

ASTM E140, DIN 50150

جدول تبدیل سختی (فولاد و فولاد ریفتگی)

Leeb	Vickers	Brinell	Rockwell					Superficial Rockwell						Shore	Tensile Strength
HLK	HV 136° 10	HB 10 3000	HRA 120° 60	HRB 1/16" 100	HRC 120° 150	HRD 120° 100	HRF 1/16" 60	HR15N 120° 15	HR30N 120° 30	HR45N 120° 45	HR15T 1/16" 15	HR30T 1/16" 30	HR45T 1/16" 45	HSc	N/mm ²
300	80	76.0													253
310	85	80.7		43.0			80.6				74.5	43.5	13.5		269
320	90	85.5		47.3			82.8				76.0	48.5	20.5		286
330	95	90.2		51.3			84.8				77.3	51.0	25.0		302
340	101	96.0		55.7			87.2				78.8	53.7	29.0		322
350	107	102		59.6			89.4				80.1	56.4	33.1		342
360	113	107		63.2			91.4				81.2	58.8	36.8		361
370	120	114		67.0			93.6				82.4	61.4	40.5		384
380	127	121		70.4			95.7				83.5	63.6	43.8		407
390	134	127		73.4			97.6				84.4	65.6	46.6		430
400	142	135		76.5			99.6				85.3	67.6	49.4		456
410	150	143		79.2	0.4		101.4				86.2	69.3	51.9		481
420	158	150		81.6	2.5		103.1				86.9	70.9	54.1		507
430	166	158		83.8	4.6		104.7				87.6	72.2	56.1		533
440	175	166		86.0	6.7		106.3				88.4	73.7	58.2		562
450	183	174		87.8	8.7		107.6				89.0	74.8	59.9		588
460	192	182		89.7	10.7		109.0				89.7	76.0	61.8		616
470	201	191		91.4	12.6		110.2				90.3	77.1	63.6		645
480	211	200		93.3	14.5		111.4				91.0	78.3	65.5		677
490	220	209		94.9	16.4		112.4				91.5	79.2	67.2		706
500	230	219		96.6	18.2		113.4				92.0	80.2	68.9	33.1	738
510	240	228	60.9	98.3	20.3	40.3	114.3	69.8	41.7	19.5	92.5	81.0	70.3	34.5	770
520	250	238	61.6	99.8	22.2	41.8	115.1	70.7	43.5	22.4	92.7	81.6	71.3	35.7	802
530	260	247	62.4	101.0	23.9	43.0		71.6	44.9	24.2	92.8	82.0	71.9	37.0	834
540	271	257	63.1	102.0	25.6	44.3		72.5	46.4	26.1				38.4	869
550	282	268	63.9	104.0	27.1	45.5		73.4	47.8	28.0				39.8	904
560	293	278	64.7	105.0	28.7	46.7		74.3	49.2	29.7				41.1	939
570	304	289	65.4		30.1	47.8		75.1	50.6	31.5				42.5	975
580	315	299	66.1		31.5	48.9		75.9	51.8	33.1				43.8	1010
590	327	311	66.8		33.0	50.0		76.7	53.2	34.9				45.2	1049
600	339	322	67.5		34.5	51.1		77.4	54.5	36.6				46.6	1088
610	352	334	68.3		35.9	52.2		78.2	55.8	38.3				48.1	1130
620	364	346	69.0		37.3	53.3		78.9	57.0	39.9				49.5	1170
630	377	358	69.7		38.6	54.3		79.7	58.2	41.5				51.0	1212
640	391	371	70.4		40.0	55.4		80.4	59.5	43.1				52.5	1258
650	404	384	71.1		41.3	56.3		81.1	60.6	44.6				53.9	1302
660	419	398	71.8		42.6	57.4		81.8	61.9	46.3				55.6	1352
670	433	411	72.5		43.9	58.3		82.4	63.0	47.7				57.0	1399
680	448	426	73.1		45.1	59.3		83.1	64.1	49.2				58.6	1450
690	464	441	73.8		46.4	60.3		83.7	65.2	50.7				60.2	1504
700	480	456	74.5		47.6	61.2		84.3	66.3	52.2				61.8	1559
710	497	472	75.1		48.9	62.2		84.9	67.5	53.7				63.5	1619
720	514	488	75.8		50.0	63.1		85.5	68.5	55.1				65.2	1678
730	532	505	76.4		51.2	64.0		86.1	69.6	56.5				66.9	1743
740	550	523	77.1		52.4	64.9		86.6	70.6	57.8				68.5	1808
750	570	542	77.7		53.5	65.8		87.2	71.7	59.2				70.3	1881
760	590	561	78.4		54.7	66.6		87.8	72.7	60.5				72.1	1955
770	610	580	78.9		55.8	67.5		88.3	73.7	61.8				73.8	2030
780	632	600	79.6		56.9	68.4		88.8	74.7	63.1				75.7	2114
790	655	622	80.2		58.0	69.2		89.3	75.7	64.4				77.5	2204
800	678		80.8		59.1	70.0		89.8	76.7	65.6				79.4	
810	703		81.4		60.2	70.9		90.3	77.7	66.8				81.3	
820	728		81.9		61.3	71.7		90.7	78.6	68.0				83.2	
830	755		82.5		62.4	72.5		91.2	79.6	69.2				85.2	
840	782		83.0		63.4	73.3		91.6	80.5	70.3				87.1	
850	811		83.6		64.4	74.1		92.0	81.4	71.4				89.1	
860	841		84.1		65.4	74.9		92.4	82.2	72.5				91.1	
870	873		84.6		66.3	75.6		92.7	83.0	73.5				93.2	
880	905		85.1		67.1	76.2		92.9	83.7	74.4				95.2	
890	940		85.6		67.9	76.8		93.1	84.3	75.2				97.4	

