A-A-1928
August 2, 1982

COMMERCIAL ITEM DESCRIPTION

PADLOCK (COMBINATION)

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

This description covers padlocks of combination operated types.

Salient characteristics:

Shall be of the following types, as specified -

Type I - Single dial
Type II - Multiple disc, changeable combination

Size. Shall be 1-3/4 ± 1/16 inch (1.59 mm) based on case width.

Case. Shall be solid one piece or two piece blind pin design. Material shall be brass or bronze, die cast zinc alloy, or steel.

Shackle. Shall be self-locking and shall lock either at toe or at both toe and heel. It may be either spring released or pull released or spring release triggered by pressing firmly on the shackle. Shackle shall be either regular (1 inch (25.4 mm) clearance) or extended (2-1/2 inch (63.5 mm) clearance), as specified.

Mechanism.

a. Shall be keyless, operated by rotating dial or discs and capable of 10,000 combinations without duplication. Type II padlocks shall also be of changable combination design and furnished with complete instructions and any tools necessary to affect the changes
b. Shall be of the single or dual deadbolt type and shall engage the shackle at both toe and heel, or shall be solely deadbolted at one end and latch bolted at the other.
(1) The deadbolt shall be of one or two piece construction
(2) End pressure on the deadbolt when exerted by a burgular's tool known as a "shim" or "sneaker" shall not move it
c. Type I padlock shall have a three point combination mechanism with not less than 30 nor more than 60 setting points on the dial. Type II padlock shall have a 4 point combination mechanism with four numbered discs each having a minimum of 10 setting positions and being numbered at each position.
d. Shackle, upon closing, shall throw off combination or shall not close until combination setting is thrown off so as to require complete resetting to reopen.
e. Shall not operate to permit opening of the lock when varied from the correct combination more than two full points.
f. Mechanisms shall be such that it is impossible to lock them in any position other than the one in which the free end of the shackle is inserted into its proper receptacle.
g. No setting points shall be revealed in operation by tension on the shackle or otherwise.
h. Dials and discs shall turn readily when subjected to moderate finger pressure.

Lubrication. Working parts shall be lubricated with graphite, molybdenum disulfide, oil lubricant, wax lubricant or lithium 12 hydroxy stearate lead soap based lubricant with corrosion inhibitors.

Performance tests. Padlocks shall withstand performance testing as follows:

Hardness. Shall be tested in accordance with ASTM E 18. Shackles shall have a hardness range of 85 -90 on the Rockwell 15 N Scale.

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 hardwood 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 18-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.

Tension. The locked padlock shall be supported in a fixture bearing against the top surface of the case without interferring 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 on each leg of the shackle. Failure occurs if the padlock is opened.

Operational.

a. Dial the correct combination following the manufacturer's instructions and determine that the lock does open.

b. Move dial or one disc off the opening combination by two digits. Insert the open end of the shackle into the case and attempt to relock. Without additional movement of dial or discs, grasp the case and attempt to pull the shackle open by hand. For type II locks, four tests shall be run, one on each disc. Failure of the mechanism to relock or opening of the shackle when pulled shall constitute failure.

c. Change (type II only) the combination of the padlock in accordance with the manufacturer's instructions and repeat steps A and B.

Cycle. Cycle padlocks (for type I, each disc) in alternate directions for 10,000 cycles at a rate not to exceed 10 cycles per minute, with no more than a 2 second dwell. At the conclusion of the test, the lock must open when the correct combination is dialed. Lubrication shall not be added during the test.

Picking.

a. Locks shall resist picking by various methods including use of tools and attempts to solve the combination for a period of time of no less than 1 minute.

b. Five tests shall be conducted, each by a different person, and the results averaged for determining compliance.

Workmanship. Mechanisms of padlocks shall function smoothly without the necessity for application of excessive force. No defects that otherwise affect appearance or serviceability shall be permitted.

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 type and shackle size.

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, MC
Navy - CG, MC

CIVIL AGENCY COORDINATING ACTIVITIES:

DOT - FHW
GSA - FSS
HHS - FEC

PREPARING ACTIVITY:

GSA - FSS