
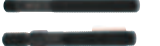

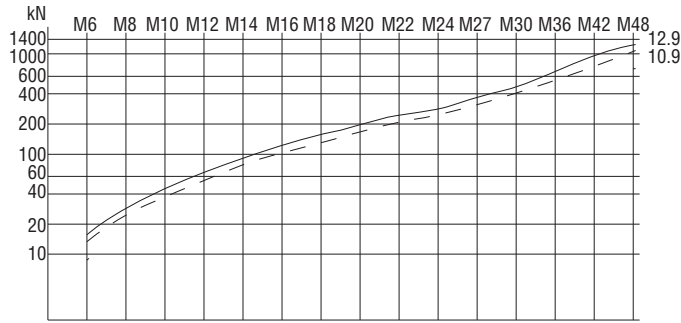


# CİVATALAR

BOLTS



	Kalite Dayanım Sınıfları Quality Strength Classes		
	10	10.9	12.9
DIN 787 	-	-	X
DIN 6379 	-	X	-
DIN 6330B DIN 6331 Nr. 1830 	X	-	-
Sembol gerilme mukavemeti [N/mm <sup>2</sup> ] Nominal tensile strength [N/mm <sup>2</sup> ]	1000	1000	1200
Minimum akma noktası [N/mm <sup>2</sup> ] Minimum yield point [N/mm <sup>2</sup> ]	-	900	1080



Standart Anahtar İle Öngerilme Kuvveti  
Pre-stress Force With Standard Spanner

### Çizelge Özelliklerinin Açıklanması:

- **İzin Verilen Civata Yükü** : Maksimum gerilim yükü ve vida hesabı alınarak vurgu yapıldı. Aktif kuvvetler, akma noktası, sadece güvenlik için %80 kullanılır.
- **İzin Verilen Ön Gerilme Kuvveti** : Yük, vida ve somun uygulamasında, tablodaki rakamların sürtünmeye karşılık, itme yüzeyleri ve parçanın  $\mu = 0,14$  sürtünme kat sayısı geçerlidir.
- **İzin Verilen Ön Gerilme Kuvveti Yağlı Hesaplama** : Yük, vida ve somun uygulamasında, parçanın  $\mu = 0,1$  sürtünme kat sayısı hesaplanmalıdır.

### Explanation Of Table Characteristics:

- **Permissible Bolt Load** : is the maximum tension load, the screw can be stressed with taking into account all active forces. The yield point is only utilized to 80% for safety.
- **Permissible Pre-stress Force** : is the load, the screw can be pre-stressed at most, when tightening the matching nut. Figures of table are valid for a friction of  $\mu = 0,14$  in thrust faces and thread, corresponding to the friction of greased medium faces.
- **Allowed pretension with oil calculation** : At an application with screws and nuts, the load must be calculated with a  $\mu = 0,1$  frictional factor of the workpiece.

### Civata ve Somun İçin Mukavemet 10.9 ve 12.9 Kalite ve Momentleri / Strength Figures And Torques For Bolts And Nuts:

Diş / Threads	Kalite Quality	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24	M27	M30	M36	M42	M48	
Hatve / Pitch of thread	mm	1	1.25	1.50	1.75	2	2	2.50	2.50	2.50	3	3	3.50	4	4.50	5	
<b>Somun / Nuts</b>																	
Sertlik / Hardness DIN 6330 / 6331 / 6334	HRC	10	28-32														
Test Kuvveti (AS x Sp) Test force DIN EN 20898-2	kN	10	20.9	38.1	60	88	121	165	203	260	321	374	486	595	866	-	-
<b>"T" Pabuç DIN 508 / Nr. 1710 Nuts for T-Slots DIN 508 / Nr. 1710</b>																	
Ölçü / Size		M6x8	M8x10	M10x12	M12x14	-	M16x18	-	M20x22	-	M24x28	-	M30x36	M36x42	M42x48	M48x54	
Sertlik / Hardness	HRC	22 - 30															
Test Kuvveti / Test Force	kN	16	29	46	67	-	128	-	196	-	282	-	448	653	653	653	
<b>Civata / Bolts</b>																	
Sertlik / Hardness	HRC	10.9	32 - 39														
		12.9	39 - 44														

### Sıkma Verileri / Tightening Data

Minimum Kırılma Kuvveti Minimum Breaking Force (AS x Rm)	kN	10.9	21	38	60	88	(120)	(163)	(200)	(255)	(315)	(367)	(477)	(583)	(850)	(1165)	(1531)
İzin verilen civata yükü max. Verim noktası % 80	kN	10.9	14	27	43	63	86	118	144	184	228	265	345	421	614	843	1107
(X Sp AS) Test kuvveti DIN EN ISO 898, bölüm 1	kN	10.9	17	30	48	70	(96)	(130)	(159)	(203)	(252)	(293)	(381)	(466)	(678)	(930)	(1222)
İzin verilen ön gerilme kuvveti max. Verim % 90 Nokta ve sürtünme $\mu = 0,14$	kN	10.9	13	25	38	55	77	107	130	167	208	240	315	384	561	773	1018
Gerilme öncesi müsaade edilen tork değeri Kuvvet ve sürtünme $\mu = 0,14$	Nm	10.9	14	36	67	120	191	302	405	580	772	994	1455	1930	3378	5415	8162
Müsaade edilen kol uzunluğu ön gerilme kuvveti	mm	10.9	42	90	175	300	450	700	920	1200	1560	-	-	-	-	-	-
Standart anahtar ile tork değeri elde etmek mümkündür	Nm	-	60	80	90	100	110	125	140	150	170	185	225	240	300	330	410
Öngerilme kuvveti	kN	-	54	53	48	43	43	43	43	42	42	43	45	43	45	46	50
Bu öngerilme kuvveti ile tehlikeli var		10.9	Kırılma breakage		permanent deformation		hareket kuvvetinin başlangıcında bağlama ünitesinin gevşemesi loosening of clamping unit at start of motive force										
		12.9	kalıcı deformasyon														

As = Sembolik kesit mm<sup>2</sup>  
As = Nominal cross section in mm<sup>2</sup>

Sp = Min. N / mm<sup>2</sup> cinsinden sıkma kuvveti  
Sp = min. Clamping force in N/mm<sup>2</sup>

Rm = Min. N/mm<sup>2</sup> yük faktörü  
Rm = min. load factor in N/mm<sup>2</sup>

$\mu$  = sürtünme  
 $\mu$  = friction

Referans Nr.	dx	x L	b	a	e	k	Sıkma Verileri		Tightening Data	Nm	kN	Tightening Data
							Nm	kN				
1590-0606025		x25	15								8	
1590-0606040	M6x6	x40	28	5.7	10	4	17	17			11	
1590-0606063		x63	40								15	
1590-0808032		x32	22								13	
1590-0808050	M8x8	x50	35	7.7	12	6	43	32			16	
1590-0808080		x80	50								20	
1590-1010040		x40	23								35	
1590-1010063	M10x10	x63	45	9.7	15	6	79	51			45	
1590-1010080		x80	50								60	
1590-1010100		x100	60								70	
1590-1012050		x50	35								50	
1590-1012063		x63	40								60	
1590-1012080		x80	55								65	
1590-1012100	M10x12	x100	60	11.7	18	7	79	51			75	
1590-1012125		x125	75								90	
1590-1012160		x160	90								105	
1590-1012200		x200	120								120	
1590-1212050		x50	35								65	
1590-1212063		x63	40								70	
1590-1212080		x80	55								80	
1590-1212100	M12x12	x100	65	11.7	18	7	141	74			100	
1590-1212125		x125	75								110	
1590-1212160		x160	100								140	
1590-1212200		x200	120								160	
1590-1214050		x50	35								80	
1590-1214063		x63	45								90	
1590-1214080		x80	55								100	
1590-1214100	M12x14	x100	65	13.7	22	8	141	74			110	
1590-1214125		x125	75								135	
1590-1214160		x160	100								160	
1590-1214200		x200	120								180	
1590-1416063		x63	45								115	
1590-1416080		x80	55								140	
1590-1416100		x100	65								160	
1590-1416125	M14x16	x125	75	15.7	25	9	223	101			180	
1590-1416160		x160	100								220	
1590-1416200		x200	120								255	
1590-1416250		x250	150								300	
1590-1616063		x63	45								140	
1590-1616080		x80	55								160	
1590-1616100		x100	65								190	
1590-1616125	M16x16	x125	85	15.7	25	9	354	138			225	
1590-1616160		x160	100								270	
1590-1616200		x200	120								315	
1590-1616250		x250	150								380	
1590-1618063		x63	45								170	
1590-1618080		x80	55								185	
1590-1618100		x100	65								220	
1590-1618125	M16x18	x125	85	17.7	28	10	354	138			245	
1590-1618160		x160	100								295	
1590-1618200		x200	120								340	
1590-1618250		x250	150								405	
1590-1820080		x80	55								260	
1590-1820100		x100	65								290	
1590-1820125		x125	85								340	
1590-1820160	M18x20	x160	110	19.7	32	12	474	169			390	
1590-1820200		x200	125								455	
1590-1820250		x250	150								535	
1590-1820315		x315	190								650	
1590-2020080		x80	55								300	
1590-2020100		x100	65								330	
1590-2020125		x125	85								380	
1590-2020160	M20x20	x160	110	19.7	32	12	679	215			450	
1590-2020200		x200	125								535	
1590-2020250		x250	160								635	
1590-2020315		x315	190								760	
1590-2022080		x80	55								345	
1590-2022100		x100	65								380	
1590-2022125		x125	85								435	
1590-2022160	M20x22	x160	110	21.7	35	14	679	215			500	
1590-2022200		x200	125								590	
1590-2022250		x250	150								695	
1590-2022315		x315	190								820	

Referans Nr.	dx	x L	b	a	e	k	Sıkma Verileri		Tightening Data	Nm	kN	Tightening Data
							Nm	kN				
1590-2224080		x80	55								465	
1590-2224100		x100	65								515	
1590-2224125		x125	85								580	
1590-2224160	M22x24	x160	110	23.7	40	16	903	266			660	
1590-2224200		x200	125								775	
1590-2224250		x250	150								805	
1590-2224315		x315	190								1050	
1590-2424100		x100	70								550	
1590-2424125		x125	85								630	
1590-2424160	M24x24	x160	110	23.7	40	16	1163	310			725	
1590-2424200		x200	125								850	
1590-2424250		x250	150								990	
1590-2424315		x315	190								1180	
1590-2424400		x400	240								1410	
1590-2428100		x100	70								660	
1590-2428125		x125	85								730	
1590-2428160	M24x28	x160	110	27.7	44	18	1163	310			820	
1590-2428200		x200	125								950	
1590-2428250		x250	150								1090	
1590-2428315		x315	190								1300	
1590-2428400		x400	240								1530	
1590-2428500		x500	290								1800	
1590-3036125		x125	80								1280	
1590-3036160		x160	110								1440	
1590-3036200	M30x36	x200	135	35.6	54	22	2258	493			1620	
1590-3036250		x250	150								1880	
1590-3036315		x315	200								2150	
1590-3036500		x500	300								3010	
1590-3642160		x160	100								2260	
1590-3642250	M36x42	x250	175	41.6	65	26	3953	719			2890	
1590-3642400		x400	250								4010	
1590-3642600		x600	340								5900	
1590-4248160		x160	100								3550	
1590-4248250	M42x48	x250	175	47.6	75	30	6337	986			4530	
1590-4248400		x400	250								6160	

**DIN 787**
**Ürün Nr. 1590 T-Ayaklı Saplama**

- Kalite 12.9
- Siyah kaplama

**Product Nr. 1590 T-Slot Bolt**

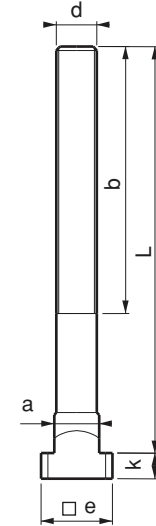
- Quality 12.9
- Black coating



Loctite 8150

**Note:** 150 °C üzerindeki ortamlarda sıkma işlemi yapılırken dişlerin üzerine Loctite 8150 kullanılır.

**Note:** Environments on the 150 °C when clamping action on the thread Loctite 8150 is used.



Referans Nr.	dx	x L	b	a	e	k	Sıkma Verileri		Tightening Data	Nm	kN
							Nm	kN			
1610-0606025		x25	15								19
1610-0606040	M6x6	x40	28	5.7	10	4	17	17			25
1610-0606063		x63	40								36
1610-0808032		x32	22								39
1610-0808050	M8x8	x50	35	7.7	12	6	43	32			45
1610-0808080		x80	50								56
1610-1010040		x40	23								65
1610-1010063	M10x10	x63	45	9.7	15	6	79	51			80
1610-1010080		x80	50								90
1610-1010100		x100	60								110
1610-1012050		x50	35								85
1610-1012063		x63	40								95
1610-1012080		x80	55								100
1610-1012100	M10x12	x100	60	11.7	18	7	79	51			110
1610-1012125		x125	75								125
1610-1012160		x160	90								140
1610-1012200		x200	120								160
1610-1212050		x50	35								120
1610-1212063		x63	40								128
1610-1212080		x80	55								140
1610-1212100	M12x12	x100	65	11.7	18	7	141	74			160
1610-1212125		x125	75								170
1610-1212160		x160	100								195
1610-1212200		x200	120								220
1610-1214050		x50	35								140
1610-1214063		x63	45								150
1610-1214080		x80	55								155
1610-1214100	M12x14	x100	65	13.7	22	8	141	74			175
1610-1214125		x125	75								195
1610-1214160		x160	100								220
1610-1214200		x200	120								240
1610-1416063		x63	45								200
1610-1416080		x80	55								230
1610-1416100		x100	65								245
1610-1416125	M14x16	x125	75	15.7	25	9	223	101			270
1610-1416160		x160	100								310
1610-1416200		x200	120								340
1610-1416250		x250	150								390
1610-1616063		x63	45								260
1610-1616080		x80	55								285
1610-1616100		x100	65								310
1610-1616125	M16x16	x125	85	15.7	25	9	354	138			345
1610-1616160		x160	100								385
1610-1616200		x200	120								435
1610-1616250		x250	150								505
1610-1618063		x63	45								290
1610-1618080		x80	55								305
1610-1618100		x100	65								340
1610-1618125	M16x18	x125	85	17.7	28	10	354	138			370
1610-1618160		x160	100								415
1610-1618200		x200	120								460
1610-1618250		x250	150								525
1610-1820080		x80	55								405
1610-1820100		x100	65								435
1610-1820125		x125	85								480
1610-1820160	M18x20	x160	110	19.7	32	12	474	169			535
1610-1820200		x200	125								610
1610-1820250		x250	150								680
1610-1820315		x315	190								790
1610-2020080		x80	55								480
1610-2020100		x100	65								515
1610-2020125		x125	85								570
1610-2020160	M20x20	x160	110	19.7	32	12	679	215			635
1610-2020200		x200	125								725
1610-2020250		x250	160								820
1610-2020315		x315	190								950
1610-2022080		x80	55								530
1610-2022100		x100	65								565
1610-2022125		x125	85								620
1610-2022160	M20x22	x160	110	21.7	35	14	679	215			690
1610-2022200		x200	125								775
1610-2022250		x250	150								880
1610-2022315		x315	190								1050

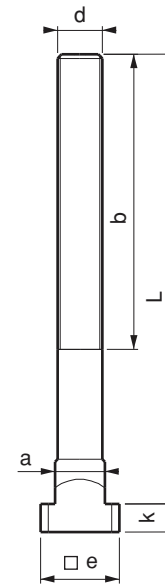
Referans Nr.	dx	x L	b	a	e	k	Sıkma Verileri		Tightening Data	Nm	kN
							Nm	kN			
1610-2224080		x80	55								700
1610-2224100		x100	65								740
1610-2224125		x125	85								805
1610-2224160	M22x24	x160	110	23.7	40	16	903	266			890
1610-2224200		x200	125								1000
1610-2224250		x250	150								1115
1610-2224315		x315	190								1280
1610-2424100		x100	70								885
1610-2424125		x125	85								970
1610-2424160		x160	110								1060
1610-2424200	M24x24	x200	125	23.7	40	16	1163	310			1180
1610-2424250		x250	150								1320
1610-2424315		x315	190								1515
1610-2424400		x400	240								1750
1610-2428100		x100	70								1000
1610-2428125		x125	85								1065
1610-2428160		x160	110								1150
1610-2428200	M24x28	x200	125	27.7	44	18	1163	310			1280
1610-2428250		x250	150								1425
1610-2428315		x315	190								1640
1610-2428400		x400	240								1870
1610-2428500		x500	290								2170
1610-3036125		x125	80								1900
1610-3036160		x160	110								2065
1610-3036200	M30x36	x200	135	35.6	54	22	2258	493			2250
1610-3036250		x250	150								2500
1610-3036315		x315	200								2770
1610-3036500		x500	300								3630
1610-3642160		x160	100								3310
1610-3642250		x250	175								3930
1610-3642400	M36x42	x400	250	41.6	65	26	3953	719			5010
1610-3642600		x600	340								6900
1610-4248160		x160	100								4600
1610-4248250	M42x48	x250	175	47.6	75	30	6337	986			5600
1610-4248400		x400	250								7200

**DIN 787**
**Ürün Nr. 1610 Somunlu Pullu T-Ayaklı Saplama**

- Kalite 12.9
- Siyah kaplama

**Product Nr. 1610 T-Slot Bolt with Nut and Washer**

- Quality 12.9
- Black coating




**Not:** 150 °C üzerindeki ortamlarda sıkma işlemi yapılırken dişlerin üzerine Loctite 8150 kullanılır.



Loctite 8150

**Note:** Environments on the 150 °C when clamping action on the thread Loctite 8150 is used.

Referans Nr.	dx	a	e	k	h-H	e1	e2	c	s	f	sw	Sıkma Verileri Tightening Data		 (g)
												Nm	kN	
1630-2022200	M20x22x200	21.7	35	14	25-75	49	69	92	12	30	30	679	215	1635
1630-2022250	M20x22x250	21.7	35	14	70-120	49	69	92	12	30	30	679	215	1720
1630-2424200	M24x24x200	23.7	40	16	25-75	53	74	92	12	30	36	1163	310	2075
1630-2424250	M24x24x250	23.7	40	16	70-120	53	74	92	12	30	36	1163	310	2250
1630-2428200	M24x28x200	27.7	44	18	25-75	53	74	92	12	30	36	1163	310	2180
1630-2428250	M24x28x250	27.7	44	18	70-120	53	74	92	12	30	36	1163	310	2340
1630-3036200	M30x36x200	35.6	54	22	25-75	68	88	94	14	30	46	2258	493	3660
1630-3036250	M30x36x250	35.6	54	22	70-120	68	88	94	14	30	46	2258	493	3910

**Ürün Nr. 1630 Kombine T-Ayaklı Saplama**

- Ağır preslerde, büyük kalıplarda çalışma esnasında vibrasyondan kaynaklanan olabilecek gevşemeyi somunun kontra sıkma yapısından dolayı önler
- Kalite 12.9
- Siyah kaplama

**Product Nr. 1630 Combined T-Slot Bolt**

- Because of it's contra tightening structure, it prevents loosening which may be generated by the vibration during working with heavy presses and big moulds.
- Quality 12.9
- Black coating

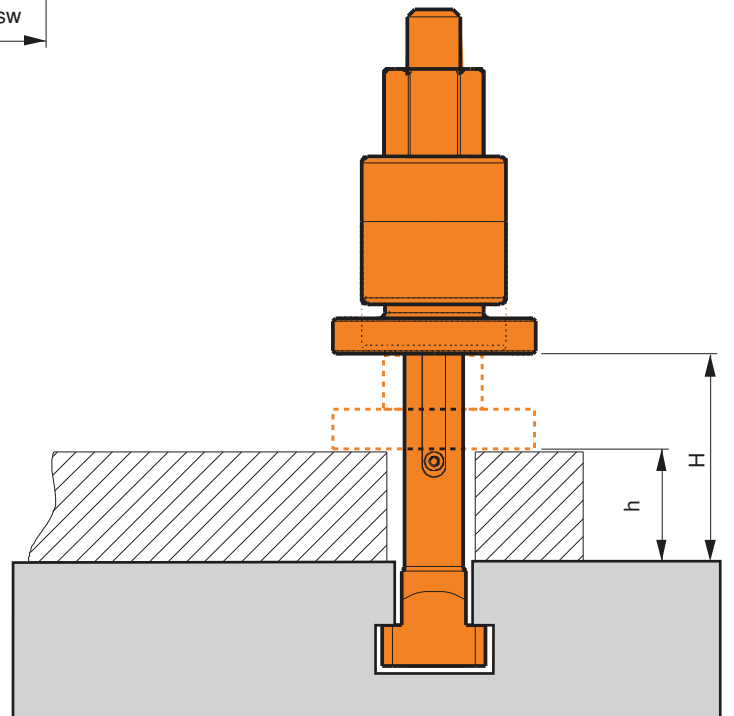
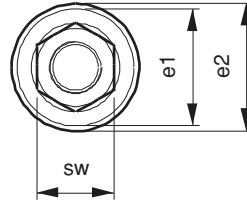
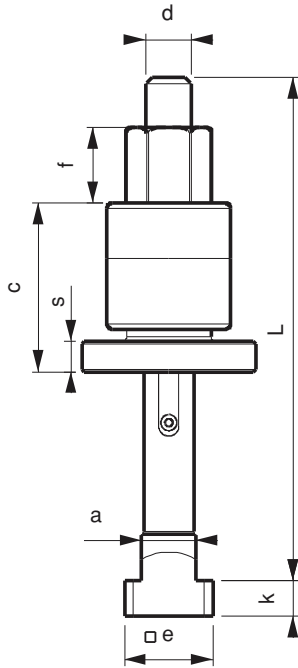



**Not:** 150 °C üzerindeki ortamlarda sıkma işlemi yapılırken dişlerin üzerine Loctite 8150 kullanılır.

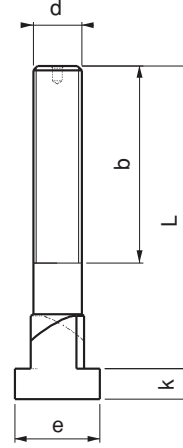
**Note:** Environments on the 150 °C when clamping action on the thread Loctite 8150 is used.



Loctite  
8150



Referans Nr.	dx	x L	b	a	e	k	Sıkma Verileri Tightening Data		
							Nm	kN	
1650-1214050		x50	35						70
1650-1214080	M12x14	x80	55	13.7	22	8	141	74	100
1650-1214125		x125	75						120
1650-1618063		x63	45						160
1650-1618100	M16x18	x100	65	17.7	28	10	354	138	220
1650-1618160		x160	100						280
1650-2022080		x80	55						330
1650-2022125	M20x22	x125	85	21.7	35	14	679	215	430
1650-2022200		x200	120						570
1650-2428100		x100	70						650
1650-2428125	M24x28	x125	85	27.7	44	18	1163	310	770
1650-2428250		x250	150						1150

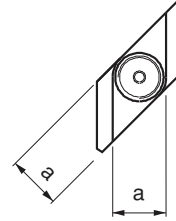


#### Ürün Nr. 1650 Dereceli T-Ayaklı Saplama

- T-Kanal pleytlerde üstten T-Kanala girip bağlama özelliği vardır
- Kalite 12.9
- Siyah kaplama

#### Product Nr. 1650 Graded T-Slot Bolt

- In T-Slot plates it has the feature of making the coupling by entering T-Slot the top.
- Quality 12.9
- Black coating




**Not:** 150 °C üzerindeki ortamlarda sıkma işlemi yapılırken dişlerin üzerine Loctite 8150 kullanılır.



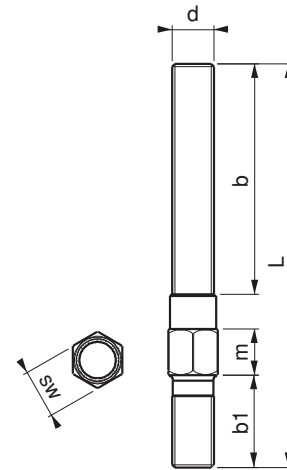
Loctite  
8150

**Note:** Environments on the 150 °C when clamping action on the thread Loctite 8150 is used.

Referans Nr.	d	L	b	b1	m	sw	Sıkma Verileri Tightening Data		
							Nm	kN	
1670-12130	M12	130	65	24	14	14	120	63	160
1670-12160		160	90						185
1670-14130	M14	130	65	28	15	15	191	86	216
1670-14160		160	90						246
1670-16140	M16	140	70	32	16	17	302	118	310
1670-16160		160	95						340
1670-18150	M18	150	70	35	19	19	405	144	395
1670-18180		180	95						450
1670-20150	M20	150	70	40	22	22	580	184	520
1670-20180		180	95						575
1670-22150	M22	150	70	40	22	24	772	228	610
1670-22180		180	95						705
1670-24170	M24	170	75	47	22	27	994	265	875
1670-24205		205	105						990
1670-24250		250	140						1125
1670-30250	M30	250	135	55	32	36	1930	421	1950
1670-30315		315	195						2260

## Anahtar Ağızlı Saplama

### Wrench Mouth Stud



#### Ürün Nr. 1670 Anahtar Ağızlı Saplama

- Kullanım alanı; Enjeksiyon makinelerinde ve M12-14-16-18-20-22-24-30 diş açılmış pleytlerde kullanılır.
- Kalite 10.9
- Siyah kaplama

#### Product Nr. 1670 Wrench Mouth Stud

- Area of Use: This stud is used in injection machines and in plates with M12-14-16-18-20-22-24-30 threads
- Quality 10.9
- Black coating





Loctite  
8150

**Not:** 150 °C üzerindeki ortamlarda sıkma işlemi yapılırken dişlerin üzerine Loctite 8150 kullanılır.

**Note:** Environments on the 150 °C when clamping action on the thread Loctite 8150 is used.



Referans Nr.	d x L	b1	b	Sıkma Verileri Tightening Data		 (g)
				Nm	kN	
1690-08040	x40		20			10
1690-08063	x63		40			15
1690-08080	x80		50			20
1690-08100	x100		63	36	27	30
1690-08125	x125		75			35
1690-08160	x160		100			45
1690-10050	x50		25			20
1690-10063	x63		32			25
1690-10080	x80		50			35
1690-10100	x100		63	67	43	45
1690-10125	x125		75			55
1690-10160	x160		100			70
1690-10200	x200		125			95
1690-12050	x50		25			35
1690-12063	x63		32			40
1690-12080	x80		50			55
1690-12100	x100		63	120	63	70
1690-12125	x125		75			90
1690-12160	x160		100			115
1690-12200	x200		125			140
1690-14063	x63		32			60
1690-14080	x80		50			75
1690-14100	x100		63			95
1690-14125	x125		75	191	86	120
1690-14160	x160		100			150
1690-14200	x200		125			195
1690-14250	x250		160			240
1690-16063	x63		32			85
1690-16080	x80		50			105
1690-16100	x100		63			130
1690-16125	x125		75			160
1690-16160	x160		100	302	118	205
1690-16200	x200		125			260
1690-16250	x250		160			325
1690-16315	x315		180			405
1690-16500	x500		315			650
1690-18080	x80		50			130
1690-18100	x100		60			160
1690-18125	x125		75			200
1690-18160	x160		100	405	144	260
1690-18200	x200		125			320
1690-18250	x250		150			400
1690-18315	x315		180			510
1690-20080	x80		32			155
1690-20100	x100		60			200
1690-20125	x125		70			250
1690-20160	x160		100			330
1690-20200	x200		125	580	184	400
1690-20250	x250		160			510
1690-20315	x315		200			640
1690-20400	x400		250			815
1690-20500	x500		315			1020
1690-22100	x100		45			250
1690-22125	x125		70			305
1690-22160	x160		100			400
1690-22200	x200		125	772	228	500
1690-22250	x250		160			620
1690-22315	x315		180			780
1690-22400	x400		250			1010
1690-24100	x100		45			290
1690-24125	x125		70			365
1690-24160	x160		100			470
1690-24200	x200		125			580
1690-24250	x250		160	994	265	730
1690-24315	x315		200			920
1690-24400	x400		250			1170
1690-24500	x500		315			1470
1690-24630	x630		315			1860
1690-30125	x125		56			570
1690-30200	x200		125			910
1690-30250	x250		160			1150
1690-30315	x315		200	1930	421	1435
1690-30500	x500		315			2315
1690-30700	x700		400			3215
1690-301000	x1000		400			4700

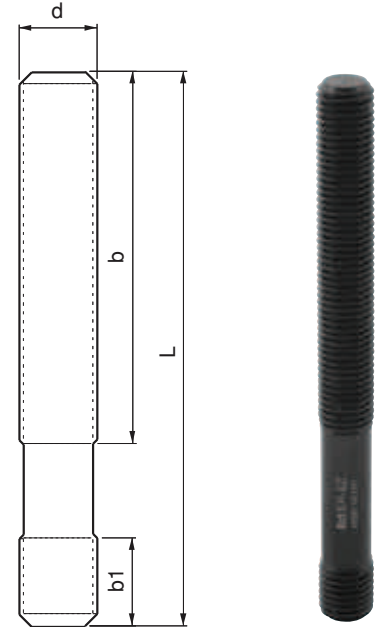
Referans Nr.	d x L	b1	b	Sıkma Verileri Tightening Data		 (g)
				Nm	kN	
1690-36160	x160		80			1100
1690-36200	x200		125			1340
1690-36250	x250		160			1710
1690-36315	M36 x315	51	200	3378	614	2150
1690-36400	x400		250			2700
1690-36500	x500		315			3450
1690-36700	x700		400			4750
1690-42315	M42 x315	59	200	5415	843	2950
1690-42400	x400		250			3750
1690-42500	x500		315			4690

**DIN 6379**
**Ürün Nr. 1690 Düz Saplama**

- Kalite 10.9
- Siyah kaplama

**Product Nr. 1690 Straight Stud**

- Quality 10.9
- Black coating



**Not:** 150 °C üzerindeki ortamlarda sıkma işlemi yapılırken dişlerin üzerine Loctite 8150 kullanılır.

**Note:** Environments on the 150 °C when clamping action on the thread Loctite 8150 is used.


 Loctite  
8150