000 cycles at a rate not to exceed 10 cycles per minute. Lubrication shall not be added during the test.

d. Failure occurs if the test cannot be completed, if the padlock does not operate at the conclusion of the test or if the key breaks.

Picking . Padlocks shall withstand picking by various methods for a period of no less than 60 seconds. Five tests shall be conducted, each by a different person and the results averaged for determining compliance.

Workmanship. The padlock shall contain no defects which would impair its use and serviceability.

The issue of ASTM E 18 in effect on the date of the solicitation shall be used to determine compliance with these requirements.

Regulatory requirements. The offeror/contractor is encouraged to use recovered materials in accordance with Public Law 94-580 to the maximum extent practicable.

Preservation, packaging, packing, labeling, and marking. Preservation, packaging, packing, labeling, and marking shall be as specified in the contract or order.

Note. Purchaser should specify case size, shackle type (if other than specified).

ASTM standards are available from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

MILITARY INTERESTS:

MILITARY COORDINATING ACTIVITY:

Army- ME

Custodians

Army - GL, ME
Navy - SH
Air Force - 99

Review Activities

Army - AR
Navy - YD
DLA - IS

User Activities

Army - CE, ME
Navy - CG, MC

CIVIL AGENCY COORDINATING ACTIVITIES:

DOT - FHW
GSA - FSS, PCD
HHS - FEC

PREPARING ACTIVITY:

GSA - FSS