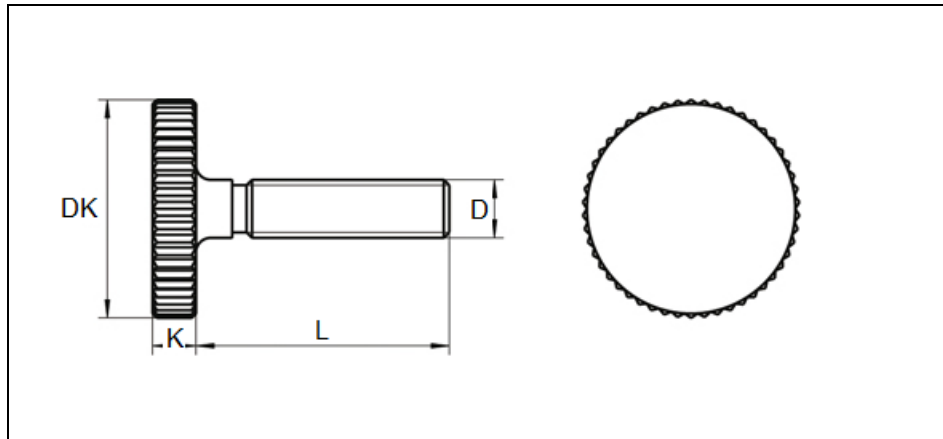


Metric DIN 653 Flat (low profile) Knurled Head Thumb Screws



D	M3	M4	M5	M6	M8	M10
DK	12	16	20	24	30	36
K	2.5	3.5	4	5	6	8

All measurements are in mm

Metric DIN 653 are flat low profile knurled head thumb screws which have a wide shallow cylindrical head with ridged (knurled) sides. Because they do not have a raised shoulder below the head, the head sits closer to the surface when the screw is fully tightened. Metric thumb screws are designed for quick and convenient tightening and loosening by hand without the need of any tool or driver. The large head with the knurled grip allows the screw to be tightened or loosened with minimal external force. This feature makes the screw an ideal fastener for any device that require frequent assembly/disassembly. They are commonly used to fasten safety covers of electronic devices. They are typically inserted and tightened into pre-drilled tapped hole and are used when a low profile is preferred. These screws are available in steel as well as stainless steel A2 and A4. Aspen Fasteners offers over 500,000 unique fastener products from stock in inch and metric standard in a variety of materials and finishes. The following sizes of metric DIN 653 flat low profile knurled head thumb screws are available for immediate shipping from stock: Diameters ranging from M3 to M10 up to 35mm long in steel and stainless steel A2 and A4. View parts by clicking on the following link: [DIN 653 flat low profile knurled head thumb screws](#)

D	M3	M4	M5	M6	M8	M10
L	weight kg/1000pcs					
6	3					
8	3	6				
10	3	6	11			
12	3	7	12	20		
16	3	7	12	21	37	
20	4	7	13	22	39	72
25		7	14	23	40	74
30			14	24	42	76
35				25	43	78
40				26	48	80

DIN (**D**eutsches Institut für **N**ormung - German Institute for Standardization) standards are issued for a variety of components including industrial fasteners as metric DIN 653 flat low profile knurled head thumb screws. 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 like DIN 653 flat low profile knurled head thumb screws.

1) Mechanical properties of stainless steel for metric DIN 653 flat low profile knurled head thumb screws

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



*a Division of Nissen Fasteners Florida LLC

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

Aspen Fasteners 4807 Rockside Road, Suite 400, Independence, OH 44131 USA
www.aspenfasteners.com | aspensales@aspenfasteners.com | 1-800-479-0056

Headquarters: Independence OH USA; Montreal QC Canada;
 Distribution Centers: Boston MA; Chicago IL; Cincinnati KY; Dallas TX; Denver CO; Houston TX; Jersey City NJ; Los Angeles CA; Miami FL;
 San Francisco CA; Seattle WA; Washington VA; Toronto ON; Calgary AB; Vancouver BC; Jiutepec (Temixco); Mexico City; Monterrey

2) Chemical composition of stainless steel metric DIN 653 flat low profile knurled head thumb screws

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 653 flat low profile knurled head thumb screws

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

Aspen Fasteners 4807 Rockside Road, Suite 400, Independence, OH 44131 USA
www.aspenfasteners.com | aspensales@aspenfasteners.com | 1-800-479-0056

4) Mechanical properties of steel for metric DIN 653 flat low profile knurled head thumb screws

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

Disclaimer

Dimensional data and technical information for metric DIN 653 flat low profile knurled head thumb screws 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.