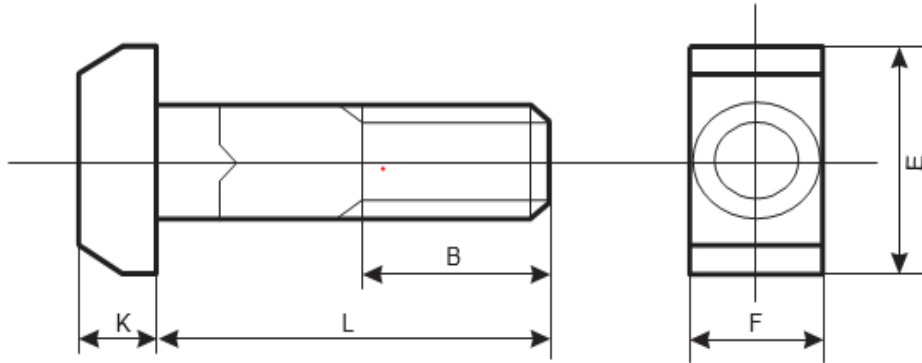


Metric DIN 186 T-Head Screws / Bolts with Square Neck



	D	M6	M8	M10	M12	M16	M20	M24	M30	M36	M42	M48
D		16	28	21	26	30	36	43	54	66	80	88
E		6	8	10	12	16	20	24	30	36	42	48
F		4.5	5.5	7	8	10.5	13	15	19	23	26	30
K		18	22	26	30	38	46	54	66	78	90	102
X												
B		24	28	32	36	44	52	60	72	84	96	108
Y												
L (mm)		Weight in kg(s) per 1000 pcs										
X	30	9.9	18.2	30.0								
	40	12.1	20.2	35.0	55.1							
	50	14.3	24.2	40.6	62.3	117						
	60	16.5	28.2	46.8	71.1	130	220					
	70		32.2	53.0	78.9	145	240	377				
	80		36.2	59.2	88.7	1161	262	407				
	90			65.4	97.6	177	287	437	727			
	100			71.6	106	193	302	467	773			
	120			124	225	351	538	874	1380			
	140					257	401	618	985	1530	2220	
Y	160					289	450	689	1090	1690	2420	3300
	180						500	760	1200	1850	2640	3540
	200						550	831	1310	2010	2860	3820

Metric DIN 186 T-head bolts have a T-shaped head which can fit into a pre-cut slot or can be easily gripped by a standard wrench. DIN 186 T-Head bolts are partially threaded along their shank, the thread length depending primarily on the length of the bolt. The square neck right beneath the head seats into the hole, preventing the bolt from rotating in its hole. T-head bolts can be used for most applications involving tensioning and clamping. Aspen Fasteners offers the following sizes for immediate delivery from stock: Diameters ranging from M8 to M16 and lengths from 30 to 90mm. View available parts by clicking on the following link:

DIN (**D**eutsches **I**nstitut für **N**ormung - German Institute for Standardization) standards are issued for a variety of components including industrial fasteners as Metric DIN 186 Square Neck T-Head Bolt. The DIN standards remain common in Germany, Europe and globally even though the transition to ISO standards is taking place. DIN standards continue to be used for parts which do not have ISO equivalents or for which there is no need for standardization as DIN 186 Square Neck T-Head.

1) Mechanical properties of stainless steel for metric DIN 186 Square Neck T-Head Bolts

Stainless steels can be divided into three groups of steel - austenitic, ferritic and martensitic. Austenitic steel is by far the most common type (>90% of commercial fasteners). The steel groups and strength classes are designated by a four-digit sequence of letters and numbers (eg A2-70) as shown in the following table. DIN EN ISO 3506 governs screws and nuts made from stainless steel.

Steel group	Steel grade	Strength class	Screws, Nuts and Bolts			
			Tensile strength N/mm ²	Tensile strength PSI	Dia range	Nut Load N/mm ²
Austenitic	A2 and A4	50	500	70,000	<=M39	500
		70	700	100,000	<=M20	700
		80	800	118,000	<=M20	800

The tensile stress is calculated with reference to the tensile stress area (see DIN EN ISO 3506-1979). Nuts to be paired with same grade of stainless steel screws

Steel group	Property Strength class	Made From	Characteristics
Austenitic	50	A1, A2	Soft; cold worked, turned and soft pressed fasteners
	70	A2, A4	Cold worked, normal strength formed fasteners
	80	A2, A4	Extreme cold worked, high strength, special applications

2) Chemical composition of stainless steel metric DIN 186 Square Neck T-Head Bolts

Grade	USA Grade	Material designation	Material no.	C %	Si ≤ %	Mn ≤ %	Cr %	Mo %	Ni %
A 2	304	X 5Cr Ni 1810	1.4301	≤ 0.07	1.0	2.0	17.5 to 19.5	-	8.0 to 10.5
		X 2 Cr Ni 1811	1.4306	≤ 0.03	1.0	2.0	18.0 to 20.0	-	10 to 12.0
		X 8 Cr Ni 19/10	1.4303	≤ 0.07	1.0	2.0	17.0 to 19.0	-	11.0 to 13.0
A 4	316	X 5 Cr Ni Mo 1712	1.4401	≤ 0.07	1.0	2.0	16.5 to 18.5	2.0 to 2.5	10.0 to 13.0
		X 2 Cr Ni Mo 1712	1.4404	≤ 0.03	1.0	2.0	16.5 to 18.5	2.0 to 2.5	10 to 13

3) Chemical composition of steel metric DIN 186 Square Neck T-Head Bolts

PROPERTY CLASS	MATERIAL AND TREATMENT	CHEMICAL COMPOSITION LIMITS %				TEMPERING TEMP °C MIN.
		C		P	S	
		min.	max.	max.	max.	
4.6, 4.8, 5.8, 6.8	Low or medium carbon steel	-	0.55	0.05	0.06	-
8.8	Medium carbon steel quenched, tempered	0.25	0.55	0.04	0.05	425
9.8	Medium carbon steel quenched, tempered	0.25	0.55	0.04	0.05	425
10.9	Medium carbon steel additives e.g. boron, Mn, Cr or Alloy steel - quenched, tempered	0.20	0.55	0.04	0.05	425
12.9	Alloy steel - quenched, tempered	0.20	0.50	0.035	0.035	380

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4) Mechanical properties of steel for metric DIN 186 Square Neck T-Head Bolts

MECHANICAL PROPERTY		PROPERTY CLASS									
		4.8	5.6	5.8	6.8	8.8		9.8	10.9	12.9	
						Up to M 16	Over M 16				
Tensile Strength (Rm, N/mm ²)	nom.	400	500		600	800		900	1000	1200	
	min.	420	500	520	600	800	830	900	1040	1220	
Vickers Hardness	min.	130	155	160	190	250	255	290	320	385	
	max	250				320	336	360	380	435	
Brinell Hardness	min.	124	147	152	181	319	242	266	295	353	
	max.	238				385	319	342	363	412	
Rockwell Hardness	min. HR	71	79	82	89	-					
	HRC	-	-	-	-	20	23	28	32	39	
	HR	95				99	-				
	max. HRC	-	-	-	-	32	34	37	39	44	
Yield Stress ReL. N/mm ²	nom.	320	300	400	480	-					
	min.	340	300	420	480	-					
Stress at permanent set limit N/mm ²	nom.	-				640		720	900	1080	
	min.	-				640	660	720	940	1100	

[Metric DIN 186 T-Head Bolts Available from Aspen Fasteners](#)

Disclaimer

Dimensional data and technical information for Metric DIN 186 T-Head Screws / Bolts with Square Neck was obtained from publicly available sources and not acquired through standards agencies. It has been completed and compiled for reference purposes only; where discrepancies are found they are subject to change without notice. Aspen Fasteners makes no warranties or representations regarding the accuracy and validity of the compiled information and data. Contact the relevant standards authorities for accurate and detailed information.

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