Designation: F 366 – 82 (Reapproved 2000)

Standard Specification for Fixation Pins and Wires[1]

This standard is issued under the fixed designation F 366; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 This specification covers functional dimensions for fixation pins and wires.

1.2 In recognition of many broad and varied uses of such pins and wires, many options are included. A variety, but not necessarily all, of the options are illustrated in Figs. 1-3.

1.3 The values stated in inch-pound units are to be regarded as the standard.

1.4 The values given in parentheses are provided for information only.

2. Referenced Documents

2.1 *ASTM Standards:*

F 55 Specification for Stainless Steel Bar and Wire for Surgical Implants[2]

F 67 Specification for Unalloyed Titanium for Surgical Implant Applications[3]

F 86 Practice for Surface Preparation and Marking of Metallic Surgical Implants[3]

F 90 Specification for Wrought Cobalt-Chromium-Tungsten-Nickel Alloy for Surgical Implant Applications[3]

F 136 Specification for Wrought Titanium 6A1-4V ELI Alloy for Surgical Implant Applications[3]

F 138 Specification for Stainless Steel Bar and Wire for Surgical Implants (Special Quality)[3]

F 562 Specification for Wrought Cobalt-35 Nickel-20 Chromium-10 Molybdenum Alloy for Surgical Implant Applications[3]

F 563 Specification for Wrought Cobalt-Nickel-Chromium-Molybdenum-Tungsten-Iron Alloy for Surgical Implant Applications[3]

3. Materials

3.1 Fixation pins and wires shall be fabricated from material conforming to one of the following ASTM Specifications: F 55, F 67, F 90, F 136, F 138, F 562, or F 563.

4. Performance Requirements

4.1 Factors considered to be important, but for which values and test methods have not been established, are bending strength, fatigue strength, breaking strength (Knowles Type only), torsion strength, and ductility.

5. Dimensions and Characteristics

5.1 Fixation pins and wires shall be fabricated in accordance with the dimensions illustrated in Figs. 1-4.

5.2 Fixation pins and wires shall have surfaces prepared and marked in accordance with Practice F 86.

5.2.1 Optional marking on the fixation pins and wires shall identify the manufacturer or distributor.

6. Packaging and Labeling

6.1 Packaging shall be adequate to protect the fixation pins and wires during shipment.

6.2 Labeling for fixation pins and wires shall include:

6.2.1 Product name,

6.2.2 Size, on the immediate container,

6.2.2.1 Length,

6.2.2.2 Diameter (if round) or cross-sectional size (if square of hexagonal), that is, ¼ in. (6.4 mm) square, and

6.2.3 ASTM material specification Designation number.

7. Keywords

7.1 fixation materials; flexible surgical wire; orthopaedic medical devices; wire-surgical implants

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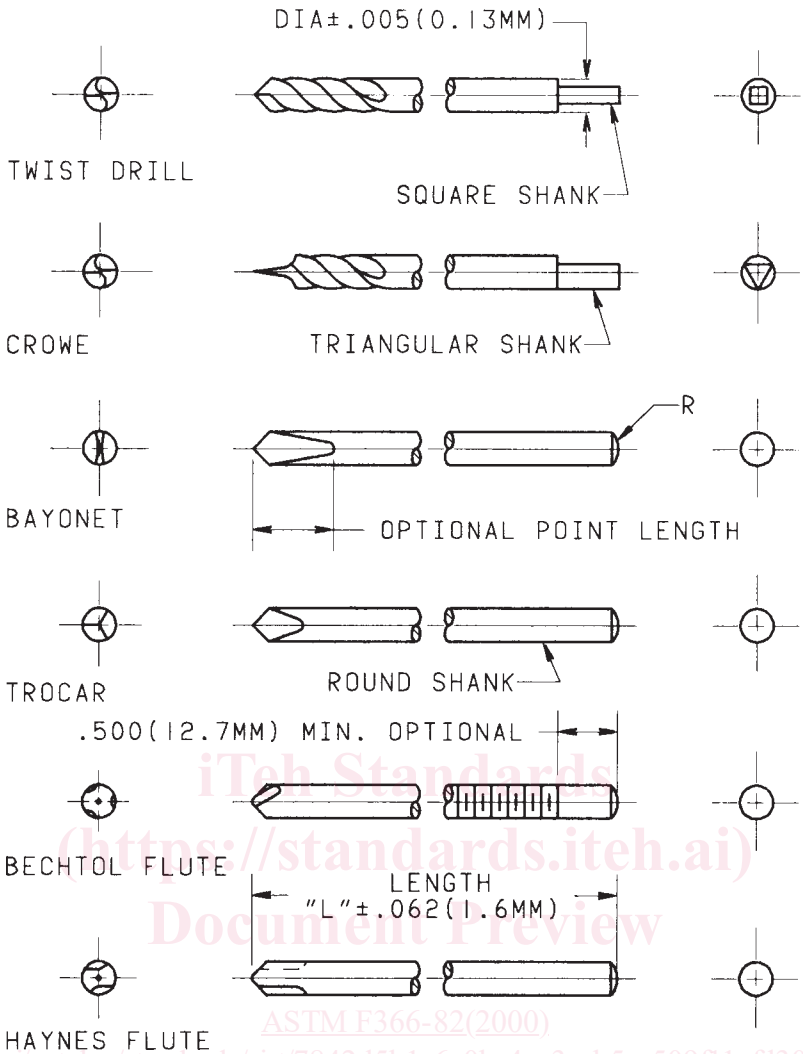
[2] Discontinued—See 1991 *Annual Book of ASTM Standards*, Vol 13.01.

[3] *Annual Book of ASTM Standards*, Vol 13.01.



NOTE 1—Pins and wires may be smooth shank or threaded.

NOTE 2—Point angle and helix angle, where applicable, is as specified by manufacturer.

NOTE 3—On square or triangular shanks, flats are equal and corners are on the same circumference as the pin diameter. Shank diameters on pins larger than ⅛ in. (3.2 mm) may be reduced.

NOTE 4—Optional designs, both ends pointed or point with suture hole.

FIG. 1 Fixation Pins and Wires