



**8.969—  
2019  
( 16859-1:  
2015)**

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**(ISO 16859-1:2015, Metallic materials — Leeb hardness test — Part 1: Test method,  
MOD)**

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6.1	.....	3
6.2	.....	3
6.3	.....	4
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State system for ensuring the uniformity of measurements. Metals and alloys.  
Leeb hardness test. Part 1. Test method

— 2020—03—01

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(HLD. HLS.

HLE. HLDL. HLD+15. HLC. HLG).

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2789—73

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[1]

<sup>1)</sup>  
( $v_R$ ).

( $v_A$ )

. HL.

HLx^5..1000.

(1)

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$u_R$  — \_\_\_\_\_  
 $v_K$  — \_\_\_\_\_

**4**

4.1

1.

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				S	£	DL	«15		6
		1”	11.5	11.4	11.5	11.95	11.2	3.0	90.0
			2.05	2.05	2.05	1.82	1.7	1.4	3.0
$v_R$	/		0.615— 1.8245	0.82— 1.886	0.615— 1.886	1.1092— 1.729	0.561— 1.513	0.49— 1.344	0.9— 2.25
		- -	2.00	2.00	2.00	2.00	2.00	2.00	3.00
		,	5.45	5.40	5.45	7.25	7.75	3.1	20,0
R		-	1.5	1.5	1.5	1.39	1.5	1.5	2.5
			WC— 6*	c.d)	PCD®*	WC— 6*	WC— ”	WC— ”	WC— ”
HL			HLD	HLS	HLE	HLDL	HLD+ 15	HLC	HLG
			300— 890	400— 920	300— 920	560—950	330—890	350— 960	300— 750

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 v  
 \*  
 v  
 v

« ».

4.2

HL

570 HLD

HL.

D

(1)

« »

— HL

5

5.1

D)

5.2

5.3

DL.

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(2) /

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6.1

6.1.1

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G. 30

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6.1.3

6.2

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S [3]. (4J. (5J).

D/S [5].

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<i>D. DL. D+15. S.</i>	5	2	25	3
<i>G</i>	15	5	70	10
	1.5	0.5	10	1

6.3

3.

$$R_g = 2789 [6]$$

$$3 ( \underline{.31} [5] )$$

3—

*R<sub>a</sub>*

	<i>R<sub>a</sub></i>
<i>D. DLD+15. S.E</i>	2.0
<i>G</i>	7.0
	0.4

7

7.1

7.2

10 ' 35 ' \*

— (23 ± 5) °C.

7.3

7.4

7.5

7.6

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*G*

5

*D. DL.*

D + 15. . £.

7.7

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<i>D</i>	0.54	-570 HLD	0.45	- 760 HLD	0,35	- 840 HLD
<i>DL</i>	0.54	- 760 HLDL	0.45	- 880 HLDL	0,35	- 925 HLDL
<i>D+15</i>	0.54	-585 HLD + 15	0.45	- 765 HLD + 15	0.35	- 845 HLD + 15
<i>S</i>	0.54	- 610 HLS	0.45	- 800 HLS	0.35	- 875 HLS
	0.54	- 540 HLE	0.45	- 725 HLE	0.35	- 805 HLE
<i>G</i>	1,03	- 535 HLG	0.9	- 710 HLG		
	0.38	- 635 HLC	0.32	- 820 HLC	0.3	- 900 HLC

7.8 \_\_\_\_\_

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7.9 \_\_\_\_\_

HL.

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D

. 725 HLD

( .1), -12 HLD

= 725 HLD - 12 HLD - 713 HLD

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ProceqSA.

ProceqSA 1985.

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	HLD			
	0 > 45*	0 » 90*	>35*	0 > 190*
300 S HLD < 350	-6	-12	-20	-29
350 S HLD < 400	-6	-12	-19	-27
400 \$ HLD < 450	-5	-11	-18	-25
A5OSHLD < 500	-5	-10	-17	-24
500 \$ HLD < 550	-5	-10	-16	-22
550 S HLD < 600	-4	-9	-15	-20
600 \$ HLD < 650	-4	-8	-14	-19
650 S HLD < 700	-4	-8	-13	-18
700 \$ HLD < 750	-3	-7	-12	-17
750 S HLD < 800	-3	-6	-11	-16
800 \$ HLD < 850	-3	-6	-10	-15
850 S HLD < 890	-2	-5	-9	-14

.2 — \_\_\_\_\_ S

<i>HLS</i>	<i>HLS</i>			
	- 45*	- * 90*	- 0 * 135"	- 0 « 180*
400 \$ <i>HLS</i> < 450	-4	-9	-16	-23
450 S <i>HLS</i> < 500	-4	-8	-15	-22
500 \$ <i>HLS</i> < 550	-4	-8	-14	-21
550 S <i>HLS</i> < 600	-4	-7	-13	-19
600 S <i>HLS</i> < 650	-3	-7	-12	-18
650 SHLS < 700	3	-7	-12	-16
700 S <i>HLS</i> < 750	-3	-6	-11	-15
750sHLS<800	-3	-6	-10	-14
800 S <i>HLS</i> < 850	-3	-5	-9	-12
850SHLS<900	-2	-5	-8	-11
900 S <i>HLS</i> < 920	-2	-5	-7	-10

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<i>HLE</i>	<i>HLE</i>			
	- » 45*	- 0 » 90*	- 0 13S*	- 0 « 180*
300 S <i>HLE</i> < 350	-5	-9	-18	-26
350SHLE<400	4	9	17	24
400 S <i>HLE</i> < 450	4	9	-16	22
450S <i>HLE</i> < 500	4		15	21
500 S <i>HLE</i> < 550	4	8	14	20
550 S <i>HLE</i> < 600	4		13	18
600 S <i>HLE</i> < 650	-3	-7	-12	17
650 S <i>HLE</i> < 700	3	7	12	16
700 S <i>HLE</i> < 750	3	6	11	15
750 S <i>HLE</i> < 800	-3	6	10	14
800 S <i>HLE</i> < 850	3	5	9	13
850 S <i>HLE</i> < 920	2	5	8	-12

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DL

HLDL	HLOL			
	» 45*	0 » W	0 • 135*	0 150*
560 S HLDL < 600	-3	-6	-11	-16
600 \$ HLDL < 650	3	5	9	14
650 S HLDL < 700	2	5	8	13
700 S HLDL < 750	2	4	7	11
750 \$ HLDL < 800	2	3	6	10
800 S HLDL < 850	1	3	5	9
850 \$ HLOL < 900	1	2	4	7
900 \$ HLDL < 950	-1	-2	-3	-6

.5—

D+15

£0*15	Htfl->15			
	0 • 46*	0 90*	> 135*	150*
330 S HLD + 15 < 350	7	14	26	38
350 \$ HLD + 15 < 400	7	13	25	36
400 \$ HLD + 15 < 450	6	12	23	34
450 \$ HLD + 15 < 500	6	12	22	32
500 \$ HLD + 15 < 550	6	11	21	30
550 \$ HLD +15<600	6	11	20	28
600 S HLD + 15 <650	5	10	19	27
650 \$ HLD +15 <700	5	10	18	25
700 S HLD +15< 750	5	9	17	24
750 S HLD 15< 800	4	9	16	22
800S HLD +15<850	4	8	15	21
850 S HLD 15< 890	-4	-8	-14	-20

.6 —

<i>HLC</i>	<i>HLC</i>			
	0 « 45"	0 » ' "	0 » 135'	0 190"
350 \$HLC < 400	7	14	)	>
400 S <i>HLC</i> <450	7	13		
450 S <i>HLC</i> <500	6	13		
500 S <i>HLC</i> <550	6	12		
550 S <i>HLC</i> <600	6	11		
600 S <i>HLC</i> <650	5	10		
650 S <i>HLC</i> <700	5	10		
700 S <i>HLC</i> <750	4	9		
750 S <i>HLC</i> <800	4	8		
800 S <i>HLC</i> < B50	4	7		
850S <i>HLC</i> <960	3	6		
a>				

.7—

G

<i>HLG</i>	<i>HLG</i>			
	• 46'	0 » 60*	0 » 135*	190*
300SHLG<350	2	-5	-12	-18
350SHLG<400	2	5	11	17
400 S <i>HLG</i> <450	2	5	11	16
450 S <i>HLG</i> < 500	2	5	10	15
500 S <i>HLG</i> < 550	2	5	9	14
550 S <i>HLG</i> < 600	2	5	9	13
600 S <i>HLG</i> < 650	2	5	8	12
650 S <i>HLG</i> < 700	2	5	8	11
700 S <i>HLG</i> < 750	-2	-5	7	10



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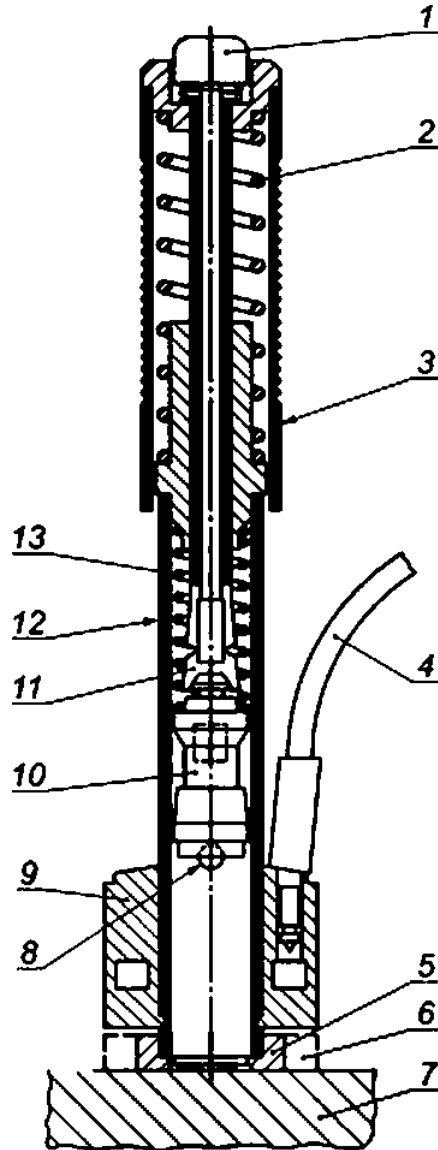
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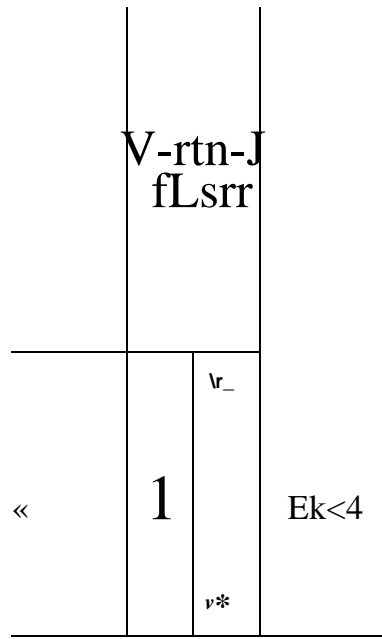
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