A-A-1924
May 2, 1983

COMMERCIAL ITEM DESCRIPTION

SHIELD, EXPANSION
(SELF DRILLING TUBULAR EXPANSION SHELL)

The General Services Administration has authorized the use of this commercial item description in preference to Federal Specification FF-S-325.

This description covers self drilling tubular expansion shell bolt anchors for attaching equipment and fixtures to an existing solid masonary.

Salient characteristics:

General

Shall consist of a tubular externally slit expansion shell and a solid truncated cone expander, both of carbon or alloy steel.

Shall be supplied as specified by bolt diameter according to table I.

Screw threads for anchors shall be UNC-2B coarse thread series.

Shall also be either specified with their threaded end flush with the shell edge for installation with a handtool, or with an unthreaded chucking cone, above the threaded end, for installation with an air or electric impact hammer.

Chucking cone may be specified with an annular breakoff groove at its base for breaking off the cone when flush mounting is required or with a drilled hole for a passage of a wire or hook.

Shall withstand proof test loading as specified in table I.

When specified, the 1/4-inch anchors may be supplied with stud bolts having a head of the expander shape and 1-3/4, 2, or 2-3/4 inches long, as specified.

TABLE I. Face Shield Dimensions

Bolt diameter (inches)	Outside diameter (inches) (minimum)	Height (inches) (minimum)	Proof test load (pounds) (minimum)	Depth of thread (inches) (minimum)
1/4	13/31	1-1/8	1600	3/8
5/16	15/32	1-1/8	1800	1/2
3/8	9/16	1-5/16	2500	9/16
1/2	11/16	1-15/16	3700	3/4
5/8	7/8	2-3/8	5100	15/16
3/4	1	3	7100	1-1/8
7/8	1-1/8	4	7800	1-5/16
1				1-1/2
1-1/8				1-3/4
1-1/4				1-7/8

Tubular expansion shell

Shall have cut teeth on one end for use as a hollow drill for drilling the anchor nest in masonry, and the other end shall be internally threaded (UNC-2B coarse thread) for anchoring the machine bolt.

Body shall be provided with means (grooves or slits) for tearing the sheel body apart when forcing it over the cone expander and setting it in masonry.

Outer surface at the footbed end shall have three or more peripheral grooves and four equidistantly and diametrically located milled (not cut through) slits for facilitating the drilling of the hole and the expansion of the anchor shell by splitting it when setting the shell in masonry over the cone expander.

Test. Shall withstand minimum proof test loads specified in table I when installed with the applicable carbide tipped masonry drill of ANSI B94.12 and tested in accordance with the tension test of ANSI/ASTM E 488. There shall be no evidence of failure when performing the test at -40° and +170° F.

Workmanship. The expansion shields shall be free of defects such as rust, scale, fins, or any other defect which may affect their use and serviceability.

The issues of ANSI B 94.12 and ANSI/ASTM E 488 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. The preservation, packaging, packing, labeling, and marking shall be as specified in the contract or order.

Notes. Purchaser should specify bolt diameter, whether with or without chucking cone, chucking cone type when specified, wheither with or without studbolts and length of stud bolts when specified.

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

ANSI standards are available from the American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.

MILITARY INTERESTS:

Military Coordinating Activities

Army - AR
Navy - YD
Air Force - 99

PREPARING ACTIVITY:

GSA - FSS