



# 中华人民共和国国家标准

GB/T 18449.4—2009/ISO 4545-4:2005

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## 金属材料 努氏硬度试验 第4部分： 硬度值表

Metallic materials—Knoop hardness test—Part 4: Tables of hardness values

(ISO 4545-4:2005, IDT)

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发布

## 前 言

GB/T 18449《金属材料 努氏硬度试验》分为如下四部分：

- 第 1 部分：试验方法；
- 第 2 部分：硬度计的检验与校准；
- 第 3 部分：标准硬度块的标定；
- 第 4 部分：硬度值表。

本部分为 GB/T 18449 的第 4 部分。

本部分等同采用 ISO 4545-4:2005《金属材料 努氏硬度试验 第 4 部分：努氏硬度值表》（英文版）。

本部分的整体结构、层次划分、编写方法和技术内容与 ISO 4545-4:2005 完全一致。本部分对 ISO 4545-4:2005 在以下方面进行了编辑性修改：

- 用中文惯用的小数点符号“.”代替英文采用的小数点符号“,”；
- 重新编写了前言，代替国际标准的前言。

本部分由中国钢铁工业协会提出。

本部分由全国钢标准化技术委员会归口。

本部分起草单位：钢铁研究总院、冶金工业信息标准研究院。

本部分起草人：高怡斐、董莉。

## 金属材料 努氏硬度试验 第 4 部分： 硬度值表

### 1 范围

GB/T 18449 的本部分给出了努氏硬度值计算表。

### 2 规范性引用文件

下列文件中的条款通过 GB/T 18449 的本部分的引用而成为本部分的条款。凡是注日期的引用文件，其随后所有的修改单(不包括勘误的内容)或修订版均不适用于本部分，然而，鼓励根据本部分达成协议的各方研究是否可使用这些文件的最新版本。凡是不注日期的引用文件，其最新版本适用于本部分。

GB/T 18449.1 金属材料 努氏硬度试验 第 1 部分：试验方法(GB/T 18449.1—2009, ISO 4545-1:2005, MOD)

GB/T 18449.2 金属努氏硬度试验 第 2 部分：硬度计的检验(GB/T 18449.2—2001, ISO 4546:1993, IDT)

### 3 计算

表 1 中努氏硬度值按下面的公式(1)计算：

$$\begin{aligned}
 \text{HK} &= \text{常数} \times \frac{\text{试验力}}{\text{压痕投影面积}} \\
 &= 0.102 \frac{F}{d^2 c} = 0.102 \times \frac{F}{0.7028 d^2} = 1.451 \frac{F}{d^2} \dots\dots\dots(1)
 \end{aligned}$$

式中：

- HK——努氏硬度；
- F——试验力，单位为牛顿(N)；
- d——压痕长对角线长度，单位为毫米(mm)；

$$c = \frac{\tan \frac{\beta}{2}}{2 \tan \frac{\alpha}{2}};$$

$\alpha$  及  $\beta$ ——相对棱边之间的夹角。

表 1 为压痕对角线长度  $d$  在 0.020 0 mm 和 0.200 0 mm 之间的努氏硬度值表。

表 1 努氏硬度值表

压痕对角线 $d/\text{mm}$	试验力/N								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.020 0	355.8	711.3	889.5	1 779	—	—	—	—	—

表 1 (续)

压痕对角线 <i>d</i> /mm	试验力/ <i>N</i>								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.020 2	348.7	697.2	872.0	1 743	—	—	—	—	—
0.020 4	341.9	683.6	855.0	1 709	—	—	—	—	—
0.020 6	335.3	670.4	838.4	1 676	—	—	—	—	—
0.020 8	328.9	657.6	822.4	1 644	—	—	—	—	—
0.021 0	322.7	645.1	806.8	1 613	—	—	—	—	—
0.021 2	316.6	633.0	791.7	1 583	—	—	—	—	—
0.021 4	310.7	621.2	776.9	1 553	—	—	—	—	—
0.021 6	305.0	609.8	762.6	1 525	—	—	—	—	—
0.021 8	299.4	598.6	748.7	1 497	2 994	—	—	—	—
0.022 0	294.0	587.8	735.1	1 470	2 940	—	—	—	—
0.022 2	288.7	577.3	721.9	1 443	2 887	—	—	—	—
0.022 4	283.6	567.0	709.1	1 418	2 836	—	—	—	—
0.022 6	278.6	557.0	696.6	1 393	2 786	—	—	—	—
0.022 8	273.7	547.3	684.4	1 368	2 737	—	—	—	—
0.023 0	269.0	537.8	672.6	1 345	2 690	—	—	—	—
0.023 2	264.4	528.6	661.0	1 322	2 644	—	—	—	—
0.023 4	259.9	519.6	649.8	1 299	2 599	—	—	—	—
0.023 6	255.5	510.8	638.8	1 277	2 555	—	—	—	—
0.023 8	251.2	502.3	628.1	1 256	2 512	—	—	—	—
0.024 0	247.0	493.9	617.7	1 235	2 470	—	—	—	—
0.024 2	243.0	485.8	607.5	1 215	2 430	—	—	—	—
0.024 4	239.0	477.9	597.6	1 195	2 390	—	—	—	—
0.024 6	235.1	470.1	587.9	1 176	2 351	—	—	—	—
0.024 8	231.4	462.6	578.5	1 157	2 314	—	—	—	—
0.025 0	227.7	455.2	569.3	1 138	2 277	—	—	—	—
0.025 2	224.1	448.0	560.3	1 120	2 241	—	—	—	—
0.025 4	220.6	441.0	551.5	1 103	2 206	—	—	—	—
0.025 6	217.1	434.1	542.9	1 086	2 171	—	—	—	—
0.025 8	213.8	427.4	534.5	1 069	2 138	—	—	—	—
0.026 0	210.5	420.9	526.3	1 052	2 105	—	—	—	—
0.026 2	207.3	414.5	518.3	1 036	2 073	—	—	—	—

表 1 (续)

压痕对角线 d/mm	试验力/N								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.026 4	204.2	408.2	510.5	1 021	2 042	—	—	—	—
0.026 6	201.1	402.1	502.9	1 005	2 011	—	—	—	—
0.026 8	198.1	396.1	495.4	990.5	1 981	—	—	—	—
0.027 0	195.2	390.3	488.1	975.9	1 952	—	—	—	—
0.027 2	192.3	384.5	480.9	961.6	1 923	—	—	—	—
0.027 4	189.5	378.9	473.9	947.6	1 895	—	—	—	—
0.027 6	186.8	373.5	467.1	933.9	1 868	—	—	—	—
0.027 8	184.1	368.1	460.4	920.5	1 841	—	—	—	—
0.028 0	181.5	362.9	453.8	907.4	1 815	—	—	—	—
0.028 2	178.9	357.8	447.4	894.6	1 789	—	—	—	—
0.028 4	176.4	352.7	441.1	882.0	1 764	—	—	—	—
0.028 6	174.0	347.8	435.0	869.7	1 740	—	—	—	—
0.028 8	171.6	343.0	429.0	857.7	1 716	—	—	—	—
0.029 0	169.2	338.3	423.1	845.9	1 692	—	—	—	—
0.029 2	166.9	333.7	417.3	834.3	1 669	—	—	—	—
0.029 4	164.6	329.1	411.6	823.0	1 646	—	—	—	—
0.029 6	162.4	324.7	406.1	812.0	1 624	—	—	—	—
0.029 8	160.2	320.4	400.7	801.1	1 602	—	—	—	—
0.030 0	158.1	316.1	395.3	790.4	1 581	—	—	—	—
0.030 2	156.0	311.9	390.1	780.0	1 560	—	—	—	—
0.030 4	154.0	307.8	385.0	769.8	1 540	—	—	—	—
0.030 6	152.0	303.8	380.0	759.8	1 520	—	—	—	—
0.030 8	150.0	299.9	375.1	749.9	1 500	2 999	—	—	—
0.031 0	148.1	296.0	370.2	740.3	1 481	2 960	—	—	—
0.031 2	146.2	292.3	365.5	730.8	1 462	2 923	—	—	—
0.031 4	144.3	288.6	360.9	721.5	1 443	2 886	—	—	—
0.031 6	142.5	284.9	356.3	712.4	1 425	2 849	—	—	—
0.031 8	140.7	281.3	351.8	703.5	1 407	2 813	—	—	—
0.032 0	139.0	277.8	347.5	694.7	1 390	2 778	—	—	—
0.032 2	137.2	274.4	343.2	686.1	1 372	2 744	—	—	—
0.032 4	135.6	271.0	338.9	677.7	1 356	2 710	—	—	—

表 1 (续)

压痕对角线 <i>d</i> /mm	试验力/N								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.032 6	133.9	267.7	334.8	669.4	1 339	2 677	—	—	—
0.032 8	132.3	264.4	330.7	661.3	1 323	2 644	—	—	—
0.033 0	130.7	261.2	326.7	653.3	1 307	2 612	—	—	—
0.033 2	129.1	258.1	322.8	645.4	1 291	2 581	—	—	—
0.033 4	127.6	255.0	318.9	637.7	1 276	2 550	—	—	—
0.033 6	126.0	252.0	315.2	630.1	1 260	2 520	—	—	—
0.033 8	124.6	249.0	311.4	622.7	1 246	2 490	—	—	—
0.034 0	123.1	246.1	307.8	615.4	1 231	2 461	—	—	—
0.034 2	121.7	243.2	304.2	608.2	1 217	2 432	—	—	—
0.034 4	120.3	240.4	300.7	601.2	1 203	2 404	—	—	—
0.034 6	118.9	237.6	297.2	594.2	1 189	2 376	—	—	—
0.034 8	117.5	234.9	293.8	587.4	1 175	2 349	—	—	—
0.035 0	116.2	232.2	290.4	580.7	1 162	2 322	—	—	—
0.035 2	114.8	229.6	287.2	574.2	1 148	2 296	—	—	—
0.035 4	113.0	227.0	283.9	567.7	1 136	2 270	—	—	—
0.035 6	112.3	224.5	280.7	561.3	1 123	2 245	—	—	—
0.035 8	111.0	222.0	277.6	555.1	1 110	2 220	—	—	—
0.036 0	109.8	219.5	274.5	548.9	1 098	2 195	—	—	—
0.036 2	108.6	217.1	271.5	542.9	1 086	2 171	—	—	—
0.036 4	107.4	214.7	268.5	536.9	1 074	2 147	—	—	—
0.036 6	106.2	212.4	265.6	531.1	1 062	2 124	—	—	—
0.036 8	105.1	210.1	262.7	525.3	1 051	2 101	—	—	—
0.037 0	103.9	207.8	259.9	519.6	1 039	2 078	—	—	—
0.037 2	102.8	205.6	257.1	514.1	1 028	2 056	—	—	—
0.037 4	101.7	203.4	254.4	508.6	1 017	2 034	—	—	—
0.037 6	100.7	201.2	251.7	503.2	1 007	2 012	—	—	—
0.037 8	99.59	199.1	249.0	497.9	995.9	1 991	2 988	—	—
0.038 0	98.55	197.0	246.4	492.7	985.5	1 970	2 956	—	—
0.038 2	97.52	195.0	243.8	487.5	975.2	1 950	2 925	—	—
0.038 4	96.50	192.9	241.3	482.4	965.0	1 929	2 895	—	—
0.038 6	95.51	190.9	238.8	477.5	955.1	1 909	2 865	—	—

表 1 (续)

压痕对角线 d/mm	试验力/N								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.038 8	94.52	189.0	236.3	472.6	945.2	1 890	2 836	—	—
0.039 0	93.56	187.0	233.9	467.7	935.6	1 870	2 807	—	—
0.039 2	92.60	185.1	231.5	463.0	926.0	1 851	2 778	—	—
0.039 4	91.67	183.3	229.2	458.3	916.7	1 833	2 750	—	—
0.039 6	90.74	181.4	226.9	453.7	907.4	1 814	2 722	—	—
0.039 8	89.83	179.6	224.6	449.1	898.3	1 796	2 695	—	—
0.040 0	88.94	177.8	222.4	444.6	889.4	1 778	2 668	—	—
0.040 2	88.05	176.0	220.2	440.2	880.5	1 760	2 642	—	—
0.040 4	87.19	174.3	218.0	435.9	871.9	1 743	2 616	—	—
0.040 6	86.33	172.6	215.9	431.6	863.3	1 726	2 590	—	—
0.040 8	85.48	170.9	213.7	427.4	854.8	1 709	2 565	—	—
0.041 0	84.65	169.2	211.7	423.2	846.5	1 692	2 540	—	—
0.041 2	83.83	167.6	209.6	419.1	838.3	1 676	2 515	—	—
0.041 4	83.02	166.0	207.6	415.1	830.2	1 660	2 491	—	—
0.041 6	82.23	164.4	205.6	411.1	822.3	1 644	2 467	—	—
0.041 8	81.44	162.8	203.6	407.2	814.4	1 628	2 443	—	—
0.042 0	80.67	161.3	201.7	403.3	806.7	1 613	2 420	—	—
0.042 2	79.91	159.8	199.8	399.5	799.1	1 598	2 397	—	—
0.042 4	79.15	158.3	197.9	395.7	791.5	1 583	2 375	—	—
0.042 6	78.41	156.8	196.1	392.0	784.1	1 568	2 352	—	—
0.042 8	77.68	155.3	194.2	388.4	776.8	1 553	2 330	—	—
0.043 0	76.96	153.9	192.4	384.7	769.6	1 539	2 309	—	—
0.043 2	76.25	152.4	190.7	381.2	762.5	1 524	2 287	—	—
0.043 4	75.55	151.0	188.9	377.7	755.5	1 510	2 266	—	—
0.043 6	74.86	149.7	187.2	374.2	748.6	1 497	2 246	—	—
0.043 8	74.17	148.3	185.5	370.8	741.7	1 483	2 225	—	—
0.044 0	73.50	147.0	183.8	367.5	735.0	1 470	2 205	—	—
0.044 2	72.84	145.6	182.1	364.1	728.4	1 456	2 185	—	—
0.044 4	72.18	144.3	180.5	360.9	721.8	1 443	2 166	—	—
0.044 6	71.54	143.0	178.9	357.6	715.4	1 430	2 146	—	—
0.044 8	70.90	141.8	177.3	354.5	709.0	1 418	2 127	—	—

表 1 (续)

压痕对角线 <i>d</i> /mm	试验力/ <i>N</i>								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.045 0	70.27	140.5	175.7	351.3	702.7	1 405	2 108	—	—
0.045 2	69.65	139.3	174.2	348.2	696.5	1 393	2 090	—	—
0.045 4	69.04	138.0	172.6	345.1	690.4	1 380	2 071	—	—
0.045 6	68.43	136.8	171.1	342.1	684.3	1 368	2 053	—	—
0.045 8	67.84	135.6	169.6	339.1	678.4	1 356	2 035	—	—
0.046 0	67.25	134.5	168.1	336.2	672.5	1 345	2 017	—	—
0.046 2	66.67	133.3	166.7	333.3	666.7	1 333	2 000	—	—
0.046 4	66.10	132.1	165.3	330.4	661.0	1 321	1 983	—	—
0.046 6	65.53	131.0	163.8	327.6	655.3	1 310	1 966	—	—
0.046 8	64.97	129.9	162.4	324.8	649.7	1 299	1 949	—	—
0.047 0	64.42	128.8	161.1	322.0	644.2	1 288	1 933	—	—
0.047 2	63.87	127.7	159.7	319.3	638.7	1 277	1 916	—	—
0.047 4	63.34	126.6	158.4	316.6	633.4	1 266	1 900	—	—
0.047 6	62.80	125.6	157.0	314.0	628.0	1 256	1 884	—	—
0.047 8	62.28	124.5	155.7	311.4	622.8	1 245	1 868	—	—
0.048 0	61.76	123.5	154.4	308.8	617.6	1 235	1 853	—	—
0.048 2	61.25	122.5	153.1	306.2	612.5	1 225	1 838	—	—
0.048 4	60.75	121.4	151.9	303.7	607.5	1 214	1 822	—	—
0.048 6	60.25	120.5	150.6	301.2	602.5	1 205	1 807	—	—
0.048 8	59.75	119.5	149.4	298.7	597.5	1 195	1 793	2 987	—
0.049 0	59.27	118.5	148.2	296.3	592.7	1 185	1 778	2 963	—
0.049 2	58.79	117.5	147.0	293.9	587.9	1 175	1 764	2 939	—
0.049 4	58.31	116.6	145.8	291.5	583.1	1 166	1 749	2 915	—
0.049 6	57.84	115.6	144.6	289.2	578.4	1 156	1 735	2 892	—
0.049 8	57.38	114.7	143.5	286.9	573.8	1 147	1 721	2 869	—
0.050 0	56.92	113.8	142.3	284.6	569.2	1 138	1 708	2 846	—
0.050 2	56.47	112.9	141.2	282.3	564.7	1 129	1 694	2 823	—
0.050 4	56.02	112.0	140.1	280.1	560.2	1 120	1 681	2 801	—
0.050 6	55.58	111.1	139.0	277.9	555.8	1 111	1 667	2 779	—
0.050 8	55.14	110.2	137.9	275.7	551.4	1 102	1 654	2 757	—
0.051 0	54.71	109.4	136.8	273.5	547.1	1 094	1 641	2 735	—



表 1 (续)

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	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.051 2	54.28	108.5	135.7	271.4	542.8	1 085	1 628	2 714	—
0.051 4	53.86	107.7	134.7	269.3	538.6	1 077	1 616	2 693	—
0.051 6	53.44	106.9	133.6	267.2	534.4	1 069	1 603	2 672	—
0.051 8	53.03	106.0	132.6	265.1	530.3	1 060	1 591	2 651	—
0.052 0	52.63	105.2	131.6	263.1	526.3	1 052	1 579	2 631	—
0.052 2	52.22	104.4	130.6	261.1	522.2	1 044	1 567	2 611	—
0.052 4	51.83	103.6	129.6	259.1	518.3	1 036	1 555	2 591	—
0.052 6	51.43	102.8	128.6	257.1	514.3	1 028	1 543	2 571	—
0.052 8	51.04	102.1	127.6	255.2	510.4	1 021	1 531	2 552	—
0.053 0	50.66	101.3	126.7	253.3	506.6	1 013	1 520	2 533	—
0.053 2	50.28	100.5	125.7	251.4	502.8	1 005	1 508	2 514	—
0.053 4	49.90	99.77	124.8	249.5	499.0	997.7	1 497	2 495	—
0.053 6	49.53	99.03	123.8	247.6	495.3	990.3	1 486	2 476	—
0.053 8	49.16	98.29	122.9	245.8	491.6	982.9	1 475	2 458	—
0.054 0	48.80	97.57	122.0	244.0	488.0	975.7	1 453	2 440	—
0.054 2	48.44	96.85	121.1	242.2	484.4	968.5	1 453	2 422	—
0.054 4	48.08	96.14	120.2	240.4	480.8	961.4	1 443	2 404	—
0.054 6	47.73	95.43	119.3	238.6	477.3	954.3	1 432	2 369	—
0.054 8	47.39	94.74	118.5	236.9	473.9	947.4	1 422	2 369	—
0.055 0	47.04	94.05	117.6	235.2	470.4	940.5	1 411	2 352	—
0.055 2	46.70	93.37	116.8	233.5	467.0	933.7	1 401	2 335	—
0.055 4	46.36	92.70	115.9	231.8	463.6	927.0	1 391	2 318	—
0.055 6	46.03	92.03	115.1	230.1	460.3	920.3	1 381	2 301	—
0.055 8	45.70	91.37	114.3	228.5	457.0	913.7	1 371	2 285	—
0.056 0	45.38	90.72	113.5	226.8	453.8	907.2	1 361	2 268	—
0.056 2	45.05	90.08	112.7	225.2	450.5	900.8	1 352	2 252	—
0.056 4	44.73	89.44	111.9	223.6	447.3	894.4	1 342	2 236	—
0.056 6	44.42	88.81	111.1	222.1	444.2	888.1	1 333	2 221	—
0.056 8	44.11	88.18	110.3	220.5	441.1	881.8	1 323	2 205	—
0.057 0	43.80	87.57	109.5	219.0	438.0	875.7	1 314	2 190	—
0.057 2	43.49	86.95	108.7	217.4	434.9	869.5	1 305	2 174	—

表 1 (续)

压痕对角线 d/mm	试验力/N								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.057 4	43.19	86.35	108.0	215.9	431.9	863.5	1 296	2 159	—
0.057 6	42.89	85.75	107.2	214.4	428.9	857.5	1 287	2 144	—
0.057 8	42.59	85.16	106.5	212.9	425.9	851.6	1 278	2 129	—
0.058 0	42.30	84.57	105.8	211.5	423.0	845.7	1 269	2 115	—
0.058 2	42.01	83.99	105.0	210.0	420.1	839.9	1 260	2 100	—
0.058 4	41.72	83.42	104.3	208.6	417.2	834.2	1 252	2 086	—
0.058 6	41.44	82.85	103.6	207.2	414.2	828.5	1 243	2 072	—
0.058 8	41.16	82.29	102.9	205.8	411.6	822.9	1 235	2 058	—
0.059 0	40.88	81.73	102.2	204.4	408.8	817.3	1 226	2 044	—
0.059 2	40.60	81.18	101.5	203.0	406.0	811.8	1 218	2 030	—
0.059 4	40.33	80.63	100.8	201.6	403.3	806.3	1 210	2 016	—
0.059 6	40.06	80.09	100.2	200.3	400.6	800.9	1 202	2 003	—
0.059 8	39.79	79.56	99.50	198.9	397.9	795.6	1 194	1 989	—
0.060 0	39.53	79.03	98.83	197.6	395.3	790.3	1 186	1 976	—
0.060 2	39.27	78.50	98.18	196.3	392.7	785.0	1 178	1 963	—
0.060 4	39.01	77.98	97.53	195.0	390.1	779.8	1 170	1 950	—
0.060 6	38.75	77.47	96.89	193.7	387.5	774.7	1 162	1 937	—
0.060 8	38.49	76.96	96.25	192.4	384.9	769.6	1 155	1 924	—
0.061 0	38.24	76.46	95.62	191.2	382.4	764.6	1 147	1 912	—
0.061 2	37.99	75.96	95.00	189.9	379.9	759.6	1 140	1 899	—
0.061 4	37.75	75.46	94.38	188.7	377.5	754.6	1 132	1 887	—
0.061 6	37.50	74.98	93.77	187.5	375.0	749.8	1 125	1 875	—
0.061 8	37.26	74.49	93.16	186.3	372.6	744.9	1 118	1 863	—
0.062 0	37.02	74.01	92.56	185.1	370.2	740.1	1 111	1 851	—
0.062 2	36.78	73.54	91.97	183.9	367.8	735.4	1 103	1 839	—
0.062 4	36.55	73.07	91.38	182.7	365.5	730.7	1 096	1 827	—
0.062 6	36.31	72.60	90.79	181.5	363.1	726.0	1 089	1 815	—
0.062 8	36.08	72.14	90.22	180.4	360.8	721.4	1 082	1 804	—
0.063 0	35.85	71.68	89.64	179.2	358.5	716.8	1 076	1 792	—
0.063 2	35.63	71.23	89.08	178.1	356.3	712.3	1 069	1 781	—
0.063 4	35.40	70.78	88.52	177.0	354.0	707.8	1 062	1 770	—

表 1 (续)

压痕对角线 <i>d</i> /mm	试验力/ <i>N</i>								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.063 6	35.18	70.33	87.96	175.9	351.8	703.3	1 055	1 759	—
0.063 8	34.96	69.89	87.41	174.8	349.6	698.9	1 049	1 748	—
0.064 0	34.74	69.46	86.87	173.7	347.4	694.6	1 042	1 737	—
0.064 2	34.53	69.03	86.32	172.6	345.3	690.3	1 036	1 726	—
0.064 4	34.31	68.60	85.79	171.5	343.1	686.0	1 029	1 715	—
0.064 6	34.10	68.17	85.26	170.5	341.0	681.7	1 023	1 705	—
0.064 8	33.89	67.75	84.73	169.4	338.9	677.5	1 017	1 694	—
0.065 0	33.68	67.34	84.21	168.4	336.8	673.4	1 010	1 684	—
0.065 2	33.47	66.92	83.70	167.3	334.7	669.2	1 004	1 673	—
0.065 4	33.27	66.52	83.19	166.3	332.7	665.2	998.1	1 663	—
0.065 6	33.07	66.11	82.68	165.3	330.7	661.1	992.0	1 653	—
0.065 8	32.87	65.71	82.18	164.3	328.7	657.1	986.0	1 643	—
0.066 0	32.67	65.31	81.68	163.3	326.7	653.1	980.0	1 633	—
0.066 2	32.47	64.92	81.19	162.3	324.7	649.2	974.1	1 623	—
0.066 4	32.28	64.53	80.70	161.4	322.8	645.3	968.3	1 614	—
0.066 6	32.08	64.14	80.22	160.4	320.8	641.4	962.4	1 604	—
0.066 8	31.89	63.76	79.74	159.4	318.9	637.6	956.7	1 594	—
0.067 0	31.70	63.38	79.26	158.5	317.0	633.8	951.0	1 585	—
0.067 2	31.51	63.00	78.79	157.5	315.1	630.0	945.3	1 575	—
0.067 4	31.32	62.63	78.32	156.6	313.2	626.3	939.7	1 566	—
0.067 6	31.14	62.26	77.86	155.7	311.4	622.6	934.2	1 557	—
0.067 8	30.96	61.89	77.40	154.8	309.6	618.9	928.7	1 548	—
0.068 0	30.77	61.53	76.95	153.8	307.7	615.3	923.2	1 538	—
0.068 2	30.59	61.17	76.50	152.9	305.9	611.7	917.8	1 529	—
0.068 4	30.42	60.81	76.05	152.1	304.2	608.1	912.5	1 521	—
0.068 6	30.24	60.46	75.61	151.2	302.4	604.6	907.1	1 512	—
0.068 8	30.06	60.10	75.17	150.3	300.6	601.0	901.9	1 503	—
0.069 0	29.89	59.76	74.73	149.4	298.9	597.6	896.7	1 494	2 988
0.069 2	29.72	59.41	74.30	148.6	297.2	594.1	891.5	1 486	2 972
0.069 4	29.55	59.07	73.87	147.7	295.5	590.7	886.4	1 477	2 955
0.069 6	29.38	58.73	73.45	146.9	293.8	587.3	881.3	1 469	2 938

表 1 (续)

压痕对角线 d/mm	试验力/N								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.069 8	29.21	58.39	73.03	146.0	292.1	583.9	876.2	1 460	2 921
0.070 0	29.04	58.06	72.61	145.2	290.4	580.6	871.2	1 452	2 904
0.070 2	28.88	57.73	72.20	144.4	288.8	577.3	866.3	1 444	2 888
0.070 4	28.71	57.40	71.79	143.5	287.1	574.0	861.4	1 435	2 871
0.070 6	28.55	57.08	71.38	142.7	285.5	570.8	856.5	1 427	2 855
0.070 8	28.39	56.76	70.98	141.9	283.9	567.6	851.6	1 419	2 839
0.071 0	28.23	56.44	70.58	141.1	282.3	564.4	846.9	1 411	2 823
0.071 2	28.07	56.12	70.19	140.3	280.7	561.2	842.1	1 403	2 807
0.071 4	27.91	55.81	69.79	139.5	279.1	558.1	837.4	1 395	2 791
0.071 6	27.76	55.50	69.40	138.8	277.6	555.0	832.7	1 388	2 776
0.071 8	27.60	55.19	69.02	138.0	276.0	551.9	828.1	1 380	2 760
0.072 0	27.45	54.88	68.63	137.2	274.5	548.8	823.5	1 372	2 745
0.072 2	27.30	54.58	68.25	136.5	273.0	545.8	818.9	1 365	2 730
0.072 4	27.15	54.28	67.88	135.7	271.5	542.8	814.4	1 357	2 715
0.072 6	27.00	53.98	67.50	135.0	270.0	539.8	809.9	1 350	2 700
0.072 8	26.85	53.68	67.13	134.2	268.5	536.8	805.5	1 342	2 685
0.073 0	26.70	53.39	66.77	133.5	267.0	533.9	801.1	1 335	2 670
0.073 2	26.56	53.10	66.40	132.8	265.6	531.0	796.7	1 328	2 656
0.073 4	26.41	52.81	66.04	132.0	264.1	528.1	792.4	1 320	2 641
0.073 6	26.27	52.52	65.68	131.3	262.7	525.2	788.1	1 313	2 627
0.073 8	26.13	52.24	65.33	130.6	261.3	522.4	783.8	1 306	2 613
0.074 0	25.99	51.95	64.97	129.9	259.9	519.5	779.6	1 299	2 599
0.074 2	25.85	51.67	64.62	129.2	258.5	516.7	775.4	1 292	2 585
0.074 4	25.71	51.40	64.28	128.5	257.1	514.0	771.2	1 285	2 571
0.074 6	25.57	51.12	63.93	127.8	255.7	511.2	767.1	1 278	2 557
0.074 8	25.43	50.85	63.59	127.1	254.3	508.5	763.0	1 271	2 543
0.075 0	25.30	50.58	63.25	126.5	253.0	505.8	758.9	1 265	2 530
0.075 2	25.16	50.31	62.92	125.8	251.6	503.1	754.9	1 258	2 516
0.075 4	25.03	50.04	62.58	125.1	250.3	500.4	750.9	1 251	2 503
0.075 6	24.90	49.78	62.25	124.5	249.0	497.8	746.9	1 245	2 490
0.075 8	24.77	49.52	61.93	123.8	247.7	495.2	743.0	1 238	2 477

表 1 (续)

压痕对角线 d/mm	试验力/N								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.076 0	24.64	49.26	61.60	123.2	246.4	492.6	739.1	1 232	2 464
0.076 2	24.51	49.00	61.28	122.5	245.1	490.0	735.2	1 225	2 451
0.076 4	24.38	48.74	60.96	121.9	243.8	487.4	731.4	1 219	2 438
0.076 6	24.25	48.49	60.64	121.2	242.5	484.9	727.6	1 212	2 425
0.076 8	24.13	48.23	60.32	120.6	241.3	482.3	723.8	1 206	2 413
0.077 0	24.00	47.98	60.01	120.0	240.0	479.8	720.0	1 200	2 400
0.077 2	23.88	47.74	59.70	119.4	238.8	477.4	716.3	1 194	2 388
0.077 4	23.75	47.49	59.39	118.7	237.5	474.9	712.6	1 187	2 375
0.077 6	23.63	47.25	59.09	118.1	236.3	472.5	708.9	1 181	2 363
0.077 8	23.51	47.00	58.78	117.5	235.1	470.0	705.3	1 175	2 351
0.078 0	23.39	46.76	58.48	116.0	233.9	467.6	701.7	1 169	2 339
0.078 2	23.27	46.52	58.18	116.3	232.7	465.2	698.1	1 163	2 327
0.078 4	23.15	46.29	57.89	115.7	231.5	462.9	694.5	1 157	2 315
0.078 6	23.03	46.05	57.59	115.2	230.3	460.5	691.0	1 152	2 303
0.078 8	22.92	45.82	57.30	114.6	229.2	458.2	687.5	1 146	2 292
0.079 0	22.80	45.59	57.01	114.0	228.0	455.9	684.0	1 140	2 280
0.079 2	22.69	45.36	56.72	113.4	226.9	453.6	680.6	1 134	2 269
0.079 4	22.57	45.13	56.44	112.8	225.7	451.3	677.2	1 128	2 257
0.079 6	22.46	44.90	56.15	112.3	224.6	449.0	673.8	1 123	2 246
0.079 8	22.35	44.68	55.87	111.7	223.5	446.8	670.4	1 117	2 235
0.080 0	22.23	44.45	55.59	111.2	222.3	444.5	667.0	1 112	2 223
0.080 2	22.12	44.23	55.32	110.6	221.2	442.3	663.7	1 106	2 212
0.080 4	22.01	44.01	55.04	110.1	220.1	440.1	660.4	1 101	2 201
0.080 6	21.90	43.79	54.77	109.5	219.0	437.9	657.1	1 095	2 190
0.080 8	21.80	43.58	54.50	109.5	218.0	435.8	653.9	1 090	2 180
0.081 0	21.69	43.36	54.23	108.4	216.9	433.6	650.7	1 084	2 169
0.081 2	21.58	43.15	53.96	107.9	215.8	431.5	647.5	1 079	2 158
0.081 4	21.48	42.94	53.70	107.4	214.8	429.4	644.3	1 074	2 148
0.081 6	21.37	42.73	53.43	106.8	213.7	427.3	641.1	1 068	2 137
0.081 8	21.27	42.52	53.17	106.3	212.7	425.2	638.0	1 063	2 127
0.082 0	21.16	42.31	52.91	105.8	211.6	423.1	634.9	1 058	2 116

表 1 (续)

压痕对角线 d/mm	试验力/N								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.082 2	21.06	42.11	52.66	105.3	210.6	421.1	631.8	1 053	2 106
0.082 4	20.96	41.90	52.40	104.8	209.6	419.0	628.7	1 048	2 096
0.082 6	20.86	41.70	52.15	104.3	208.6	417.0	625.7	1 043	2 086
0.082 8	20.76	41.50	51.90	103.8	207.6	415.0	622.7	1 038	2 076
0.083 0	20.66	41.30	51.65	103.3	206.6	413.0	619.7	1 033	2 066
0.083 2	20.56	41.10	51.40	102.8	205.6	411.0	616.7	1 028	2 056
0.083 4	20.46	40.90	51.15	102.3	204.6	409.0	613.8	1 023	2 046
0.083 6	20.36	40.71	50.91	101.8	203.6	407.1	610.8	1 018	2 036
0.083 8	20.26	40.51	50.67	101.3	202.6	405.1	607.9	1 013	2 026
0.084 0	20.17	40.32	50.43	100.8	201.7	403.2	605.0	1 008	2 017
0.084 2	20.07	40.13	50.19	100.3	200.7	401.3	602.1	1 003	2 007
0.084 4	19.98	39.94	49.95	99.87	199.8	399.4	599.3	998.7	1 998
0.084 6	19.88	39.75	49.71	99.40	198.8	397.5	596.5	994.0	1 988
0.084 8	19.79	39.56	49.48	98.93	197.9	395.6	593.7	989.3	1 979
0.085 0	19.70	39.38	49.25	98.46	197.0	393.8	590.9	984.6	1 970
0.085 2	19.60	39.19	49.01	98.00	196.0	391.9	588.1	980.0	1 960
0.085 4	19.51	39.01	48.79	97.54	195.1	390.1	585.3	975.4	1 951
0.085 6	19.42	38.83	48.56	97.09	194.2	388.3	582.6	970.9	1 942
0.085 8	19.33	38.65	48.33	96.64	193.3	386.5	579.9	966.4	1 933
0.086 0	19.24	38.47	48.11	96.19	192.4	384.7	577.2	961.9	1 924
0.086 2	19.15	38.29	47.88	95.74	191.5	382.9	574.5	957.4	1 915
0.086 4	19.06	38.11	47.66	95.30	190.6	381.1	571.9	953.0	1 906
0.086 6	18.97	37.94	47.44	94.86	189.7	379.4	569.2	948.6	1 897
0.086 8	18.89	37.76	47.22	94.42	188.9	377.6	566.6	944.2	1 889
0.087 0	18.80	37.59	47.01	93.99	188.0	375.9	564.0	939.9	1 880
0.087 2	18.71	37.42	46.79	93.56	187.1	374.2	561.4	935.6	1 871
0.087 4	18.63	37.24	46.58	93.13	186.3	372.4	558.9	931.3	1 863
0.087 6	18.54	37.07	46.37	92.71	185.4	370.7	556.3	927.1	1 854
0.087 8	18.46	36.91	46.15	92.28	184.6	369.1	553.8	922.8	1 846
0.088 0	18.38	36.74	45.95	91.86	183.8	367.4	551.3	918.6	1 838
0.088 2	18.29	36.57	45.74	91.45	182.9	365.7	548.8	914.5	1 829

表 1 (续)

压痕对角线 d/mm	试验力/N								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.088 4	18.21	36.41	45.53	91.04	182.1	364.1	546.3	910.4	1 821
0.088 6	18.13	36.24	45.33	90.62	181.3	362.4	543.8	906.2	1 813
0.088 8	18.05	36.08	45.12	90.22	180.5	360.8	541.4	902.2	1 805
0.089 0	17.96	35.92	44.92	89.81	179.6	359.2	538.9	898.1	1 796
0.089 2	17.88	35.76	44.72	89.41	178.8	357.6	536.5	894.1	1 788
0.089 4	17.80	35.60	44.52	89.01	178.0	356.0	534.1	890.1	1 780
0.089 6	17.73	35.44	44.32	88.61	177.3	354.4	531.8	886.1	1 773
0.089 8	17.65	35.28	44.12	88.22	176.5	352.8	529.4	882.2	1 765
0.090 0	17.57	35.12	43.93	87.83	175.7	351.2	527.0	878.3	1 757
0.090 2	17.49	34.97	43.73	87.44	174.9	349.7	524.7	874.4	1 749
0.090 4	17.41	34.81	43.54	87.05	174.1	348.1	522.4	870.5	1 741
0.090 6	17.34	34.66	43.35	86.67	173.4	346.6	520.1	866.7	1 734
0.090 8	17.26	34.51	43.16	86.29	172.6	345.1	517.8	862.9	1 726
0.091 0	17.18	34.36	42.97	85.91	171.8	343.6	515.5	859.1	1 718
0.091 2	17.11	34.21	42.78	85.53	171.1	342.1	513.3	855.3	1 711
0.091 4	17.03	34.06	42.59	85.16	170.3	340.6	511.0	851.6	1 703
0.091 6	16.96	33.91	42.40	84.79	169.6	339.1	508.8	847.9	1 696
0.091 8	16.89	33.76	42.22	84.42	168.9	337.6	506.6	844.2	1 689
0.092 0	16.81	33.61	42.04	84.05	168.1	336.1	504.4	840.5	1 681
0.092 2	16.74	33.47	41.85	83.69	167.4	334.7	502.2	836.9	1 674
0.092 4	16.67	33.32	41.67	83.32	166.7	333.2	500.0	833.2	1 667
0.092 6	16.60	33.18	41.49	82.96	166.0	331.8	497.9	829.6	1 660
0.092 8	16.52	33.04	41.32	82.61	165.2	330.4	495.7	826.1	1 652
0.093 0	16.45	32.89	41.14	82.25	164.5	328.9	493.6	822.5	1 645
0.093 2	16.38	32.75	40.96	81.90	163.8	327.5	491.5	819.0	1 638
0.093 4	16.31	32.61	40.79	81.55	163.1	326.1	489.4	815.5	1 631
0.093 6	16.24	32.47	40.61	81.20	162.4	324.7	487.3	812.0	1 624
0.093 8	16.17	32.34	40.44	80.86	161.7	323.4	485.2	808.6	1 617
0.094 0	16.10	32.20	40.27	80.51	161.0	322.0	483.1	805.1	1 610
0.094 2	16.04	32.06	40.10	80.17	160.4	320.6	481.1	801.7	1 604
0.094 4	15.97	31.93	39.93	79.83	159.7	319.3	479.1	798.3	1 597

表 1 (续)

压痕对角线 <i>d</i> /mm	试验力/N								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.094 6	15.90	31.79	39.76	79.49	159.0	317.9	477.0	794.9	1 590
0.094 8	15.83	31.66	39.59	79.16	158.3	316.6	475.0	791.6	1 583
0.095 0	15.77	31.52	39.42	78.83	157.7	315.2	473.0	788.3	1 577
0.095 2	15.70	31.39	39.26	78.49	157.0	313.9	471.0	784.9	1 570
0.095 4	15.64	31.26	39.09	78.17	156.4	312.6	469.1	781.7	1 564
0.095 6	15.57	31.13	38.93	77.84	155.7	311.3	467.1	778.4	1 557
0.095 8	15.51	31.00	38.77	77.51	155.1	310.0	465.2	775.1	1 551
0.096 0	15.44	30.87	38.61	77.19	154.4	308.7	463.2	771.9	1 544
0.096 2	15.38	30.74	38.45	76.87	153.8	307.4	461.3	768.7	1 538
0.096 4	15.31	30.61	38.29	76.55	153.1	306.1	459.4	765.5	1 531
0.096 6	15.25	30.49	38.13	76.24	152.5	304.9	457.5	762.4	1 525
0.096 8	15.19	30.36	37.97	75.92	151.9	303.6	455.6	759.2	1 519
0.097 0	15.12	30.24	37.81	75.61	151.2	302.4	453.7	756.1	1 512
0.097 2	15.06	30.11	37.66	75.30	150.6	301.1	451.8	753.0	1 506
0.097 4	15.00	29.99	37.50	74.99	150.0	299.9	450.0	749.9	1 500
0.097 6	14.94	29.87	37.35	74.68	149.4	298.7	448.2	746.8	1 494
0.097 8	14.88	29.74	37.20	74.38	148.8	297.4	446.3	743.8	1 488
0.098 0	14.82	29.62	37.05	74.07	148.2	296.2	444.5	740.7	1 482
0.098 2	14.76	29.50	36.90	73.77	147.6	295.0	442.7	737.7	1 476
0.098 4	14.70	29.38	36.75	73.47	147.0	293.8	440.9	734.7	1 470
0.098 6	14.64	29.26	36.60	73.17	146.4	292.6	439.1	731.7	1 464
0.098 8	14.58	29.15	36.45	72.88	145.8	291.5	437.3	728.8	1 458
0.099 0	14.52	29.03	36.30	72.58	145.2	290.3	435.6	725.8	1 452
0.099 2	14.46	28.91	36.16	72.29	144.6	289.1	433.8	722.9	1 446
0.099 4	14.40	28.79	36.01	72.00	144.0	287.9	432.1	720.0	1 440
0.099 6	14.34	28.68	35.87	71.71	143.4	286.8	430.3	717.1	1 434
0.099 8	14.29	28.56	35.72	71.43	142.9	285.6	428.6	714.3	1 429
0.100 0	14.23	28.45	35.58	71.14	142.3	284.5	426.9	711.4	1 423
0.100 2	14.17	28.34	35.44	70.86	141.7	283.4	425.2	708.6	1 417
0.100 4	14.12	28.22	35.30	70.57	141.2	282.2	423.5	705.7	1 412
0.100 6	14.06	28.11	35.16	70.29	140.6	281.1	421.8	702.9	1 406



表 1 (续)

压痕对角线 <i>d</i> /mm	试验力/N								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.100 8	14.01	28.00	35.02	72.02	140.1	280.0	420.2	700.2	1 401
0.101 0	13.95	27.89	34.88	69.74	139.5	278.9	418.5	697.4	1 395
0.101 2	13.89	27.78	34.74	69.46	138.9	277.8	416.8	694.6	1 389
0.101 4	13.84	27.67	34.60	69.19	138.4	276.7	415.2	691.9	1 384
0.101 6	13.79	27.56	34.47	68.92	137.9	275.6	413.6	689.2	1 379
0.101 8	13.73	27.45	34.33	68.85	137.3	274.5	411.9	686.5	1 373
0.102 0	13.68	27.35	34.20	68.38	136.8	273.5	410.3	683.8	1 368
0.102 2	13.62	27.24	34.06	68.11	136.2	272.4	408.7	681.1	1 362
0.102 4	13.57	27.13	33.93	67.84	135.7	271.3	407.1	678.4	1 357
0.102 6	13.52	27.03	33.80	67.58	135.2	270.3	405.5	675.8	1 352
0.102 8	13.47	26.92	33.67	67.32	134.7	269.2	404.0	673.2	1 347
0.103 0	13.41	26.82	33.54	67.06	134.1	268.2	402.4	670.6	1 341
0.103 2	13.36	26.71	33.41	66.80	133.6	267.1	400.8	668.0	1 336
0.103 4	13.31	26.61	33.28	66.54	133.1	266.1	399.3	665.4	1 331
0.103 6	13.26	26.51	33.15	66.28	132.6	265.1	397.7	662.8	1 326
0.103 8	13.21	26.41	33.02	66.03	132.1	264.1	396.2	660.3	1 321
0.104 0	13.16	26.30	32.90	65.77	131.6	263.0	394.7	657.7	1 316
0.104 2	13.11	26.20	32.77	65.52	131.1	262.0	393.2	655.2	1 311
0.104 4	13.06	26.10	32.64	65.27	130.6	261.0	391.7	652.7	1 306
0.104 6	13.01	26.00	32.52	65.02	130.1	260.0	390.2	650.2	1 301
0.104 8	12.96	25.90	32.40	64.77	129.6	259.0	388.7	647.7	1 296
0.105 0	12.91	25.80	32.27	64.53	129.1	258.0	387.2	645.3	1 291
0.105 2	12.86	25.71	32.15	64.28	128.6	257.1	385.7	642.8	1 286
0.105 4	12.81	25.61	32.03	64.04	128.1	256.1	384.3	640.4	1 281
0.105 6	12.76	25.51	31.91	63.79	127.6	255.1	382.8	637.9	1 276
0.105 8	12.71	25.42	31.79	63.55	127.1	254.2	381.4	635.5	1 271
0.106 0	12.66	25.32	31.67	63.31	126.6	253.2	379.9	633.1	1 266
0.106 2	12.62	25.23	31.55	63.08	126.2	252.3	378.5	630.8	1 262
0.106 4	12.57	25.13	31.43	62.84	125.7	251.3	377.1	628.4	1 257
0.106 6	12.52	25.04	31.31	62.60	125.2	250.4	375.7	626.0	1 252
0.106 8	12.48	24.94	31.19	62.37	124.8	249.4	374.3	623.7	1 248

表 1 (续)

压痕对角线 <i>d</i> /mm	试验力/ <i>N</i>								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.107 0	12.43	24.85	31.08	62.14	124.3	248.5	372.9	621.4	1 243
0.107 2	12.38	24.76	30.96	61.90	123.8	247.5	371.5	619.0	1 238
0.107 4	12.34	24.66	30.85	61.67	123.4	246.6	370.1	616.7	1 234
0.107 6	12.29	24.57	30.73	61.45	122.9	245.7	368.7	614.5	1 229
0.107 8	12.25	24.48	30.62	61.22	122.5	244.8	367.4	612.2	1 225
0.108 0	12.20	24.39	30.50	60.99	122.0	243.9	366.0	609.9	1 220
0.108 2	12.15	24.30	30.39	60.77	121.5	243.0	364.6	607.7	1 215
0.108 4	12.11	24.21	30.28	60.54	121.1	242.1	363.3	605.4	1 211
0.108 6	12.07	24.12	30.17	60.32	120.7	241.2	362.0	603.2	1 207
0.108 8	12.02	24.03	30.06	60.10	120.2	240.3	360.6	601.0	1 202
0.109 0	11.98	23.95	29.95	59.88	119.8	239.5	359.3	598.8	1 198
0.109 2	11.93	23.86	29.84	59.66	119.3	238.6	358.0	596.6	1 193
0.109 4	11.89	23.77	29.73	59.44	118.9	237.7	356.7	594.4	1 189
0.109 6	11.85	23.68	29.62	59.22	118.5	236.8	355.4	592.2	1 185
0.109 8	11.80	23.60	29.51	59.01	118.0	236.0	354.1	590.1	1 180
0.110 0	11.76	23.51	29.40	58.79	117.6	235.1	352.8	587.9	1 176
0.110 2	11.72	23.43	29.30	58.58	117.2	234.3	351.5	585.8	1 172
0.110 4	11.68	23.34	29.19	58.37	116.8	233.4	350.3	583.7	1 168
0.110 6	11.63	23.26	29.09	58.16	116.3	232.6	349.0	581.6	1 163
0.110 8	11.59	23.17	28.98	57.95	115.9	231.7	347.7	579.5	1 159
0.111 0	11.55	23.09	28.88	57.74	115.5	230.9	346.5	577.4	1 155
0.111 2	11.51	23.01	28.77	57.53	115.1	230.1	345.2	575.3	1 151
0.111 4	11.47	22.93	28.67	57.32	114.7	229.3	344.0	573.2	1 147
0.111 6	11.43	22.84	28.57	57.12	114.3	228.4	342.8	571.2	1 143
0.111 8	11.38	22.76	28.47	56.92	113.8	227.6	341.5	569.2	1 138
0.112 0	11.34	22.68	28.36	56.71	113.4	226.8	340.3	567.1	1 134
0.112 2	11.30	22.60	28.26	56.51	113.0	226.0	339.1	565.1	1 130
0.112 4	11.26	22.52	28.16	56.31	112.6	225.2	337.9	563.1	1 126
0.112 6	11.22	22.44	28.06	56.11	112.2	224.4	336.7	561.1	1 122
0.112 8	11.18	22.36	27.96	55.91	111.8	223.6	335.5	559.1	1 118
0.113 0	11.14	22.28	27.86	55.71	111.4	222.8	334.3	557.1	1 114

表 1 (续)

压痕对角线 <i>d</i> /mm	试验力/N								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.113 2	11.10	22.20	27.77	55.52	111.0	222.0	333.1	555.2	1 110
0.113 4	11.07	22.12	27.67	55.32	110.7	221.2	332.0	553.2	1 107
0.113 6	11.03	22.05	27.57	55.13	110.3	220.5	330.8	551.3	1 103
0.113 8	10.99	21.97	27.47	54.93	109.9	219.7	329.6	549.3	1 099
0.114 0	10.95	21.89	27.38	54.74	109.5	218.9	328.5	547.4	1 095
0.114 2	10.91	21.81	27.28	54.55	109.1	218.1	327.3	545.5	1 091
0.114 4	10.87	21.74	27.19	54.36	108.7	217.4	326.2	543.6	1 087
0.114 6	10.84	21.66	27.09	54.17	108.4	216.6	325.1	541.7	1 084
0.114 8	10.80	21.59	27.00	53.98	108.0	215.9	323.9	539.8	1 080
0.115 0	10.76	21.51	26.90	53.79	107.6	215.1	322.8	537.9	1 076
0.115 2	10.72	21.44	26.81	53.61	107.2	214.4	321.7	536.1	1 072
0.115 4	10.69	21.36	26.72	53.42	106.9	213.6	320.6	534.2	1 069
0.115 6	10.65	21.29	26.63	53.24	106.5	212.9	319.5	532.4	1 065
0.115 8	10.61	21.22	26.53	53.05	106.1	212.2	318.4	530.5	1 061
0.116 0	10.58	21.14	26.44	52.87	105.8	211.4	317.3	528.7	1 058
0.116 2	10.54	21.07	26.35	52.69	105.4	210.7	316.2	526.9	1 054
0.116 4	10.50	21.00	26.26	52.51	105.0	210.0	315.1	525.1	1 050
0.116 6	10.47	20.93	26.17	52.33	104.7	209.3	314.0	523.5	1 047
0.116 8	10.43	20.85	26.08	52.15	104.3	208.5	312.9	521.3	1 043
0.117 0	10.40	20.78	25.99	51.97	104.0	207.8	311.9	519.7	1 040
0.117 2	10.36	20.71	25.90	51.79	103.6	207.1	310.8	517.9	1 036
0.117 4	10.32	20.64	25.81	51.62	103.2	206.4	309.7	516.2	1 032
0.117 6	10.29	20.57	25.73	51.44	102.9	205.7	308.7	514.4	1 029
0.117 8	10.25	20.50	25.64	51.27	102.5	205.0	307.6	512.7	1 025
0.118 0	10.22	20.43	25.55	51.09	102.2	204.3	306.6	510.9	1 022
0.118 2	10.19	20.36	25.47	50.92	101.9	203.6	305.6	509.2	1 019
0.118 4	10.15	20.29	25.38	50.75	101.5	202.9	304.5	507.5	1 015
0.118 6	10.12	20.23	25.30	50.58	101.2	202.3	303.5	505.8	1 012
0.118 8	10.08	20.16	25.21	50.41	100.8	201.6	302.5	504.1	1 008
0.119 0	10.05	20.09	25.13	50.24	100.5	200.9	301.5	502.4	1 005
0.119 2	10.02	20.02	25.04	50.07	100.2	200.2	300.5	500.7	1 002

表 1 (续)

压痕对角线 d/mm	试验力/N								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.119 4	9.98	19.96	24.96	49.90	99.82	199.6	299.4	499.0	998.2
0.119 6	9.95	19.89	24.87	49.73	99.48	198.9	298.4	497.3	994.8
0.119 8	9.91	19.82	24.79	49.57	99.15	198.2	297.4	495.7	991.5
0.120 0	9.88	19.76	24.71	49.40	98.82	197.6	296.5	494.0	988.2
0.120 2	9.85	19.69	24.63	49.24	98.49	196.9	295.5	492.4	984.9
0.120 4	9.82	19.63	24.54	49.08	98.16	196.3	294.5	490.8	981.6
0.120 6	9.78	19.56	24.46	48.91	97.84	195.6	293.5	489.1	978.4
0.120 8	9.75	19.50	24.38	48.75	97.51	195.0	292.5	487.5	975.1
0.121 0	9.72	19.43	24.30	48.59	97.19	194.3	291.6	485.9	971.9
0.121 2	9.69	19.37	24.22	48.43	96.87	193.7	290.6	484.3	968.7
0.121 4	9.66	19.30	24.14	48.27	96.55	193.0	289.7	482.7	965.5
0.121 6	9.62	19.24	24.06	48.11	96.24	192.4	288.7	481.1	962.4
0.121 8	9.59	19.18	23.98	47.95	95.92	191.8	287.8	479.5	959.2
0.122 0	9.56	19.11	23.90	47.80	95.61	191.1	286.8	478.0	956.1
0.122 2	9.53	19.05	23.83	47.64	95.29	190.5	285.9	476.4	952.9
0.122 4	9.50	18.99	23.75	47.48	94.98	189.9	284.9	474.8	949.8
0.122 6	9.47	18.93	23.67	47.33	94.67	189.3	284.0	473.3	946.7
0.122 8	9.44	18.87	23.59	47.18	94.36	188.7	283.1	471.8	943.6
0.123 0	9.41	18.80	23.52	47.02	94.06	188.0	282.2	470.2	940.6
0.123 2	9.38	18.74	23.44	46.87	93.75	187.4	281.3	468.7	937.5
0.123 4	9.34	18.68	23.37	46.72	93.45	186.8	280.3	467.2	934.5
0.123 6	9.31	18.62	23.29	46.57	93.15	186.2	279.4	465.7	931.5
0.123 8	9.28	18.56	23.21	46.42	92.85	185.6	278.5	464.2	928.5
0.124 0	9.25	18.50	23.14	46.27	92.55	185.0	277.6	462.7	925.5
0.124 2	9.22	18.44	23.07	46.12	92.25	184.4	276.7	461.2	922.5
0.124 4	9.20	18.38	22.99	45.97	91.95	183.8	275.9	459.7	919.5
0.124 6	9.17	18.33	22.92	45.82	91.66	183.3	275.0	458.2	916.6
0.124 8	9.14	18.27	22.84	45.68	91.36	182.7	274.1	456.8	913.6
0.125 0	9.11	18.21	22.77	45.53	91.07	182.1	273.2	455.3	910.7
0.125 2	9.08	18.15	22.70	45.38	90.78	181.5	272.3	453.8	907.8
0.125 4	9.05	18.09	22.63	45.24	90.49	180.9	271.5	452.4	904.9

表 1 (续)

压痕对角线 d/mm	试验力/N								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.125 6	9.02	18.03	22.55	45.10	90.20	180.3	270.6	451.0	902.0
0.125 8	8.99	17.98	22.48	44.95	89.92	179.8	269.8	449.5	899.2
0.126 0	8.96	17.92	22.41	44.81	89.63	179.2	268.9	448.1	896.3
0.126 2	8.93	17.86	22.34	44.67	89.35	178.6	268.0	446.7	893.5
0.126 4	8.91	17.81	22.27	44.53	89.07	178.1	267.2	445.3	890.7
0.126 6	8.88	17.75	22.20	44.39	88.78	177.5	266.4	443.9	887.8
0.126 8	8.85	17.69	22.13	44.25	88.50	176.9	265.5	442.5	885.0
0.127 0	8.82	17.64	22.06	44.11	88.23	176.4	264.7	441.1	882.3
0.127 2	8.79	17.58	21.99	43.97	87.95	175.8	263.8	439.7	879.5
0.127 4	8.77	17.53	21.92	43.83	87.67	175.3	263.0	438.3	876.7
0.127 6	8.74	17.47	21.85	43.69	87.40	174.7	262.2	436.9	874.0
0.127 8	8.71	17.42	21.78	43.56	87.13	174.2	261.4	435.6	871.3
0.128 0	8.69	17.36	21.72	43.42	86.85	173.6	260.6	434.2	868.5
0.128 2	8.66	17.31	21.65	43.29	86.58	173.1	259.7	432.9	865.8
0.128 4	8.63	17.26	21.58	43.15	86.31	172.6	258.9	431.5	863.1
0.128 6	8.60	17.20	21.51	43.02	86.04	172.0	258.1	430.2	860.4
0.128 8	8.58	17.15	21.45	42.88	85.78	171.5	257.3	428.8	857.8
0.129 0	8.55	17.10	21.38	42.75	85.51	171.0	256.5	427.5	855.1
0.129 2	8.52	17.04	21.31	42.62	85.25	170.4	255.7	426.2	852.5
0.129 4	8.50	16.99	21.25	42.49	84.98	169.9	255.0	424.9	849.8
0.129 6	8.47	16.94	21.18	42.35	84.72	169.4	254.2	423.5	847.2
0.129 8	8.42	16.89	21.12	42.22	84.46	168.9	253.4	422.2	844.6
0.130 0	8.39	16.83	21.05	42.09	84.20	168.3	252.6	420.9	842.0
0.130 2	8.37	16.78	20.99	41.97	83.94	167.8	251.8	419.7	839.4
0.130 4	8.37	16.73	20.92	41.84	83.69	167.3	251.1	418.4	836.9
0.130 6	8.34	16.68	20.86	41.71	83.43	166.8	250.3	417.1	834.3
0.130 8	8.32	16.63	20.80	41.58	83.17	166.3	249.5	415.8	831.7
0.131 0	8.29	16.58	20.73	41.45	82.92	165.8	248.8	414.5	829.2
0.131 2	8.27	16.53	20.67	41.33	82.67	165.3	248.0	413.3	826.7
0.131 4	8.24	16.48	20.61	41.20	82.42	164.8	247.2	412.0	824.2
0.131 6	8.22	16.43	20.54	41.08	82.17	164.3	246.5	410.8	821.7

表 1 (续)

压痕对角线 <i>d</i> /mm	试验力/N								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.131 8	8.19	16.38	20.48	40.95	81.92	163.8	245.8	409.5	819.2
0.132 0	8.17	16.33	20.42	40.83	81.67	163.3	245.0	408.3	816.7
0.132 2	8.14	16.28	20.36	40.71	81.42	162.8	244.3	407.1	814.2
0.132 4	8.12	16.23	20.30	40.58	81.18	162.3	243.5	405.8	811.8
0.132 6	8.09	16.18	20.24	40.46	80.93	161.8	242.8	404.6	809.3
0.132 8	8.07	16.13	20.17	40.34	80.69	161.3	242.1	403.4	806.9
0.133 0	8.04	16.08	20.11	40.22	80.45	160.8	241.3	402.2	804.5
0.133 2	8.02	16.04	20.05	40.10	80.20	160.4	240.6	401.0	802.0
0.133 4	8.00	15.99	19.99	39.98	79.96	159.9	239.9	399.8	799.6
0.133 6	7.97	15.94	19.93	39.86	79.72	159.4	239.2	398.6	797.2
0.133 8	7.95	15.89	19.87	39.74	79.49	158.9	238.5	397.4	794.9
0.134 0	7.92	15.84	19.82	39.62	79.25	158.4	237.7	396.2	792.5
0.134 2	7.90	15.80	19.76	39.50	79.01	158.0	237.0	395.0	790.1
0.134 4	7.88	15.75	19.70	39.38	78.78	157.5	236.3	393.8	787.8
0.134 6	7.85	15.70	19.64	39.27	78.54	157.0	235.6	392.7	785.4
0.134 8	7.83	15.66	19.58	39.15	78.31	156.6	234.9	391.5	783.1
0.135 0	7.81	15.61	19.52	39.03	78.08	156.1	234.2	390.3	780.8
0.135 2	7.78	15.56	19.46	38.92	77.85	155.6	233.5	389.2	778.5
0.135 4	7.76	15.52	19.41	38.80	77.62	155.2	232.9	388.0	776.2
0.135 6	7.74	15.47	19.35	38.69	77.39	154.7	232.2	386.9	773.9
0.135 8	7.72	15.43	19.29	38.58	77.16	154.3	231.5	385.8	771.6
0.136 0	7.69	15.38	19.24	38.46	76.94	153.8	230.8	384.6	769.4
0.136 2	7.67	15.34	19.18	38.35	76.71	153.4	230.1	383.5	767.1
0.136 4	7.65	15.29	19.12	38.24	76.48	152.9	229.5	382.4	764.8
0.136 6	7.63	15.25	19.07	38.13	76.26	152.5	228.8	381.3	762.6
0.136 8	7.60	15.20	19.01	38.01	76.04	152.0	228.1	380.1	760.4
0.137 0	7.58	15.16	18.96	37.90	75.82	151.6	227.4	379.0	758.2
0.137 2	7.56	15.11	18.90	37.79	75.60	151.1	226.8	377.9	756.0
0.137 4	7.54	15.07	18.85	37.68	75.38	150.7	226.1	376.8	753.8
0.137 6	7.52	15.03	18.79	37.57	75.16	150.3	225.5	375.7	751.6
0.137 8	7.49	14.98	18.74	37.46	74.94	149.8	224.8	374.6	749.4

表 1 (续)

压痕对角线 $d/mm$	试验力/N								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.138 0	7.47	14.94	18.68	37.36	74.72	149.4	224.2	373.6	747.2
0.138 2	7.45	14.90	18.63	37.25	74.51	149.0	223.5	372.5	745.1
0.138 4	7.43	14.85	18.58	37.14	74.29	148.5	222.9	371.4	742.9
0.138 6	7.41	14.81	18.52	37.03	74.08	148.1	222.2	370.3	740.8
0.138 8	7.39	14.77	18.47	36.93	73.86	147.7	221.6	369.3	738.6
0.139 0	7.37	14.72	18.42	36.82	73.65	147.2	221.0	368.2	736.5
0.139 2	7.34	14.68	18.36	36.71	73.44	146.8	220.3	367.1	734.4
0.139 4	7.32	14.64	18.31	36.61	73.23	146.4	219.7	366.1	732.3
0.139 6	7.30	14.60	18.26	36.50	73.02	146.0	219.1	365.0	730.2
0.139 8	7.28	14.56	18.21	36.40	72.81	145.6	218.4	364.0	728.1
0.140 0	7.26	14.52	18.15	36.30	72.60	145.2	217.8	363.0	726.0
0.140 2	7.24	14.47	18.10	36.19	72.40	144.7	217.2	361.9	724.0
0.140 4	7.22	14.43	18.05	36.09	72.19	144.3	216.6	360.9	721.9
0.140 6	7.20	14.39	18.00	35.99	71.98	143.9	216.0	359.9	719.8
0.140 8	7.18	14.35	17.95	35.88	71.78	143.5	215.3	358.8	717.8
0.141 0	7.16	14.31	17.90	35.78	71.58	143.1	214.7	357.8	715.8
0.141 2	7.14	14.27	17.85	35.68	71.37	142.7	214.1	356.8	713.7
0.141 4	7.12	14.23	17.80	35.58	71.17	142.3	213.5	355.8	711.7
0.141 6	7.10	14.19	17.75	35.48	70.97	141.9	212.9	354.8	709.7
0.141 8	7.08	14.15	17.70	35.38	70.77	141.5	212.3	353.8	707.7
0.142 0	7.06	14.11	17.65	35.28	70.57	141.1	211.7	352.8	705.7
0.142 2	7.04	14.07	17.60	35.18	70.37	140.7	211.1	351.8	703.7
0.142 4	7.02	14.03	17.55	35.08	70.18	140.3	210.5	350.8	701.8
0.142 6	7.00	13.99	17.50	34.98	69.98	139.9	209.9	349.8	699.8
0.142 8	6.98	13.95	17.45	34.89	69.78	139.5	209.3	348.9	697.8
0.143 0	6.96	13.91	17.40	34.79	69.59	139.1	208.8	347.9	695.9
0.143 2	6.94	13.87	17.35	34.69	69.39	138.7	208.2	346.9	693.9
0.143 4	6.92	13.84	17.30	34.60	69.20	138.4	207.6	346.0	692.0
0.143 6	6.90	13.80	17.25	34.50	69.01	138.0	207.0	345.0	690.1
0.143 8	6.88	13.76	17.21	34.40	68.82	137.6	206.4	344.0	688.2
0.144 0	6.86	13.72	17.16	34.31	68.62	137.2	205.9	343.1	686.2

表 1 (续)

压痕对角线 d/mm	试验力/N								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.144 2	6.84	13.68	17.11	34.21	68.43	136.8	205.3	342.1	684.3
0.144 4	6.82	13.64	17.06	34.12	68.24	136.4	204.7	341.2	682.4
0.144 6	6.81	13.61	17.02	34.02	68.06	136.1	204.2	340.2	680.6
0.144 8	6.79	13.57	16.97	33.93	67.87	135.7	203.6	339.3	678.7
0.145 0	6.77	13.53	16.92	33.84	67.68	135.3	203.0	338.4	676.8
0.145 2	6.75	13.49	16.88	33.74	67.50	134.9	202.5	337.4	675.0
0.145 4	6.73	13.46	16.83	33.65	67.31	134.6	201.9	336.5	673.1
0.145 6	6.71	13.42	16.78	33.56	67.12	134.2	201.4	335.6	671.2
0.145 8	6.69	13.38	16.74	33.47	66.94	133.8	200.8	334.7	669.4
0.146 0	6.68	13.35	16.69	33.37	66.76	133.5	200.3	333.7	667.6
0.146 2	6.66	13.31	16.65	33.28	66.57	133.1	199.7	332.8	665.7
0.146 4	6.64	13.27	16.60	33.19	66.39	132.7	199.2	331.9	663.9
0.146 6	6.62	13.24	16.56	33.10	66.21	132.4	198.6	331.0	662.1
0.146 8	6.60	13.20	16.51	33.01	66.03	132.0	198.1	330.1	660.3
0.147 0	6.59	13.17	16.47	32.92	65.85	131.7	197.6	329.2	658.5
0.147 2	6.57	13.13	16.42	32.83	65.67	131.3	197.0	328.3	656.7
0.147 4	6.55	13.09	16.38	32.74	65.50	130.9	196.5	327.4	655.0
0.147 6	6.53	13.06	16.33	32.65	65.32	130.6	196.0	326.5	653.2
0.147 8	6.51	13.02	16.29	32.57	65.14	130.2	195.4	325.7	651.4
0.148 0	6.50	12.99	16.24	32.48	64.97	129.9	194.9	324.8	649.7
0.148 2	6.48	12.95	16.20	32.39	64.79	129.5	194.4	323.9	647.9
0.148 4	6.46	12.92	16.16	32.30	64.62	129.2	193.8	323.0	646.2
0.148 6	6.44	12.88	16.11	32.22	64.44	128.8	193.3	322.2	644.4
0.148 8	6.43	12.85	16.07	32.13	64.27	128.5	192.8	321.3	642.7
0.149 0	6.41	12.81	16.03	32.04	64.10	128.1	192.3	320.4	641.0
0.149 2	6.39	12.78	15.98	31.96	63.92	127.8	191.8	319.6	639.2
0.149 4	6.38	12.75	15.94	31.87	63.75	127.5	191.3	318.7	637.5
0.149 6	6.36	12.71	15.90	31.79	63.58	127.1	190.7	317.9	635.8
0.149 8	6.34	12.68	15.86	31.70	63.41	126.8	190.2	317.0	634.1
0.150 0	6.32	12.64	15.81	31.62	63.24	126.4	189.7	316.2	632.4
0.150 2	6.31	12.61	15.77	31.53	63.08	126.1	189.2	315.3	630.8



表 1 (续)

压痕对角线 <i>d</i> /mm	试验力/ <i>N</i>								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.150 4	6.29	12.58	15.73	31.45	62.91	125.8	188.7	314.5	629.1
0.150 6	6.27	12.54	15.69	31.37	62.74	125.4	188.2	313.7	627.4
0.150 8	6.26	12.51	15.65	31.28	62.58	125.1	188.7	312.8	625.8
0.151 0	6.24	12.48	15.60	31.20	62.41	124.8	187.2	312.0	624.1
0.151 2	6.22	12.44	15.56	31.12	62.24	124.4	186.7	311.2	622.4
0.151 4	6.21	12.41	15.52	31.04	62.08	124.1	186.2	310.4	620.8
0.151 6	6.19	12.38	15.48	30.95	61.92	123.8	185.7	309.5	619.2
0.151 8	6.18	12.35	15.44	30.87	61.75	123.5	185.3	308.7	617.5
0.152 0	6.16	12.31	15.40	30.79	61.59	123.1	184.8	307.9	615.9
0.152 2	6.14	12.28	15.36	30.71	61.43	122.8	184.3	307.1	614.3
0.152 4	6.13	12.25	15.32	30.63	61.27	122.5	183.8	306.3	612.7
0.152 6	6.11	12.22	15.28	30.55	61.11	122.2	183.3	305.5	611.1
0.152 8	6.09	12.19	15.24	30.47	60.95	121.9	182.8	304.7	609.5
0.153 0	6.08	12.15	15.20	30.39	60.79	121.5	182.4	303.9	607.9
0.153 2	6.06	12.12	15.16	30.31	60.63	121.2	181.9	303.1	606.3
0.153 4	6.05	12.09	15.12	30.23	60.47	120.9	181.4	302.3	604.7
0.153 6	6.03	12.06	15.08	30.15	60.31	120.6	180.9	301.5	603.1
0.153 8	6.02	12.03	15.04	30.07	60.16	120.3	180.5	300.7	601.6
0.154 0	6.00	12.00	15.00	30.00	60.00	120.0	180.0	300.0	600.0
0.154 2	5.98	11.97	14.96	29.92	59.85	119.7	179.5	299.2	598.5
0.154 4	5.97	11.93	14.92	29.84	59.69	119.3	179.1	298.4	596.9
0.154 6	5.95	11.90	14.89	29.76	59.54	119.0	178.6	297.6	595.4
0.154 8	5.94	11.87	14.85	29.69	59.38	118.7	178.1	296.9	593.8
0.155 0	5.92	11.84	14.81	29.61	59.23	118.4	177.7	296.1	592.3
0.155 2	5.91	11.81	14.77	29.53	59.08	118.1	177.2	295.3	590.8
0.155 4	5.89	11.78	14.73	29.46	58.93	117.8	176.8	294.6	589.3
0.155 6	5.88	11.75	14.70	29.38	58.77	117.5	176.3	293.8	587.7
0.155 8	5.86	11.72	14.66	29.31	58.62	117.2	175.9	293.1	586.2
0.156 0	5.85	11.69	14.62	29.23	58.47	116.9	175.4	292.3	584.7
0.156 2	5.83	11.66	14.58	29.16	58.32	116.6	175.0	291.6	583.2
0.156 4	5.82	11.63	14.55	29.08	58.17	116.3	174.5	290.8	581.7

表 1 (续)

压痕对角线 d/mm	试验力/N								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.156 6	5.80	11.60	14.51	29.01	58.03	116.0	174.1	290.1	580.3
0.156 8	5.79	11.57	14.47	28.93	57.88	115.7	173.6	289.3	578.8
0.157 0	5.77	11.54	14.43	28.86	57.73	115.4	173.2	288.6	577.3
0.157 2	5.76	11.51	14.40	28.79	57.58	115.1	172.8	287.9	575.8
0.157 4	5.74	11.48	14.36	28.71	57.44	114.8	172.3	287.1	574.4
0.157 6	5.73	11.45	14.32	28.64	57.29	114.5	171.9	286.4	572.9
0.157 8	5.71	11.43	14.29	28.57	57.15	114.3	171.4	285.7	571.5
0.158 0	5.70	11.40	14.25	28.50	57.00	114.0	171.0	285.0	570.0
0.158 2	5.69	11.37	14.22	28.43	56.86	113.7	170.6	284.3	568.6
0.158 4	5.67	11.34	14.18	28.35	56.71	113.4	170.1	283.5	567.1
0.158 6	5.66	11.31	14.14	28.28	56.57	113.1	169.7	282.8	565.7
0.158 8	5.64	11.28	14.11	28.11	56.43	112.8	169.3	282.1	564.3
0.159 0	5.63	11.25	14.07	28.14	56.29	112.5	168.9	281.4	562.9
0.159 2	5.61	11.23	14.04	28.07	56.15	112.3	168.4	280.7	561.5
0.159 4	5.60	11.20	14.00	28.00	56.01	112.0	168.0	280.0	560.1
0.159 6	5.59	11.17	13.97	27.93	55.86	111.7	167.6	279.3	558.6
0.159 8	5.57	11.14	13.93	27.86	55.73	111.4	167.2	278.6	557.8
0.160 0	5.56	11.11	13.90	27.79	55.59	111.1	166.8	277.9	555.9
0.160 2	5.54	11.09	13.86	27.72	55.45	110.9	166.3	277.2	554.5
0.160 4	5.53	11.06	13.83	27.65	55.31	110.6	165.9	276.5	553.1
0.160 6	5.52	11.03	13.79	27.58	55.17	110.3	165.5	275.8	551.7
0.160 8	5.50	11.00	13.76	27.51	55.03	110.0	165.1	275.1	550.3
0.161 0	5.49	10.98	13.73	27.44	54.90	109.8	164.7	274.4	549.0
0.161 2	5.48	10.95	13.69	27.38	54.76	109.5	164.3	273.8	547.6
0.161 4	5.46	10.92	13.66	27.31	54.63	109.2	163.9	273.1	546.3
0.161 6	5.45	10.89	13.62	27.24	54.49	108.9	163.5	272.4	544.9
0.161 8	5.44	10.87	13.59	27.17	54.36	108.7	163.1	271.7	543.6
0.162 0	5.42	10.84	13.56	27.11	54.22	108.4	162.7	271.1	542.2
0.162 2	5.41	10.81	13.52	27.04	54.09	108.1	162.3	270.4	540.9
0.162 4	5.40	10.79	13.49	26.97	53.96	107.9	161.9	269.7	539.6
0.162 6	5.38	10.76	13.46	26.91	53.82	107.6	161.5	269.1	538.2

表 1 (续)

压痕对角线 d/mm	试验力/N								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.162 8	5.37	10.73	13.42	26.84	53.69	107.3	161.1	268.4	536.9
0.163 0	5.36	10.71	13.39	26.78	53.56	107.1	160.7	267.8	535.6
0.163 2	5.34	10.68	13.36	26.71	53.43	106.8	160.3	267.1	534.3
0.163 4	5.33	10.66	13.33	26.64	53.30	106.6	159.9	266.4	533.0
0.163 6	5.32	10.63	13.29	26.58	53.17	106.3	159.5	265.8	531.7
0.163 8	5.30	10.60	13.26	26.51	53.04	106.0	159.1	265.1	530.4
0.164 0	5.29	10.58	13.23	26.45	52.91	105.8	158.7	264.5	529.1
0.164 2	5.28	10.55	13.20	26.39	52.78	105.5	158.3	263.9	527.8
0.164 4	5.27	10.53	13.16	26.32	52.65	105.3	158.0	263.2	526.5
0.164 6	5.25	10.50	13.13	26.26	52.52	105.0	157.6	262.6	525.2
0.164 8	5.24	10.48	13.10	26.19	52.40	104.8	157.2	261.9	524.0
0.165 0	5.23	10.45	13.07	26.13	52.27	104.5	156.8	261.3	522.7
0.165 2	5.21	10.42	13.04	26.07	52.14	104.2	156.4	260.7	521.4
0.165 4	5.20	10.40	13.01	26.00	52.02	104.0	156.0	260.0	520.2
0.165 6	5.19	10.37	12.97	25.94	51.89	103.7	155.7	259.4	518.9
0.165 8	5.18	10.35	12.94	25.88	51.76	103.5	155.3	258.8	517.6
0.166 0	5.16	10.32	12.91	25.82	51.64	103.2	154.9	258.2	516.4
0.166 2	5.15	10.30	12.88	25.75	51.52	103.0	154.5	257.5	515.2
0.166 4	5.14	10.27	12.85	25.69	51.39	102.7	154.2	256.9	513.9
0.166 6	5.13	10.25	12.82	25.63	51.27	102.5	153.8	256.3	512.7
0.166 8	5.11	10.23	12.79	25.57	51.15	102.3	153.4	255.7	511.5
0.167 0	5.10	10.20	12.76	25.51	51.02	102.0	153.1	255.1	510.2
0.167 2	5.09	10.18	12.73	25.45	50.90	101.8	152.7	254.5	509.0
0.167 4	5.08	10.15	12.70	25.39	50.78	101.5	152.3	253.9	507.8
0.167 6	5.07	10.13	12.67	25.33	50.66	101.3	152.0	253.3	506.6
0.167 8	5.05	10.10	12.64	25.27	50.54	101.0	151.6	252.7	505.4
0.168 0	5.04	10.08	12.61	25.21	50.42	100.8	151.3	252.1	504.2
0.168 2	5.03	10.06	12.58	25.15	50.30	100.6	150.9	251.5	503.0
0.168 4	5.02	10.03	12.55	25.09	50.18	100.3	150.5	250.9	501.8
0.168 6	5.01	10.01	12.52	25.03	50.06	100.1	150.2	250.3	500.6
0.168 8	4.99	9.98	12.49	24.97	49.94	99.85	149.8	249.7	499.4

表 1 (续)

压痕对角线 d/mm	试验力/N								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.169 0	4.98	9.96	12.46	24.91	49.82	99.61	149.5	249.1	498.2
0.169 2	4.97	9.94	12.43	24.85	49.71	99.38	149.1	248.5	497.1
0.169 4	4.96	9.91	12.40	24.79	49.59	99.14	148.8	247.9	495.9
0.169 6	4.95	9.89	12.37	24.73	49.47	98.91	148.4	247.3	494.7
0.169 8	4.94	9.87	12.34	24.67	49.35	98.67	148.1	246.7	493.5
0.170 0	4.92	9.84	12.31	24.62	49.24	98.44	147.7	246.2	492.4
0.170 2	4.91	9.82	12.28	24.56	49.12	98.21	147.4	245.6	491.2
0.170 4	4.90	9.80	12.25	24.50	49.01	97.98	147.0	245.0	490.1
0.170 6	4.89	9.78	12.22	24.44	48.89	97.75	146.7	244.4	488.9
0.170 8	4.88	9.75	12.20	24.39	48.78	97.52	146.3	243.9	487.8
0.171 0	4.87	9.73	12.17	24.33	48.66	97.29	146.0	243.3	486.6
0.171 2	4.86	9.71	12.14	24.27	48.55	97.07	145.7	242.7	485.5
0.171 4	4.84	9.68	12.11	24.22	48.44	96.84	145.3	242.2	484.4
0.171 6	4.83	9.66	12.08	24.16	48.32	96.62	145.0	241.6	483.2
0.171 8	4.82	9.64	12.05	24.10	48.21	96.39	144.6	241.0	482.1
0.172 0	4.81	9.62	12.03	24.05	48.10	96.17	144.3	240.5	481.0
0.172 2	4.80	9.59	12.00	23.99	47.99	95.94	144.0	239.9	479.9
0.172 4	4.79	9.57	11.97	23.94	47.88	95.72	143.6	239.4	478.8
0.172 6	4.78	9.55	11.94	23.88	47.77	95.50	143.3	238.8	477.7
0.172 8	4.77	9.53	11.92	23.82	47.66	95.28	143.0	238.2	476.6
0.173 0	4.75	9.51	11.89	23.77	47.55	95.06	142.6	237.7	475.5
0.173 2	4.74	9.48	11.86	23.71	47.44	94.84	142.3	237.1	474.4
0.173 4	4.73	9.46	11.83	23.66	47.33	94.62	142.0	236.6	473.3
0.173 6	4.72	9.44	11.81	23.61	47.22	94.40	141.7	236.1	472.2
0.173 8	4.71	9.42	11.78	23.55	47.11	94.19	141.3	235.5	471.1
0.174 0	4.70	9.40	11.75	23.50	47.00	93.97	141.0	235.0	470.0
0.174 2	4.69	9.38	11.72	23.44	46.89	93.75	140.7	234.4	468.9
0.174 4	4.68	9.35	11.70	23.39	46.79	93.54	140.4	233.9	467.9
0.174 6	4.67	9.33	11.67	23.34	46.57	93.32	140.0	233.4	466.8
0.174 8	4.66	9.31	11.64	23.28	46.57	93.11	139.7	232.8	465.7
0.175 0	4.65	9.29	11.62	23.23	46.47	92.90	139.4	232.3	464.7

表 1 (续)

压痕对角线 <i>d</i> /mm	试验力/ <i>N</i>								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.175 2	4.64	9.27	11.59	23.18	46.36	92.69	139.1	231.8	463.6
0.175 4	4.63	9.25	11.57	23.12	46.25	92.47	138.8	231.2	462.5
0.175 6	4.61	9.23	11.54	23.07	46.15	92.26	138.4	230.7	461.5
0.175 8	4.60	9.21	11.51	23.02	46.04	92.05	138.1	230.2	460.4
0.176 0	4.59	9.18	11.49	22.97	45.94	91.85	137.8	229.7	459.4
0.176 2	4.58	9.16	11.46	22.91	45.83	91.64	137.5	229.1	458.3
0.176 4	4.57	9.14	11.43	22.86	45.73	91.43	137.2	228.6	457.3
0.176 6	4.56	9.12	11.41	22.81	45.63	91.22	136.9	228.1	456.3
0.176 8	4.55	9.10	11.38	22.76	45.52	91.02	136.6	227.6	455.2
0.177 0	4.54	9.08	11.36	22.71	45.42	90.81	136.3	227.1	454.2
0.177 2	4.53	9.06	11.33	22.66	45.32	90.61	136.0	226.6	453.2
0.177 4	4.52	9.04	11.31	22.61	45.22	90.40	135.6	226.1	452.2
0.177 6	4.51	9.02	11.28	22.55	45.11	90.20	135.3	225.5	451.1
0.177 8	4.50	9.00	11.25	22.50	45.01	90.00	135.0	225.0	450.1
0.178 0	4.49	8.98	11.23	22.45	44.91	89.79	134.7	224.5	449.1
0.178 2	4.48	8.96	11.20	22.40	44.81	89.59	134.4	224.0	448.1
0.178 4	4.47	8.94	11.18	22.35	44.71	89.39	134.1	223.5	447.1
0.178 6	4.46	8.92	11.15	22.30	44.61	89.19	133.8	223.0	446.1
0.178 8	4.45	8.90	11.13	22.25	44.51	88.99	133.5	222.5	445.1
0.179 0	4.44	8.88	11.10	22.20	44.41	88.79	133.2	222.0	444.1
0.179 2	4.43	8.86	11.08	22.15	44.31	88.59	132.9	221.5	443.1
0.179 4	4.42	8.84	11.06	22.10	44.21	88.40	132.6	221.0	442.1
0.179 6	4.41	8.82	11.03	22.05	44.12	88.20	132.3	220.5	441.2
0.179 8	4.40	8.80	11.01	22.01	44.02	88.00	132.1	220.1	440.2
0.180 0	4.39	8.78	10.98	21.96	43.92	87.81	131.8	219.6	439.2
0.180 2	4.38	8.76	10.96	21.91	43.82	87.61	131.5	219.1	438.2
0.180 4	4.37	8.74	10.93	21.86	43.73	87.42	131.2	218.6	437.3
0.180 6	4.36	8.72	10.91	21.81	43.63	87.23	130.9	218.1	436.8
0.180 8	4.35	8.70	10.88	21.76	43.53	87.03	130.6	217.6	435.3
0.181 0	4.34	8.68	10.86	21.71	43.44	86.84	130.3	217.1	434.4
0.181 2	4.33	8.66	10.84	21.67	43.34	86.65	130.0	216.7	433.4

表 1 (续)

压痕对角线 <i>d</i> /mm	试验力/N								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.181 4	4.32	8.65	10.81	21.62	43.24	86.46	129.7	216.2	432.4
0.181 6	4.31	8.63	10.79	21.57	43.15	86.27	129.4	215.7	431.5
0.181 8	4.31	8.61	10.77	21.52	43.05	86.08	129.2	215.2	430.5
0.182 0	4.30	8.59	10.74	21.48	42.96	85.89	128.9	214.8	429.6
0.182 2	4.29	8.57	10.72	21.43	42.87	85.70	128.6	214.3	428.7
0.182 4	4.28	8.55	10.69	21.38	42.77	85.51	128.3	213.8	427.7
0.182 6	4.27	8.53	10.67	21.34	42.68	85.33	128.0	213.4	426.8
0.182 8	4.26	8.51	10.65	21.29	42.58	85.14	127.8	212.9	425.8
0.183 0	4.25	8.50	10.62	21.24	42.49	84.95	127.5	212.4	424.9
0.183 2	4.24	8.48	10.60	21.20	42.40	84.77	127.2	212.0	424.0
0.183 4	4.23	8.46	10.58	21.15	42.31	84.58	126.9	211.5	423.1
0.183 6	4.22	8.44	10.56	21.10	42.21	84.40	126.6	211.0	422.1
0.183 8	4.21	8.42	10.53	21.06	42.12	84.22	126.4	210.6	421.2
0.184 0	4.20	8.40	10.51	21.01	42.03	84.03	126.1	210.1	420.3
0.184 2	4.19	8.38	10.49	20.97	41.94	83.85	125.8	209.7	419.4
0.184 4	4.18	8.37	10.46	20.92	41.85	83.67	125.5	209.2	418.5
0.184 6	4.18	8.35	10.44	20.88	41.76	83.49	125.3	208.8	417.6
0.184 8	4.17	8.33	10.42	20.83	41.67	83.31	125.0	208.3	416.7
0.185 0	4.16	8.31	10.40	20.79	41.58	83.13	124.7	207.9	415.8
0.185 2	4.15	8.29	10.37	20.74	41.49	82.95	124.5	207.4	414.9
0.185 4	4.14	8.28	10.35	20.70	41.40	82.77	124.2	207.0	414.0
0.185 6	4.13	8.26	10.33	20.65	41.31	82.59	123.9	206.5	413.1
0.185 8	4.12	8.24	10.31	20.61	41.22	82.41	123.7	206.1	412.2
0.186 0	4.11	8.22	10.28	20.56	41.13	82.23	123.4	205.6	411.3
0.186 2	4.10	8.21	10.26	20.52	41.04	82.06	123.1	205.2	410.4
0.186 4	4.10	8.19	10.24	20.47	40.96	81.88	122.9	204.7	409.6
0.186 6	4.09	8.17	10.22	20.43	40.87	81.71	122.6	204.3	408.7
0.186 8	4.08	8.15	10.20	20.39	40.78	81.53	122.3	203.9	407.8
0.187 0	4.07	8.14	10.17	20.34	40.69	81.36	122.1	203.4	406.9
0.187 2	4.06	8.12	10.15	20.30	40.61	81.18	121.8	203.0	406.1
0.187 4	4.05	8.10	10.13	20.26	40.52	81.01	121.6	202.6	405.2

表 1 (续)

压痕对角线 <i>d</i> /mm	试验力/N								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.187 6	4.04	8.08	10.11	20.21	40.43	80.84	121.3	202.1	404.3
0.187 8	4.03	8.07	10.09	20.17	40.35	80.67	121.0	201.7	403.5
0.188 0	4.03	8.05	10.07	20.13	40.26	80.49	120.8	201.3	402.6
0.188 2	4.02	8.03	10.05	20.09	40.18	80.32	120.5	200.9	401.8
0.188 4	4.01	8.02	10.02	20.04	40.09	80.15	120.3	200.4	400.9
0.188 6	4.00	8.00	10.00	20.00	40.01	79.98	120.0	200.0	400.1
0.188 8	3.99	7.98	9.98	19.96	39.92	79.81	119.8	199.6	399.2
0.189 0	3.98	7.96	9.96	19.92	39.84	79.65	119.5	199.2	398.4
0.189 2	3.98	7.95	9.94	19.87	39.75	79.48	119.3	198.7	397.5
0.189 4	3.97	7.93	9.92	19.83	39.67	79.31	119.0	198.3	396.7
0.189 6	3.96	7.91	9.90	19.79	39.58	79.14	118.8	197.9	395.8
0.189 8	3.95	7.90	9.88	19.75	39.50	78.98	118.5	197.5	395.0
0.190 0	3.94	7.88	9.86	19.71	39.42	78.81	118.3	197.1	394.0
0.190 2	3.93	7.86	9.84	19.66	39.34	78.64	118.0	196.6	393.4
0.190 4	3.93	7.85	9.81	19.62	39.25	78.48	117.8	196.2	392.5
0.190 6	3.92	7.83	9.79	19.58	39.17	78.31	117.5	195.8	391.7
0.190 8	3.91	7.81	9.77	19.54	39.09	78.15	117.3	195.4	390.9
0.191 0	3.90	7.80	9.75	19.50	39.01	77.99	117.0	195.0	390.1
0.191 2	3.89	7.78	9.73	19.46	38.93	77.82	116.8	194.6	389.3
0.191 4	3.88	7.77	9.71	19.42	38.84	77.66	116.5	194.2	388.4
0.191 6	3.88	7.75	9.69	19.38	38.76	77.50	116.3	193.8	387.6
0.191 8	3.87	7.73	9.67	19.34	38.68	77.34	116.0	193.4	386.8
0.192 0	3.86	7.72	9.65	19.30	38.60	77.18	115.8	193.0	386.0
0.192 2	3.85	7.70	9.63	19.26	38.52	77.02	115.6	192.6	385.2
0.192 4	3.84	7.69	9.61	19.22	38.44	76.85	115.3	192.2	384.4
0.192 6	3.84	7.67	9.59	19.18	38.36	76.70	115.1	191.8	383.6
0.192 8	3.83	7.65	9.57	19.14	38.28	76.54	114.8	191.4	382.8
0.193 0	3.82	7.64	9.55	19.10	38.20	76.38	114.6	191.0	382.0
0.193 2	3.81	7.62	9.53	19.06	38.12	76.22	114.4	190.6	381.2
0.193 4	3.80	7.61	9.51	19.02	38.04	76.06	114.1	190.2	380.4
0.193 6	3.80	7.59	9.49	18.98	37.97	75.91	113.9	189.8	379.7

表 1 (续)

压痕对角线 d/mm	试验力/N								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK 0.01	HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3	HK 0.5	HK 1
0.193 8	3.79	7.57	9.47	18.94	37.89	75.75	113.7	189.4	378.9
0.194 0	3.78	7.56	9.45	18.90	37.81	75.59	113.4	189.0	378.1
0.194 2	3.77	7.54	9.43	18.86	37.73	75.44	113.2	188.6	377.3
0.194 4	3.77	7.53	9.41	18.82	37.65	75.28	113.0	188.2	376.5
0.194 6	3.76	7.51	9.40	18.79	37.58	75.13	112.7	187.9	375.8
0.194 8	3.75	7.50	9.38	18.75	37.50	74.97	112.5	187.5	375.0
0.195 0	3.74	7.48	9.36	18.71	37.42	74.82	112.3	187.1	374.2
0.195 2	3.73	7.47	9.34	18.67	37.35	74.67	112.0	186.7	373.5
0.195 4	3.73	7.45	9.32	18.63	37.27	74.51	111.8	186.3	372.7
0.195 6	3.72	7.44	9.30	18.59	37.19	74.36	111.6	185.9	371.9
0.195 8	3.71	7.42	9.28	18.56	37.12	74.21	111.4	185.6	371.2
0.196 0	3.70	7.41	9.26	18.52	37.04	74.06	111.1	185.2	370.4
0.196 2	3.70	7.39	9.24	18.48	36.97	73.91	110.9	184.8	369.7
0.196 4	3.69	7.38	9.22	18.44	36.89	73.76	110.7	184.4	368.9
0.196 6	3.68	7.36	9.21	18.41	36.82	73.61	110.4	184.1	368.2
0.196 8	3.67	7.35	9.19	18.37	36.74	73.46	110.2	183.7	367.4
0.197 0	3.67	7.33	9.17	18.33	36.67	73.31	110.0	183.3	366.7
0.197 2	3.66	7.32	9.15	18.29	36.59	73.16	109.8	182.9	365.9
0.197 4	3.65	7.30	9.13	18.26	36.52	73.01	109.6	182.6	365.2
0.197 6	3.64	7.29	9.11	18.22	36.44	72.86	109.3	182.2	364.4
0.197 8	3.64	7.27	9.09	18.18	36.37	72.72	109.1	181.8	363.7
0.198 0	3.63	7.26	9.08	18.15	36.30	72.57	108.9	181.5	363.0
0.198 2	3.62	7.24	9.06	18.11	36.22	72.42	108.7	181.1	362.2
0.198 4	3.62	7.23	9.04	18.07	36.15	72.28	108.5	180.7	361.5
0.198 6	3.61	7.21	9.02	18.04	36.08	72.13	108.2	180.4	360.8
0.198 8	3.60	7.20	9.00	18.00	36.01	71.99	108.0	180.0	360.1
0.199 0	3.59	7.18	8.98	17.96	35.93	71.84	107.8	179.6	359.3
0.199 2	3.59	7.17	8.97	17.93	35.86	71.70	107.6	179.3	358.6
0.199 4	3.58	7.16	8.95	17.89	35.79	71.55	107.4	178.9	357.9
0.199 6	3.57	7.14	8.93	17.86	35.72	71.41	107.2	178.6	357.2
0.199 8	3.56	7.13	8.91	17.82	35.65	71.27	106.9	178.2	356.5



表 1 (续)

压痕对角线 <i>d</i> /mm	试验力/N								
	0.098 07	0.196 1	0.245 2	0.490 3	0.980 7	1.961 2	2.942 0	4.903	9.807
	努氏硬度								
	HK	HK	HK	HK	HK	HK	HK	HK	HK
	0.01	0.02	0.025	0.05	0.1	0.2	0.3	0.5	1
0.200 0	3.56	7.11	8.90	17.79	35.58	71.13	106.7	177.9	355.8

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金属材料 努氏硬度试验 第4部分：  
硬度值表

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