Designation: F1026 – 86(Reapproved 2008)ε1

Standard Specification for General Workmanship and Performance Measurements of Hemostatic Forceps[1]

This standard is issued under the fixed designation F1026; 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.

ε[1] NOTE—Editorial changes were made throughout in June 2008.

1. Scope

1.1 This specification covers general workmanship aspects of hemostatic forceps fabricated from stainless steel and intended for reuse in surgery.

2. Referenced Documents

2.1 *ASTM Standards:*[2]

E18 Test Methods for Rockwell Hardness of Metallic Materials

E92 Test Method for Vickers Hardness of Metallic Materials (Withdrawn 2010)[3]

E140 Hardness Conversion Tables for Metals Relationship Among Brinell Hardness, Vickers Hardness, Rockwell Hardness, Superficial Hardness, Knoop Hardness, Scleroscope Hardness, and Leeb Hardness

F899 Specification for Wrought Stainless Steels for Surgical Instruments

F921 Terminology Relating to Hemostatic Forceps

3. Terminology

3.1 Definitions applicable to hemostatic forceps shall be in accordance with Definitions F921.

4. Material

4.1 All of the component parts of the instruments shall be made of martensitic stainless steel of Type 410, 410X, 416, 416MOD, 420A, or 420B of Specification F899.

5. Physical Requirements

5.1 *Heat Treatment and Hardness for Component Parts:*

5.1.1 The component parts of the instruments shall be heat treated under conditions recommended for the material used. Typical heat treating guidelines and hardness values are given in Specification F899.

5.1.2 The hardness of all opposing parts of the same instrument shall not vary in hardness by more than 4 units on the Rockwell Hardness C scale (HRC) or equivalent. (See Test Methods E18.)

5.2 *Passivation*—Instruments and instrument components shall be passivated after completion of all fabricating and finishing operations.

6. Performance Requirements

6.1 *Finger Rings*—Inside surfaces shall be well rounded and polished and shall comply with the requirements in 7.1.

6.2 *Jaw Serrations and Teeth*—The serrations and teeth shall be of uniform depth and height and well defined to provide effective gripping. The serrations and teeth shall interdigitate. The edges of the serrations shall be chamfered.

6.3 *Box Lock*—The hemostatic forceps shall be of box lock construction, as defined in Definitions F921. The pin, or other fastening component, shall be permanently secured. The joint performance of the box lock shall be smooth, of equal resistance, and non-binding when opening or closing the forceps to an included angle of 90 ± 5° (the lock may be lubricated).

6.4 *Clearance*—The maximum clearance between the male and female members of the forceps in the lock area shall be 0.4 mm (0.015 in.). The clearance is the visible gap that exists when the instrument is viewed from both the front and side profile or end view of the instrument (excluding bevel) (see Fig. 1).

6.5 *Ratchets*—Ratchets shall securely engage at each ratchet position in a smooth and progressive manner.

6.6 *Jaw and Ratchet Setting*—The jaw tips shall close and interdigitate when the first ratchet position is engaged, and there shall be no visible misalignment of the jaws. The jaws shall progressively tighten with each succeeding ratchet engagement. Each ratchet position shall hold firmly and release

[1] This specification is under the jurisdiction of ASTM Committee F04 on Medical and Surgical Materials and Devices and is the direct responsibility of Subcommittee F04.33 on Medical/Surgical Instruments.

Current edition approved Feb. 1, 2008. Published March 2008. Originally approved in 1986. Last previous edition approved in 2002 as F1026 – 86 (2002). DOI: 10.1520/F1026-86R08E01.

[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[3] The last approved version of this historical standard is referenced on www.astm.org.