

TEKNİK BİLGİLER

TECHNICAL INFORMATION

Teknik Bilgiler
Technical Informations





Elektrik akımı geçme (1000V üzeri hariç) ihtimali olan tüm yerlerde IEC 60900'a göre izoleli uygun el aletleri kullanılmalıdır.
Hand tools with IEC 60900 compliant isolation must be used for any work involving risk of electrical current (excluding 1000V and above).



Tozlu ve çapaklı alanlarda mutlaka gözlük kullanınız.
Make sure to wear goggles in work areas with dust and burrs.



Lokma anahtarlarınızı uygun ölçülerdeki cıvata, en geniş yüzeyde dik olarak kullanınız. Lokma anahtarların cıvataya eğik olarak takılıp kullanılması, kavrama yüzeyini azaltarak ürünün kullanım ömrünü kısıltacaktır.
Use box wrenches with bolts of appropriate size, placed perpendicularly on the largest area of contact. Use of a box wrench at an angle will reduce the gripping surface and result in a shorter useful life.



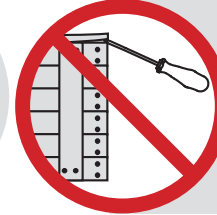
Yüksek sesli ortamlarda mutlaka kulaklık kullanınız.
Make sure to wear ear protection in work areas with high levels of noise.



Çekici amacı dışında kendinden daha sert malzemelere vurmuyunuz, eğik olarak kullanmayınız. Mantarlaşmış bölgeleri mutlaka temizleyerek kullanınız.
Do not use a hammer outside its intended purpose or to hit objects harder than the hammer. Do not hit at an angle. Make sure to clean weakened parts before use.



Kimyasal madde içeren işlerde mutlaka eldiven ve maske kullanınız. Make sure to wear gloves and facemask for works involving chemical materials.



Tornavidayı amacı dışında sökme işlemlerinde kullanmayınız.
Do not use the screwdriver as a levering tool out of its intended purpose.



Anahtarlarınızı, ağız ölçüsüne uygun cıvatalarda kullanınız. Anahtar ve cıvata arasındaki ölçü uyumsuzluğu, üründe ağız aşınmasına neden olur.
Use wrenches with bolts of appropriate size. Size discrepancy between wrench and bolt will lead to wear on tool edge.



Tornavidayı amacı dışında keski gibi ya da darbeli olarak kullanmayınız.
Do not use the screwdriver as a chiselling tool or for impacting out of its intended purpose.



Anahtarların ağızına taşlama işlemi yapmayınız; sert cisimler sürterek müdahale etmeyiniz. Bu durum anahtarınızın ağız yapısını bozar.
Do not grind or expose the edge of wrenches to hard objects. This will deform the tool edge structure.



Dolapları çekerek değil iterek kullanınız.
Do not pull the set cabinets. Push to move the cabinets.



Anahtar gövdesine boru takarak kuvvet uygulamayınız. Anahtarınızın ağız yapısının bozulmasına, kırılmalara ve yaralanmalara neden olabilir.
Do not apply force to the wrench by attaching a pipe to the tool body. This may result in deformation of tool edge, breakage or injury.



Dolapların birden fazla çekmesini aynı anda açık bırakmayınız. Ağırlık merkezi değişerek dolabın devrilmesine neden olacaktır.
Do not leave multiple drawers of set cabinets open at the same time. This will move the centre of gravity and cause toppling.



Anahtar gövdesine çekiç ile darbe uygulamayınız. Ağız yapısında bozulmalara, kırılma ve yaralanmalara neden olabilir.
Do not hit the wrench body with a hammer. This may result in deformation of tool edge, breakage or injury.



Dolapların çekmecelerini ayağınızla kapatmaya ya da basamak, merdiven olarak kullanmaya çalışmayınız. Bu gibi durumlar yaralanmalara sebep olacaktır.
Do not use your foot to close a cabinet drawer or attempt to use cabinet drawers as a stepladder. Such actions will result in injury.

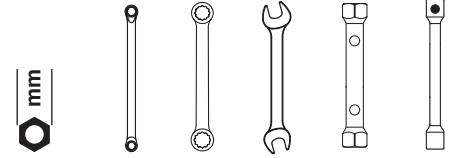
TEKNİK BİLGİLER/TECHNICAL DATA

ANAHTAR AĞZI ÖLÇÜLERİ VE VİDA ÇAPLARI SPANNER JAW WIDTH ACCROSS FLATS and THREAD DIAMETERS

mm	DIN ISO 272 ye göre metrik	DIN ISO 272 ye göre metrik	AF	Ağız Genişliği		Civata Çapı Whitw.	BS 916 1083	Ağız Genişliği	
				inch	mm			inch	mm
4	2		5/32	0,1562	3,97	8 BA		0,152	3,86
4,5	2,3					7 BA		0,172	4,87
5	2,5		3/16	0,1875	4,76	6 BA		0,193	4,90
5,5	3,5		7/32	0,2187	5,56	5 BA		0,220	5,59
6	26,8		1/4	0,2500	6,35	4 BA		0,248	6,30
						1/16 W		0,256	6,50
7	4		9/32	0,2812	7,14	3 BA		0,282	7,16
						3/32 W		0,297	7,54
7-8	5		5/16	0,3125	7,94	2 BA		0,324	8,23
9	5 Alt		11/32	0,3438	8,73	1/8 W	(3/16)	0,340	8,64
			3/8	0,3750	9,52	1 BA		0,365	9,27
8-10	6		13/32	0,4062	10,32	0 BA	(7/32)	0,413	10,49
11	7		7/16	0,4375	11,11	3/16 W	1/4	0,445	11,30
12									
10-13	8		1/2	0,5000	12,70	1/4 W	5/16	0,525	13,34
14*	8 Alt		9/16	0,5625	14,29				
15	10 KFZ		19/32	0,5938	15,08	5/16 W	3/8	0,600	15,24
16	10		5/8	0,6250	15,88				
13-15-17	10		11/16	0,6875	17,46				
18	12					3/8 W	7/16	0,710	18,03
15-18-19	12		3/4	0,7500	19,05				
20*			25/32	0,7812	19,84				
18-21	14		13/16	0,8125	20,64	7/16 W	1/2	0,820	20,83
22-24	14	12	7/8	0,8750	22,22				
23*						1/2 W	9/16	0,920	23,37
21-24*	16		15/16	0,9375	23,81				
25*-27*			1,	1,0000	25,40				
26*						9/16 W	5/8	1,010	25,65
27	18	16	1.1/16	1,0625	26,99				
27-28*-30						5/8 W	(11/16)	1,100	27,94
			1.1/8	1,1250	28,58				
27-30-34	20		1.3/16	1,1875	30,16	11/16 W	3/4	1,200	30,48
32-36-41	22	20	1.1/4	1,2500	31,75				
			1.5/16	1,3125	33,34	3/4 W	7/8	1,300	33,02
34	22		1.3/8	1,3750	34,92	13/16 W	(15/16)	1,390	35,31
36-41	24	22	1.7/16	1,4375	36,51				
38*			1.1/2	1,5000	38,10	7/8 W	1	1,480	37,59
41-46	27	24	1.5/8	1,6250	41,28				
			1.11/16	1,6875	42,86	1. W	1.1/8	1,670	42,42
			1.3/4	1,7500	44,45				
46-50	30	27	1.13/16	1,8125	46,04	1.1/8 W	1.1/4	1,860	47,24
			1.7/8	1,8750	47,62				
50-55	33	30	2,	2,0000	50,80				
			2.1/16	2,0625	52,39	1.1/4 W	1.3/8	2,050	52,07
55-60	36		2.3/16	2,1875	55,56				
			2.1/4	2,2500	57,15	1.3/8 W	1.1/2	2,220	56,39
60-65	39	36	2.3/8	2,3750	60,32				
			2.7/16	2,4375	61,91	1.1/2 W	1.5/8	2,410	61,21
65	42		2.9/16	2,5625	65,09	1.5/8	1.3/4	2,580	65,53
			2.5/8	2,6250	66,68				
70	45		2.3/4	2,7500	69,85	1.3/4 W	2,	2,760	70,10
			2.13/16	2,8125	71,44				
75	48		2.15/16	2,9375	74,61				
			3,	3,0000	76,20	(1.7/8 W)			76,70
80	52		3.1/8	3,1250	79,38	2. W	2.1/4	3,150	80,01
85	56		3.3/8	3,3750	85,72				
90	60		3.1/2	3,5000	88,90		2.1/2	3,550	90,17
95	64		3.3/4	3,7500	92,25				
			3.7/8	3,8750	98,42		2.3/4	3,890	98,81
100	68								
105	72		4.1/8	4,1250	104,78		3,	4,180	106,17
110	76		4.1/4	4,2500	107,95				
115*	80		4.1/2	4,5000	114,30		3.1/4	4,530	115,06

ANAHTAR İÇİN MİNİMUM DÖNDÜRME MOMENTLERİ TEST TORQUE VALUES FOR SPANNERS ISO 1711-1

0430	0440	0100	1800	1870
0320		0130		1874
0330				
0370				




mm					
4			1,90		
4,5*			2,64		
5			3,55		
5,5			4,64		
6*	17,6	7,4	5,92	17,6	
7	25,2	11,4	9,12	25,2	
8	34,5	16,6	13,3	34,5	34,5
9*	45,5	23,0	18,4	45,5	45,5
10	58,1	31,0	24,8	58,1	58,1
11	72,7	40,4	32,3	72,7	72,7
12	89,1	51,5	41,2	89,1	89,1
13	107	64,5	51,6	107	107
14*	128	79,4	63,5	128	128
15	150	96,2	77,0	150	150
16	175	115	92,3	175	175
17	201	134	107	201	201
18	230	160	128	230	230
19*	261	186	149	261	261
20*	294	215	172	294	294
21	330	247	198	330	330
22*	368	281	225	368	368
23*	408	319	255	408	408
24	451	359	287	451	451
25*	496	402	322	496	496
26*	544	449	359	544	544
27	594	499	399	594	594
28*	647	552	442	647	647
30	760	670	536	760	760
32*	884	804	643	884	884
34	1019	951	761	1019	1019
36	1165	1117	994	1165	1165
41	1579	1442	1154	1579	1579
46	2067	1816	1453	2067	2067
50	2512	2145	1716	2512	2512
55	3140		2077	3140	3140
60	3849		2471	3849	
65	4021				
70	4658				
75	5394				

* Standart dışı/Not Standardised

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VİDA AĞIZ ÖLÇÜLERİ
GUIDELINE FOR SCREWDRIVERS

											
"Metrik Vida Metric screw"	M 1.6 (M 1.7)	M 2	M 2.3	(M 2.3) (M 2.6)	M 3	(M 3.5)	M 4	M 5	M 6	M 8	M 10
Düz başlı Vidalar Flat head screws	0.4 x 3 (3.2)	0.5 x 3.8	0.6 x 4.4	0.6 x 4.5 (5)	0.8 x 5.5	0.8 x 6	1 x 7	1.2 x 8.5	1.6 x 10	2 x 13	2.5 x 16
Düz başlı Vidalar Flat head screws	—	—	—	—	0.8 x 6	0.8 x 7	1 x 8	1.2 x 10	1.6 x 12	2 x 16	2.5 x 20
Düz başlı Vidalar (küçük) Flat head screws (small sizes)	—	—	—	0.4 x 3.5	0.5 x 4	0.5 x 4.5	0.6 x 5.5	0.8 x 6.5	1 x 8	1.2 x 10	1.6 x 13
Oval başlı Vidalar Oval head screws	0.4 x 3	0.5 x 3.8	—	0.6 x 4.7	0.8 x 5.6	—	—	—	—	—	—
Havşa başlı Vidalar Countersank head screws	0.4 x 3	0.5 x 3.8	—	0.6 x 4.7	0.8 x 5.6	0.8 x 6.5	1 x 7.5	1.2 x 9.2	1.6 x 11	2 x 14.5	2.5 x 18

YILDIZ VİDALAR İÇİN UYGUN TORNAVİDA AĞIZ ÖLÇÜLERİ
SUITABLE TİPS FOR CROSS HEAD SCREWS

		
Yıldız Ağız Ölçüsü Cross Slot Size		Metrik Vidalar Metric Screw
0		M 1.6 - M 2
1		M 2 - M 2.5 - M 3
2		M 3.5 - M 5
3		M 6
4		M 8 - M 10



TEKNİK BİLGİLER/TECHNICAL DATA

METRİK VIDALAR İÇİN LOKMA SEÇİMİ GUIDE TO METRIC SIZES COVERED BY SOCKET WRENCHES FOR EACH DRIVE

	1107 6.3	1110 10	1113 12.5	1119 20	1125 25
	1/4"	3/8"	1/2"	3/4"	1"
M 2	4				
	4,5				
M 2.5	5				
M 3	5,5				
M 3.5	6	6			
M 4	7	7	8		
M 5	8	8	9		
	9	9	10	10	
M 6	10	10	11	11	
M 7	11	11	12	12	
	12	12	13	13	
M 8	13	13	14	14	
		14	15	15	
		15	16	16	
M 10		16	17	17	17
M 10		17	18	18	18
M 12		18	19	19	19
M 12		19	20	21	21
		20	21	21	21
M 14		21	22	22	22
M 14		22	23	23	23
		23	24	24	24
M 16			25	24	24
			26	24	24
			27	27	27
M 18			28	27	27
			29	29	29
M 20			30	30	30
M 22			32	32	32
			33	33	33
M 22			34	34	34
M 24				36	36
				38	38
M 27				41	41
					41
M 30				46	46
M 33				50	50
M 36				55	55
M 39				60	60
M 42					60
M 45					65
M 48					70
M 52					75
					50

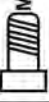
LOKMALAR İÇİN MİN DÖNDÜRME MOMENTLERİ TEST TORQUE VALUES FOR SOCKET ISO 1711-1 (N-m)

	6,3 1107	10 1110	12,5 1113 1114	20 1119 1120	25 1125
	1/4	3/8	1/2	3/4	1
M2	4	10,4			
M 2.2	4.5*	12,6			
M 2.5	5	15,1			
M 3	5,5	17,8			
M 3.5	6*	20,6	23,2		
M 4	7	26,8	33,2		
M 5	8	33,6	45,5	94,1	
	9*	41,1	59,9	119,2	
M 6	10	49,1	76,7	147	
M 7	11	57,8	96	178	
	12	67,0	118	212	
M 8	13	68,6	141	249	
	14*	68,6	169	288	
	15		198	331	
	16		225	377	
M 10	17		225	425	
	18		225	477	
M 12	19*		225	531	
	20*		225	569	
	21		225	569	-
M 14	22*		225	569	569
	23*			569	569
M 16	24			569	569
	25*			569	583
	26*			569	624
M 18	27			569	665
	28*			569	707
M 20	30			569	795
M 22	32*			569	888
	34			569	984
M 24	36				1084
M 27	41				1353
M 30	46				1569
M 33	50				1569
M 36	55				1569
M 39	60				1569
M 42	65				1569
M 45	70				1569
M 48	75				1569
M 52	80				1569

SIKMA / TEST TORK DEĞERLERİ TIGHTENING / TEST TORQUE VALUES

Önerilen (Bağlayıcı olmayan) civata sıkma torkları Nm (Newton Metre)
Suggested (Not Compulsory) Bolt Tightening Torque in Nm (Newton Meter)

Kalite Sınıfı DIN 267'ye Göre Sıkma Değerleri
Tightening Torques Values According to Quality Class DIN 267

	4.6	5.6	6.9	8.8	10.9	12.9
M 2	0,123	0,162	0,314	0,373	0,520	0,628
M 2,2	0,196	0,265	0,510	0,598	0,843	1,010
M 2,5	0,284	0,373	0,726	0,863	1,206	1,451
M 3	0,441	0,588	1,128	1,344	1,883	2,256
M 3,5	0,677	0,902	1,736	2,060	2,893	3,481
M 4	1,000	1,344	2,599	3,040	4,315	5,148
M 5	1,916	2,648	5,099	6,031	8,483	10,200
M 6	3,432	4,511	8,728	10,300	14,710	17,652
M 7	5,590	7,453	14,220	17,162	24,517	28,439
M 8	8,238	10,787	21,575	25,497	35,304	42,168
M 10	16,67	21,575	42,168	50,014	70,608	85,317
M 12	28,44	38,246	73,550	87,279	122,60	147,10
M 14	45,11	60,801	116,70	138,30	194,20	235,40
M 16	69,63	93,163	178,5	210,80	299,10	357,90
M 18	95,12	127,50	245,20	289,3	411,90	490,30
M 20	135,3	180,45	384,10	411,90	578,60	696,30
M 22	182,4	245,16	470,70	559,00	784,50	941,40
M 24	230,5	308,91	598,20	711,00	1000	1196
M 27	343,2	460,90	887,50	1049	1481	1775
M 30	465,8	622,72	1206	1422	2010	2403
M 33	632,5	848,30	1628	1932	2716	3266
M 36	814,0	1089	2099	2481	3491	4197
M 39	1059	1412	2716	3226	4531	5443
M 42	1304	1746	3364	3991	5609	6727
M 45	1638	2177	4207	4992	7012	8414
M 48	1981	2638	5080	6021	8473	10150
M 52	2540	3393	6541	7747	10885	13092
M 56	3168	4227	8149	9650	13582	16279
M 60	3932	5247	10101	11964	16867	20202
M 64	4737	6306	12160	14416	20300	24320

Moment Değerleri Yağlanmış Civatalar İçin %20 Azaltılmalıdır.
Torque Values Should be Decreased of 20% for Lubricated Screws

Ölçü Birimleri Measuring Units

Giga	G	1.000.000.000	=10 ⁹	1GW= 1 Milyar Watt
Mega	M	1.000.000	=10 ⁶	1 MW= 1 Milyon Watt
Kilo	k	1.000	=10 ³	1 kW= Bin Watt
Milli	m	0.001	=10 ⁻³	1 mm= Binde Bir Watt
Mikro	m	0.000001	=10 ⁻⁶	1 mm= 1 Milyonda Bir Watt
Nano	n	0.000000001	=10 ⁻⁹	1 nm= 1 Milyarda Bir Watt

Önemli Ölçülerin Değişim Tablosu Conversion Table For Essential Measuring Units

Uzunluk Length	Metre	m		
Kütle Weight	Kilogram	kg		
Zaman Time	Saniye	s		
Kuvvet Force	Newton	N	=kg m/s ²	1 N= 0.102 kp
Döndürme Mom. Torque	Newtonmetre			9.81 Nm= 1kpm
İş Enerjisi Work	Joule	J	=Nm	
Isı Enerjisi Heat	Joule	J		1 J= 0.239 cal
Güç Power	Watt	W	=Nm/s	1 kW= 1.36 PS=860 kcal/h
Basınç Pressure	Pascal	Pa	=N/m ²	100.000 Pa=1 bar=10 mWS
Elektrik Akımı Electricity Current	Amper	A		
Sıcaklık Temperature	Kelvin	K		1K= -272.15 °C

Döndürme Momenti Dönüşüm Tablosu Conversion Table For Bending Moments

Var Olan Ölçüler/ present units	İstenen Ölçüler / Wanted Units					
	=Ncm	=Nm	=kpcm	=kpm	=lbf.in.	=lbf.ft.
Ncm	1	0.01	0.10197	0.00102	0.0885	0.00738
Nm	100	1	10.197	0.10197	8.851	0.7376
kpcm	9.807	0.09807	1	0.01	0.868	0.0723
kpm	980.07	9.807	100	1	86.796	7.233
lbf.in.	11.298	0.11298	1.152	0.01152	1	0.0833
lbf.ft.	135.58	1.3558	13.825	0.13825	12	1

Newton-Metre ve Librefoot Dönüşüm Tablosu Conversion Table Of Newton-Meter And Librefoot (1 Nm=0.738 lbf.ft.)

Nm	ft.,lbs.									
	0	1	2	3	4	5	6	7	8	9
0	0	0.74	1.48	2.21	2.95	3.69	4.43	5.17	5.90	6.64
10	7.38	8.12	8.86	9.59	10.33	11.07	11.81	12.54	13.28	14.02
20	14.76	15.50	16.2	16.97	17.71	18.45	19.19	19.93	20.65	21.40
30	22.14	22.88	23.62	24.35	25.10	25.83	26.57	27.31	28.04	28.78
40	29.52	30.26	31.00	31.73	32.47	33.21	33.95	34.69	35.42	36.16
50	36.90	37.64	38.38	39.11	39.85	40.59	41.33	42.07	42.80	43.54
60	44.28	45.02	45.76	46.49	47.23	47.97	48.71	49.45	50.18	50.92
70	51.66	52.40	53.14	53.87	54.61	55.35	56.09	56.83	57.56	58.30
80	59.04	59.78	60.52	61.25	62.00	62.73	63.47	64.21	64.94	65.68
90	66.42	67.16	67.90	68.63	69.37	70.11	70.85	71.59	72.32	73.06
100	73.80	74.54	75.28	76.01	76.75	77.49	78.23	78.97	79.70	80.44

Librefoot ve Newton-Metre Dönüşüm Tablosu Conversion Table Of Librefoot And Newton-Meter (1 lbf.ft.=1.356 Nm)

ft.- lbs.	Nm									
	0	1	2	3	4	5	6	7	8	9
0	0	1.36	2.71	4.07	5.42	6.78	8.14	9.49	10.85	12.20
10	13.56	14.92	16.27	17.63	18.98	20.34	21.70	23.05	24.41	25.76
20	27.12	28.48	29.83	31.19	32.54	33.90	35.26	36.61	37.97	39.32
30	40.68	42.04	43.39	44.75	46.10	47.46	48.82	50.17	51.53	52.88
40	54.24	55.60	56.95	58.31	59.66	61.02	62.38	63.73	65.09	66.44
50	67.80	69.16	70.51	71.87	73.22	74.58	75.94	77.29	78.65	80.00
60	81.36	82.72	84.07	85.43	86.78	88.14	89.50	90.85	92.21	93.56
70	94.92	96.28	97.63	98.99	100.34	101.70	103.06	104.41	105.77	107.12
80	108.48	109.84	111.19	112.55	113.90	115.26	116.62	117.97	119.33	120.68
90	122.04	123.40	124.75	126.11	127.46	128.82	130.18	131.53	132.89	134.24
100	135.60	136.96	138.31	139.67	141.02	142.38	143.74	145.09	146.45	147.80

Newton-Metre ve Kilopound-Metre Dönüşüm Tablosu Conversion Table Of Newton-Meter and Kilopound-Meter (1 Nm=0.102 kpm)

Nm	kpm									
	0	1	2	3	4	5	6	7	8	9
0	0.00	1.02	2.04	3.06	4.08	5.10	6.12	7.14	8.16	9.18
100	10.20	11.22	12.24	13.26	14.28	15.30	16.31	17.33	18.35	19.37
200	20.39	21.41	22.43	23.45	24.47	25.49	26.51	27.53	28.55	29.57
300	30.59	31.61	32.63	33.65	34.67	35.69	36.71	37.73	38.75	39.77
400	40.79	41.81	42.83	43.85	44.87	45.89	46.91	47.93	48.95	49.97
500	50.99	52.00	53.02	54.04	55.06	56.08	57.10	58.12	59.14	60.16
600	61.18	62.20	63.22	64.24	65.26	66.28	67.30	68.32	69.34	70.36
700	71.38	72.40	73.42	74.44	75.46	76.48	77.50	78.52	79.54	80.56
800	81.58	82.60	83.62	84.64	85.66	86.68	87.70	88.71	89.73	90.75
900	91.77	92.79	93.81	94.83	95.85	96.87	97.89	98.91	99.93	100.95
1000	101.97	102.99	104.01	105.03	106.05	107.07	108.09	109.11	110.13	111.15

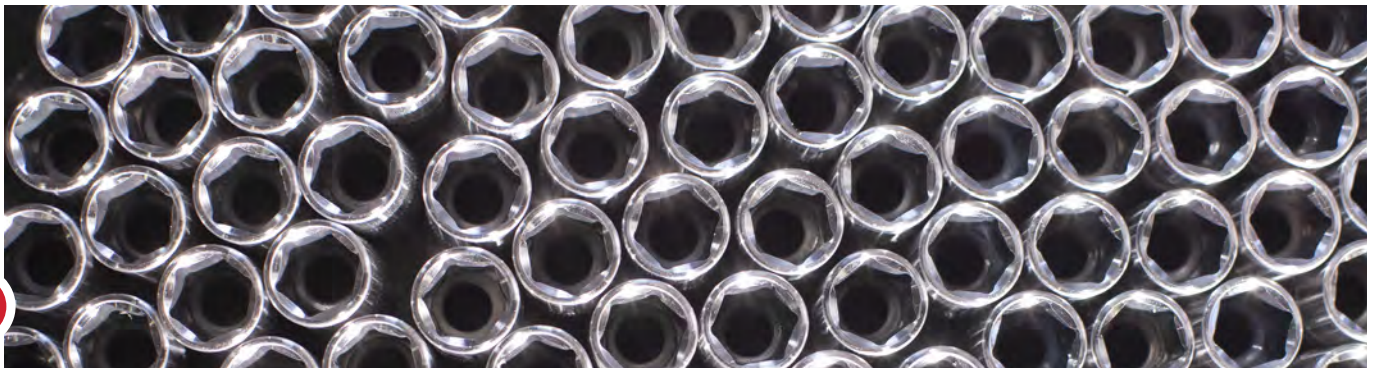


Sertlik Dönüşüm Tablosu

Hardness Conversion Table

Vickers Sertlik Hardness	Brinell Sertlik Hardness	Rockwell Sertlik Hardness		Çekme dayanımı Tensile Strength
		HRB	HRC	
HV 30	HB 30	HRB	HRC	sB N/mm ²
80	80.7	36.4	-	270
85	85	42.4	-	290
90	90	47.4	-	310
95	95	52.00	-	320
100	100	56.4	-	340
105	105	60.0	-	360
110	110	63.4	-	380
115	115	66.4	-	390
120	120	69.4	-	410
125	125	72.0	-	420
130	130	74.4	-	440
135	135	76.4	-	460
140	140	78.4	-	470
145	145	80.4	-	490
150	150	82.2	-	500
155	155	83.8	-	520
160	160	85.4	-	540
165	165	86.8	-	550
170	170	88.2	-	570
175	175	89.6	-	590
180	180	90.8	-	600
185	185	91.8	-	620
195	190	91.5	-	640
200	195	94.0	-	660
200	200	95.0	-	670
205	205	95.8	-	680
210	210	96.6	-	710
215	215	97.4	-	720
220	220	98.2	-	730
225	225	99.0	-	750
230	230	-	19.2	760
235	235	-	20.2	780
240	240	-	21.2	800
245	245	-	22.1	820
250	250	-	23.0	830
255	255	-	23.8	850
260	260	-	24.6	870
265	265	-	25.4	880
280	280	-	27.1	900
275	275	-	26.9	920
280	280	-	27.6	940
285	285	-	28.3	950
290	290	-	29.0	970
295	295	-	29.6	990
300	300	-	30.3	1010
310	310	-	31.5	1040
320	320	-	32.7	1080
330	330	-	33.8	1110

Vickers Sertlik Hardness	Brinell Sertlik Hardness	Rockwell Sertlik Hardness		Çekme dayanımı Tensile Strength
		HRB	HRC	
HV 30	HB 30	HRB	HRC	sB N/mm ²
340	340	-	34.9	1140
350	350	-	36.0	1170
360	359	-	37.0	1200
370	368	-	38.0	1260
380	376	-	38.9	1260
390	385	-	39.8	1290
400	392	-	40.7	1320
410	400	-	41.5	1350
420	408	-	42.4	1380
440	423	-	44.0	1430
450	430	-	44.8	1460
460	-	-	45.6	-
470	-	-	46.3	-
480	-	-	47.0	-
490	-	-	47.7	-
500	-	-	48.3	-
510	-	-	49.1	-
520	-	-	49.7	-
530	-	-	50.4	-
540	-	-	51.0	-
550	-	-	51.6	-
560	-	-	52.2	-
570	-	-	52.8	-
580	-	-	53.3	-
590	-	-	53.9	-
600	-	-	54.4	-
610	-	-	55.0	-
620	-	-	55.5	-
630	-	-	56.0	-
640	-	-	56.5	-
650	-	-	57.0	-
660	-	-	57.5	-
670	-	-	58.0	-
680	-	-	58.5	-
690	-	-	59.0	-
700	-	-	59.5	-
720	-	-	60.4	-
740	-	-	61.2	-
760	-	-	62.0	-
780	-	-	62.8	-
800	-	-	63.6	-
820	-	-	64.3	-
840	-	-	65.0	-
860	-	-	65.7	-
880	-	-	66.3	-
900	-	-	66.9	-
920	-	-	67.5	-
940	-	-	68.0	-



Semboller / Symbols


Anahtar Ağız
Size



Ağız Açıklığı
Opening Limit of Jaws



Altı Köşe Lokma Bijon
Anahtar Ağız
Six Point Sockets



Sekiz Köşe Anahtar Ağız
Eight Point Wrench



On iki Köşe Anahtar Ağız
Twelve Point Wrench



Kare Adaptör
Square Adapter



Kovan Anahtar
Tubular Socket Wrench



Bir Ağız Bijon Anahtar
Single Ended Rim Wrench



TORX® Lokma Anahtar
TORX Socket



Düz Uç
Flat Tip



Yıldız Uç
PHILLIPS® Tip



POZIDRIV® Yıldız Uç
POZIDRIV® Tip



TORX® Uç
TORX® Tip



Delikli TORX® Uç
TORX® with hole



Bits Tutucular
Bit Holders



Allen Anahtar
Hexagonal Allen Keys



Segman
Circlip



Gövde Ağırlık
Weight of Body



Tapa Anahtar
Wrench for Carter Case



İşence
Screw Clamp



Çektirme
Puller

in.	dec.in.	millimeters (mm)											
		0"	1"	2"	3"	4"	5"	6"	7"	8"	9"	10"	11"
0	0	0	25.400 0	50.800 0	76.200 0	101.600 0	127.000 0	152.400 0	177.800 0	203.200 0	228.600 0	254.000 0	279.400 0
1/64	0.015 625	0.396 9	25.796 9	51.196 9	76.596 9	101.996 9	127.396 9	152.796 9	178.196 9	203.596 9	228.996 9	254.396 9	279.796 9
1/32	0.031 25	0.793 8	26.193 8	51.593 8	76.993 8	102.393 8	127.793 8	153.193 8	178.593 8	203.993 8	229.393 8	254.793 8	280.193 8
3/64	0.046 875	1.190 6	26.590 6	51.990 6	77.390 6	102.790 6	128.190 6	153.590 6	178.990 6	204.390 6	229.790 6	255.190 6	280.590 6
1/16	0.062 5	1.587 5	26.987 5	52.387 5	77.787 5	103.187 5	128.587 5	153.987 5	179.387 5	204.787 5	230.187 5	255.587 5	280.987 5
5/64	0.078 125	1.984 4	27.384 4	52.784 4	78.184 4	103.584 4	128.984 4	154.384 4	179.784 4	205.184 4	230.584 4	255.984 4	281.384 4
3/32	0.093 75	2.381 2	27.781 2	53.181 2	78.581 2	103.981 2	129.381 2	154.781 2	180.181 2	205.581 2	230.981 2	256.381 2	281.781 2
7/64	0.109 375	2.778 1	28.178 1	53.578 1	78.978 1	104.378 1	129.778 1	155.178 1	180.578 1	205.978 1	231.378 1	256.778 1	282.178 1
1/8	0.125	3.175 0	28.575 0	53.975 0	79.375 0	104.775 0	130.175 0	155.575 0	180.975 0	206.375 0	231.775 0	257.175 0	282.575 0
9/64	0.140 625	3.571 9	28.971 9	54.371 9	79.771 9	105.171 9	130.571 9	155.971 9	181.371 9	206.771 9	232.171 9	257.571 9	282.971 9
5/32	0.156 25	3.968 8	29.368 8	54.768 8	80.168 8	105.568 8	130.968 8	156.368 8	181.768 8	207.168 8	232.568 8	257.968 8	283.368 8
11/64	0.171 875	4.365 6	29.765 6	55.165 6	80.565 6	105.965 6	131.365 6	156.765 6	182.165 6	207.565 6	232.965 6	258.365 6	283.765 6
3/16	0.187 5	4.762 5	30.162 5	55.562 5	80.962 5	106.362 5	131.762 5	157.162 5	182.562 5	207.962 5	233.362 5	258.762 5	284.162 5
13/64	0.203 125	5.159 4	30.559 4	55.959 4	81.359 4	106.759 4	132.159 4	157.559 4	182.959 4	208.359 4	233.759 4	259.159 4	284.559 4
7/32	0.218 75	5.556 2	30.956 2	56.356 2	81.756 2	107.156 2	132.556 2	157.956 2	183.356 2	208.756 2	234.156 2	259.556 2	284.956 2
15/64	0.234 375	5.953 1	31.353 1	56.753 1	82.153 1	107.553 1	132.953 1	158.353 1	183.753 1	209.153 1	234.553 1	259.953 1	285.353 1
1/4	0.25	6.350 0	31.750 0	57.150 0	82.550 0	107.950 0	133.350 0	158.750 0	184.150 0	209.550 0	234.950 0	260.350 0	285.750 0
17/64	0.265 625	6.746 9	32.146 9	57.546 9	82.946 9	108.346 9	133.746 9	159.146 9	184.546 9	209.946 9	235.346 9	260.746 9	286.146 9
9/32	0.281 25	7.143 8	32.543 8	57.943 8	83.343 8	108.743 8	134.143 8	159.543 8	184.943 8	210.343 8	235.743 8	261.143 8	286.543 8
19/64	0.296 875	7.540 6	32.940 6	58.340 6	83.740 6	109.140 6	134.540 6	159.940 6	185.340 6	210.740 6	236.140 6	261.540 6	286.940 6
5/16	0.312 5	7.937 5	33.337 5	58.737 5	84.137 5	109.537 5	134.937 5	160.337 5	185.737 5	211.137 5	236.537 5	261.937 5	287.337 5
21/64	0.328 125	8.334 4	33.734 4	59.134 4	84.534 4	109.934 4	135.334 4	160.734 4	186.134 4	211.534 4	236.934 4	262.334 4	287.734 4
11/32	0.343 75	8.731 2	34.131 2	59.531 2	84.931 2	110.331 2	135.731 2	161.131 2	186.531 2	211.931 2	237.331 2	262.731 2	288.131 2
23/64	0.359 375	9.128 1	34.528 1	59.928 1	85.328 1	110.728 1	136.128 1	161.528 1	186.928 1	212.328 1	237.728 1	263.128 1	288.528 1
3/8	0.375	9.525 0	34.925 0	60.325 0	85.725 0	111.125 0	136.525 0	161.925 0	187.325 0	212.725 0	238.125 0	263.525 0	288.925 0
25/64	0.390 625	9.921 9	35.321 9	60.721 9	86.121 9	111.521 9	136.921 9	162.321 9	187.721 9	213.121 9	238.521 9	263.921 9	289.321 9
13/32	0.406 25	10.318 8	35.718 8	61.118 8	86.518 8	111.918 8	137.318 8	162.718 8	188.118 8	213.518 8	238.918 8	264.318 8	289.718 8
27/64	0.421 875	10.715 6	36.115 6	61.515 6	86.915 6	112.315 6	137.715 6	163.115 6	188.515 6	213.915 6	239.315 6	264.715 6	290.115 6
7/16	0.437 5	11.112 5	36.512 5	61.912 5	87.312 5	112.712 5	138.112 5	163.512 5	188.912 5	214.312 5	239.712 5	265.112 5	290.512 5
29/64	0.453 125	11.509 4	36.909 4	62.309 4	87.709 4	113.109 4	138.509 4	163.909 4	189.309 4	214.709 4	240.109 4	265.509 4	290.909 4
15/32	0.468 75	11.906 2	37.306 2	62.706 2	88.106 2	113.506 2	138.906 2	164.306 2	189.706 2	215.106 2	240.506 2	265.906 2	291.306 2
31/64	0.484 375	12.303 1	37.703 1	63.103 1	88.503 1	113.903 1	139.303 1	164.703 1	190.103 1	215.503 1	240.903 1	266.303 1	291.703 1
1/2	0.5	12.700 0	38.100 0	63.500 0	88.900 0	114.300 0	139.700 0	165.100 0	190.500 0	215.900 0	241.300 0	266.700 0	292.100 0
33/64	0.515 625	13.096 9	38.496 9	63.896 9	89.296 9	114.696 9	140.096 9	165.496 9	190.896 9	216.296 9	241.696 9	267.096 9	292.496 9
17/32	0.531 25	13.493 8	38.893 8	64.293 8	89.693 8	115.093 8	140.493 8	165.893 8	191.293 8	216.693 8	242.093 8	267.493 8	292.893 8
35/64	0.546 875	13.890 6	39.290 6	64.690 6	90.090 6	115.490 6	140.890 6	166.290 6	191.690 6	217.090 6	242.490 6	267.890 6	293.290 6
9/16	0.562 5	14.287 5	39.687 5	65.087 5	90.487 5	115.887 5	141.287 5	166.687 5	192.087 5	217.487 5	242.887 5	268.287 5	293.687 5
37/64	0.578 125	14.684 4	40.084 4	65.484 4	90.884 4	116.284 4	141.684 4	167.084 4	192.484 4	217.884 4	243.284 4	268.684 4	294.084 4
19/32	0.593 75	15.081 2	40.481 2	65.881 2	91.281 2	116.681 2	142.081 2	167.481 2	192.881 2	218.281 2	243.681 2	269.081 2	294.481 2
39/64	0.609 375	15.478 1	40.878 1	66.278 1	91.678 1	117.078 1	142.478 1	167.878 1	193.278 1	218.678 1	244.078 1	269.478 1	294.878 1
5/8	0.625	15.875 0	41.275 0	66.675 0	92.075 0	117.475 0	142.875 0	168.275 0	193.675 0	219.075 0	244.475 0	269.875 0	295.275 0
41/64	0.640 625	16.271 9	41.671 9	67.071 9	92.471 9	117.871 9	143.271 9	168.671 9	194.071 9	219.471 9	244.871 9	270.271 9	295.671 9
21/32	0.656 25	16.668 8	42.068 8	67.468 8	92.868 8	118.268 8	143.668 8	169.068 8	194.468 8	219.868 8	245.268 8	270.668 8	296.068 8
43/64	0.671 875	17.065 6	42.465 6	67.865 6	93.265 6	118.665 6	144.065 6	169.465 6	194.865 6	220.265 6	245.665 6	271.065 6	296.465 6
11/16	0.687 5	17.462 5	42.862 5	68.262 5	93.662 5	119.062 5	144.462 5	169.862 5	195.262 5	220.662 5	246.062 5	271.462 5	296.862 5
45/64	0.703 125	17.859 4	43.259 4	68.659 4	94.059 4	119.459 4	144.859 4	170.259 4	195.659 4	221.059 4	246.459 4	271.859 4	297.259 4
23/32	0.718 75	18.256 2	43.656 2	69.056 2	94.456 2	119.856 2	145.256 2	170.656 2	196.056 2	221.456 2	246.856 2	272.256 2	297.656 2
47/64	0.734 375	18.653 1	44.053 1	69.453 1	94.853 1	120.253 1	145.653 1	171.053 1	196.453 1	221.853 1	247.253 1	272.653 1	298.053 1
3/4	0.75	19.050 0	44.450 0	69.850 0	95.250 0	120.650 0	146.050 0	171.450 0	196.850 0	222.250 0	247.650 0	273.050 0	298.450 0
49/64	0.765 625	19.446 9	44.846 9	70.246 9	95.646 9	121.046 9	146.446 9	171.846 9	197.246 9	222.646 9	248.046 9	273.446 9	298.846 9
25/32	0.781 25	19.843 8	45.243 8	70.643 8	96.043 8	121.443 8	146.843 8	172.243 8	197.643 8	223.043 8	248.443 8	273.843 8	299.243 8
51/64	0.796 875	20.240 6	45.640 6	71.040 6	96.440 6	121.840 6	147.240 6	172.640 6	198.040 6	223.440 6	248.840 6	274.240 6	299.640 6
13/16	0.812 5	20.637 5	46.037 5	71.437 5	96.837 5	122.237 5	147.637 5	173.037 5	198.437 5	223.837 5	249.237 5	274.637 5	300.037 5
53/64	0.828 125	21.034 4	46.434 4	71.834 4	97.234 4	122.634 4	148.034 4	173.434 4	198.834 4	224.234 4	249.634 4	275.034 4	300.434 4
27/32	0.843 75	21.431 2	46.831 2	72.231 2	97.631 2	123.031 2	148.431 2	173.831 2	199.231 2	224.631 2	250.031 2	275.431 2	300.831 2
55/64	0.859 375	21.828 1	47.228 1	72.628 1	98.028 1	123.428 1	148.828 1	174.228 1	199.628 1	225.028 1	250.428 1	275.828 1	301.228 1
7/8	0.875	22.225 0	47.625 0	73.025 0	98.425 0	123.825 0	149.225 0	174.625 0	200.025 0	225.425 0	250.825 0	276.225 0	301.625 0
57/64	0.890 625	22.621 9	48.021 9	73.421 9	98.821 9	124.221 9	149.621 9	175.021 9	200.421 9	225.821 9	251.221 9	276.621 9	302.021 9
29/32	0.906 25	23.018 8	48.418 8	73.818 8	99.218 8	124.618 8	150.018 8	175.418 8	200.818 8	226.218 8	251.618 8	277.018 8	302.418 8
59/64	0.921 875	23.415 6	48.815 6	74.215 6	99.615 6	125.015 6	150.415 6	175.815 6	201.215 6	226.615 6	252.015 6	277.415 6	302.815 6
15/16	0.937 5	23.812 5	49.212 5	74.612 5	100.012 5	125.412 5	150.812 5	176.212 5	201.612 5	227.012 5	252.412 5	277.812 5	303.212 5
61/64	0.953 125	24.209 4	49.609 4	75.009 4	100.409 4	125.809 4	151.209 4	176.609 4	202.009 4	227.409 4	252.809 4	278.209 4	303.609 4
31/32	0.968 75	24.606 2	50.006 2	75.406 2	100.806 2	126.206 2	151.606 2	177.006 2	202.406 2	227.806 2	253.206 2	278.606 2	304.006 2
63/64	0.984 375	25.003 1	50.403 1	75.803 1	101.203 1	126							