Designation: F899 – 12b

Standard Specification for Wrought Stainless Steels for Surgical Instruments[1]

T[illegible] F899; [illegible] (ε) [illegible]

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

1. Scope*

1.1 T[illegible] Table 1-4 [illegible]

1.2 T[illegible] SI [illegible]

2. Referenced Documents

2.1 *ASTM Standards:*[2]

A276 [illegible]

A313/A313M [illegible]

A314 [illegible]

A480/A480M [illegible]

A484/A484M [illegible]

A555/A555M 2.3 A[illegible] (ASQ) [illegible]:[4]

ASQ C1 [illegible]

3. Classification and Type

3.1 *Classes*—[illegible] d:

3.1.1 *Class 3*—A[illegible]

3.1.2 *Class 4*—Ma[illegible]

3.1.3 *Class 5*—P[illegible] Ha[illegible]

3.1.4 *Class 6*—F[illegible]

3.2 *Type*—

5. Manufacture

5.1 *Condition*—[illegible] (N [illegible]) [illegible] 420A, 420B, 420C, 420 M[illegible] d., 420F, 420F M[illegible] d., 440A, 440B, [illegible] 440C [illegible] 403, 410, 416, 416 M[illegible] d., [illegible] 431, [illegible]

5.2 *Conditioning*—[illegible]

5.3 *Finish*—[illegible]

6. General Requirements for Delivery

6.1 [illegible] A276, A313/A313M, A314, A480/A480M, A484/A484M, A555/A555M, A564/A564M, A582/A582M, [illegible] A751 [illegible]

6.2 [illegible] ISO [illegible] ISO 7153/1.

7. Chemical Requirements

7.1 [illegible] Table 5-8.

7.2 [illegible] (UNS) [illegible] Table 5-8. [illegible] UNS [illegible] Table 7.

7.3 [illegible] 301, 303, 304, 316, 410, 420A, 420B, 420C, [illegible] 430F [illegible] ISO 7153/1.

7.4 [illegible] A751.

8. Mechanical Requirements

8.1 [illegible] ASTM [illegible] (2.1) [illegible]

8.2 [illegible] (HB), [illegible] (HRB) [illegible] (HRC), [illegible] 4 [illegible] Table 1. [illegible]

9. Heat Treatment

9.1 [illegible] ASTM [illegible] (2.1) [illegible]

9.2 [illegible] 4 [illegible] Table 2 [illegible]

9.3 [illegible] 5 [illegible] A564/A564M.

9.4 [illegible]

10. Special Information

10.1 [illegible] Table 3 [illegible] Table 4 [illegible]

NOTE 1 [illegible]

TABLE 3 Examples of Selected Stainless Steels That Have Been Used for Surgical Instruments in Accordance with ISO 7153/1

•	Ct	N -Ct
303	C	
304		
410		
420A	B	
420B		
420C		
420 M		

TABLE 4 Examples of Selected Stainless Steels That Have Been Used For Surgical Instruments in the United States

•	Ct	N -Ct
302		
303[A]		
304		
316		
410		
410		
416[A]		
420[B]		
420F[A]		
431		
440[C]		
420 M		
630		
M-16		
M-13		
11100		C
46500		C

[A] 10.1)

[B] 420A, 420B, 420C, N 42026

[C] 440A, 440B, 440C

11.2 T

ASQ C1,

12. Keywords

12.1 a c; c; ; a c; c a- a-d ab ; a

TABLE 5 Composition of Class 3, Austenitic Stainless Steels, %

N		C	M	P					O
30100	301	0.15	2.00	0.045	0.030	1.00	16.00 18.00	6.00 8.00	
30151		0.07 0.09	1.50 2.00	0.025	0.010	1.20 1.80	16.0 18.0	7.0 9.0	Ct 0.40 M 0.50 1.00 N 0.07 0.11
30200	302	0.15	2.00	0.045	0.030	1.00	17.00 19.00	8.00 10.00	N 0.10 [B]
30300	303	0.12[B]	2.00	0.06[B]	0.15 0.35[B]	1.00	17.00 19.00	8.00 10.00	M 0.70 [B]
30400	304	0.07[B]	2.00	0.045	0.030	1.00	17.00 19.00[B]	8.00 11.00[B]	N 0.10 [B]
31600	316	0.07[B]	2.00	0.045	0.030	1.00	16.50 18.50[B]	10.50 13.50[B]	M 2.00 2.50[B] N 0.10 [B]
31700	317	0.08	2.00	0.045	0.030	1.00	18.00 20.00	11.00 15.00	M 3.00 4.00 N 0.10 [B]
30430	M-7	0.1	2.00	0.045	0.030	1.00	17.00 19.00	8.00 10.00	Ct 3.00 4.00

APPENDIX

(Nonmandatory Information)

X1. STATEMENT OF RATIONALE FOR SPECIFICATION F899

X1.1 T… a… a… c ca… c… a… ac… c … a … d d… d d b… a ac… a… ca… M c… a ca… a… c… a… d… c ca… c ca… T… a… d… a… a… c ca… a… c d… 2.1.

X1.2 T… c… ca c… c… a… ad… c… d b… c ca… a b… d d… d… c… c … ISO 7153/1… a… da… d… a… d… a ac… ca…

X1.3 Ca… b… a d… a b… d d… d a… a a… c… a… C a… 4 … a… c … d… a ac… ca…

X1.4 Acc… ab… a c… d… d… a ac… c d… d, c d… d, a… a d, … a d, … a d a d a… d, … c… a… d… d a d… d, … c… c d… d… a… d… a d a… ca…

X1.5 M c… a ca… C a… 3, 5, a d 6 … a… c… d… c ca… a… c d d… a… a ASTM… a da… d… d… S c… 2.

X1.6 T… ca… a… a… c c… a d… a… a… d… a… c… d C a… 4… a… a… c d d… c ca… c… a… c… ad… a… a… c… c a… a… d… ca… Ha… d… a d… a… a… d… C a… 5 a… c… c… a-

… a… d… ad… a… c d d… c ca… A564/ A564M.

X1.7 E… a… c… d… a… a… a b… d… ca… a… ca… a… c d d… a da… d… a…

X1.8 UNS d… a… a… d c… d… a… a ASTM… c ca… d… 2.1, R… c d D c…

X1.9 ISO… a da… d a… d… c… A… ISO… a da… d… d… c… 2 a… a… c… d… ASTM… a da… d… a… b… d… ca… U…

SUMMARY OF CHANGES

C F04 a d d ca c d c a a da d c a (F899 12a) a a ac a da d. (A d D c. 1, 2012.)

(1) Add d UNS 18235 Tab 6.

C F04 a d d ca c d c a a da d c a (F899 12) a a ac a da d. (A d N . 1, 2012.)

(1) Add d T 1.4310 Tab 5.
(2) Add d F A Tab 5 d ca a ca b a d c a a d a a a ; a d ab a a a .

C F04 a d d ca c d c a a da d c a (F899 11) a a ac a da d. (A d J 1, 2012.)

(1) Add d UNS S42027 Tab 1, Tab 2, a d Tab 7.
(2) Add d c a X1.10.3.
(3) R d Tab X1.1 a d c a X1.10.2.