

XVII. SURFACE TENSION

CONTENTS

- A. Aluminum
- B. Copper
- C. Iron

## SURFACE TENSION OF ALUMINUM

### RECOMMENDED VALUES

From equation:  $\sigma = 860 - 0.134 (T - 933)$

T(°K)	$\sigma$ (dynes cm <sup>-1</sup> )	T(°K)	$\sigma$ (dynes cm <sup>-1</sup> )
933(m. p.)	860	1260	817
950	857	1300	811
1000	851	1350	804
1050	844	1400	797
1100	838	1450	791
1150	831	1500	784
1200	824	1550	777

### SOURCE OF DATA

#### Selected Values:

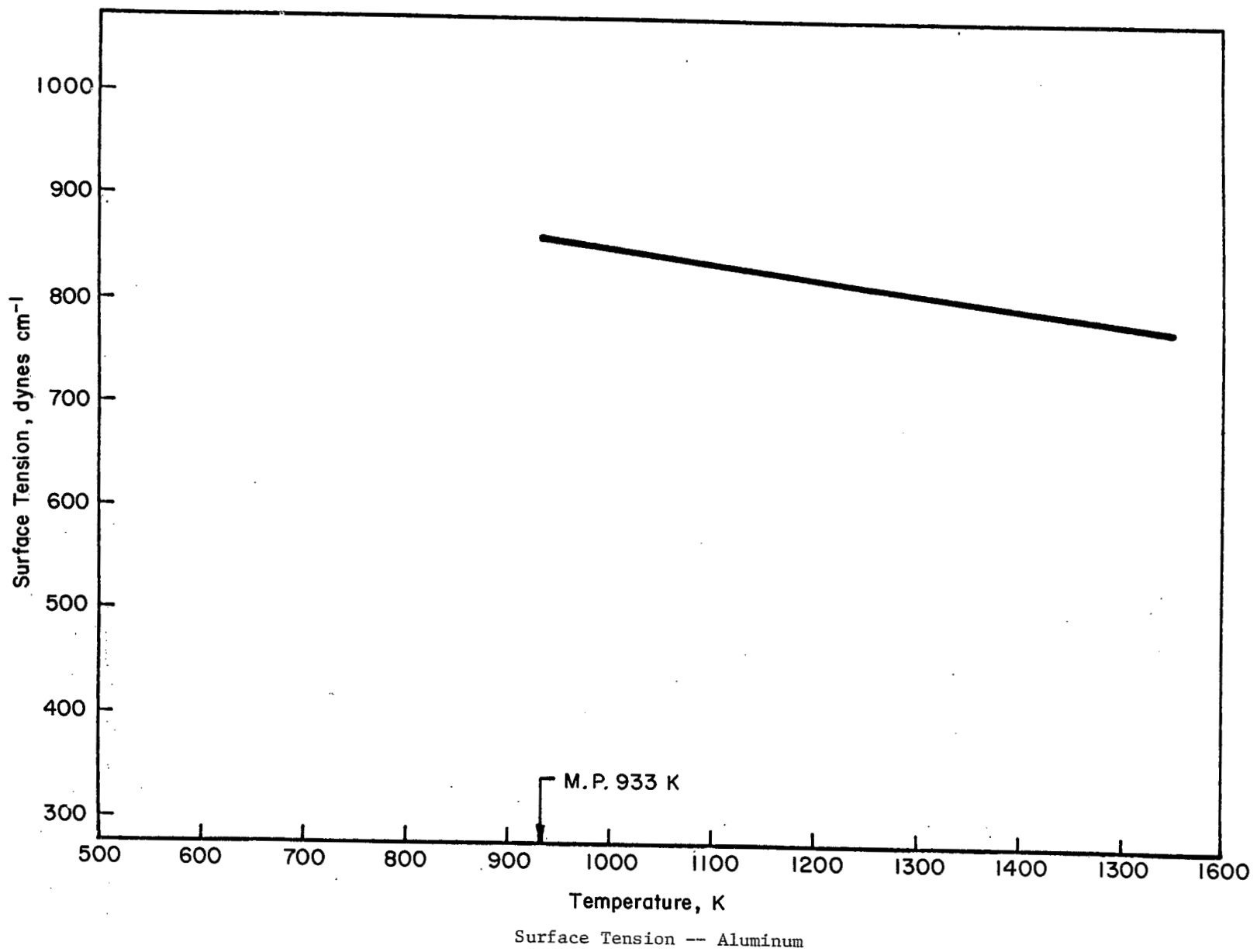
- Experimental: (a) Naidich, Yu. V. and Eremenko, V.N. (1)  
 (b) Eremenko, V.N., Nizhenko, V.I. and Ivashchenko Yu. N. (2)  
 (c) Pelzel, E. (3)  
 Theoretical: (d) Zadumkin, S.N. (4)  
 Temperature coefficient (theoretical) (e) Zadumkin, S.N., and  
 Pugachevich, P.P. (5)

#### Other Values:

- Experimental: (f) Monma, K. and Suto, H. (6) (g) Powers, R.M.  
 and Wilhelm, H.A. (7) (h) Smith, S.W. (8)  
 Theoretical or empirical evaluation: (h) Mayer, S.W. (9) (i)  
 McLachlan, D. (10)

REMARKS: Estimated accuracy: 5%.

XVIII-A-2



## SURFACE TENSION OF COPPER

### RECOMMENDED VALUES

From equation:  $\sigma = 1325 - 0.180 (T - 1356)$

T(°K)	$\sigma$ (dynes cm <sup>-1</sup> )	T(°K)	$\sigma$ (dynes cm <sup>-1</sup> )
1356(m. p.)	1325	1650	1272
1400	1317	1700	1263
1450	1308	1750	1254
1500	1299	1800	1245
1550	1290	1850	1236
1600	1281	1900	1227

### SOURCE OF DATA

#### Selected Values:

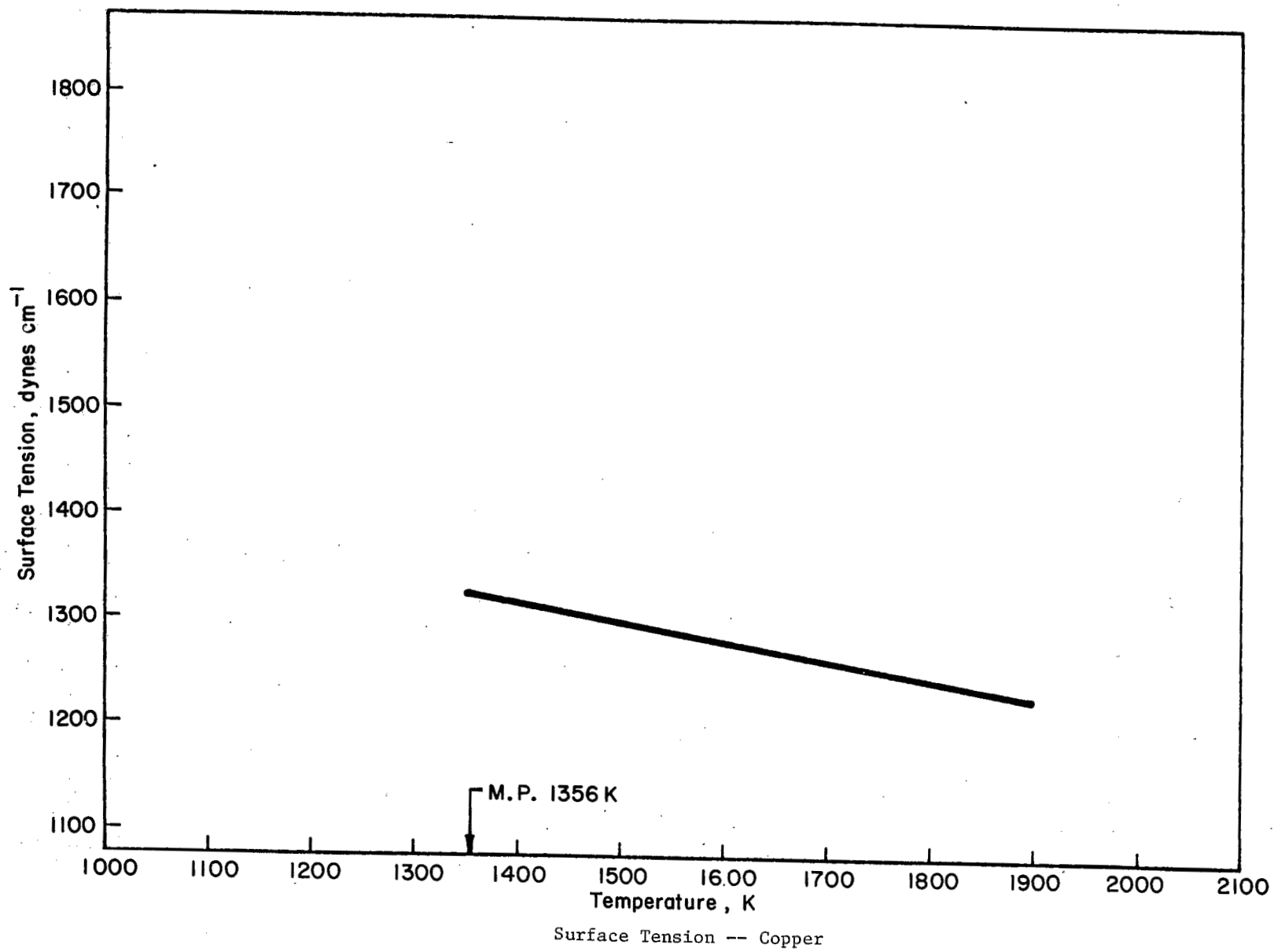
-Experimental: (a) Kozakevitch, P., and Urbain, G. (14) (b) Yashkichev, V.I., and Lazarev, V.B. (15) (c) Fezenko, V.V. and Eremenko, V.N. (16) (d) Lauermann, I., and Sauerwald, F. (17) (e) Allen, B.C. (18) (f) Metzger, G. (19) (g) Baes, C.F., and Kellog, H.H. (20) (h) Allen, B.C., and Kingery, W.D. (21) (i) Gans, W., Pawlek, F., and von Ropenack, A. (22) (j) Belforti, D.A., and Lepie, M.P. (23) (k) Monma, K., and Suto, H. (6)  
 -Temperature coefficient (theoretical): (1) Zadumkin, S.N., and Pugachevich, P.P. (5).

#### Other Values:

-Experimental: (m) Hoage, Y.H. (24); (n) Pugachevich, P.P., and Yashkichev, V.I. (25); (o) Becker, G., Harders, F., and Kornfeld, H. (26); (p) Smirnova, V.I., and Ormont, B.F. (27); (q) Whalen, T.Y. and Humenik, J.R.M. (28); (r) Smith, S.W. (8); (s) Drath, G., and Sauerwald, F. (29); (t) Krause, W., and Sauerwald, F.C. (30)  
 -Theoretical or empirical evaluation: (u) Mayer, S.W. (9); (v) Skapski, A.S. (31); (w) Pavlov, V.V., Popel, S.I., and Esin, O.A. (32) (x) McLachlan, D. (10)

REMARKS: Estimated accuracy:  $\pm 10\%$

XVIII-B-2



## SURFACE TENSION OF IRON

### RECOMMENDED VALUES

From equation:  $\sigma = 1754 - 0.430 (T - 1810)$

T(°K)	$\sigma$ (dynes cm <sup>-1</sup> )
1810(m. p.)	1750
1850	1736
1900	1714
1950	1693
2000	1671
2050	1650
2100	1628

### SOURCE OF DATA

#### Selected Values:

- Experimental: (a) Kozakevitch, P., and Urbain, G. (33)(34)(35)
- (b) Monma, K., and Suto, H. (6) (c) Dyson, B. F. (36) (d) Allen, B. C., and Kingery, W. D. (21) (e) Halden, F. A., and Kingery, W. D. (37) (f) Allen, B. C. (18) (g) Eremenko, V. N., Nizhenko, V. I., and Ivashchenko, (2)
- Theoretical or empirical evaluation: (h) Mayer, S. W. (9)

#### Other Values:

- Experimental: (i) Kingery, W. D., and Humenik, M. Jr. (38)
- (j) Eremenko, V. N., Ivashchenko, Yu. N., Nizhenko, V. I., and Fesenko, V. V. (39) (k) Becker, G., Harders, F., and Kornfeld, H. (26) (l) Fesenko, V. V., and Eremenko, V. N. (16) (40) (m) Smirnova, V. F., and Ormont, B. F. (27) (n) Von den Esche, W., and Peter, O. (41)
- Theoretical or empirical evaluation: (o) McLachlan, D. (10) (p) Pavlov, V. V., Popel, S. I., and Esin, O. A. (32)

**REMARKS:** Estimated accuracy: The selected values are within  $\pm 6\%$  of the recommended curve.

