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Westfield Fasteners Product Specification:

ISO 14580 - Torx Cap Screws with Low Heads / Hexalobular Socket Cheese Head Screws

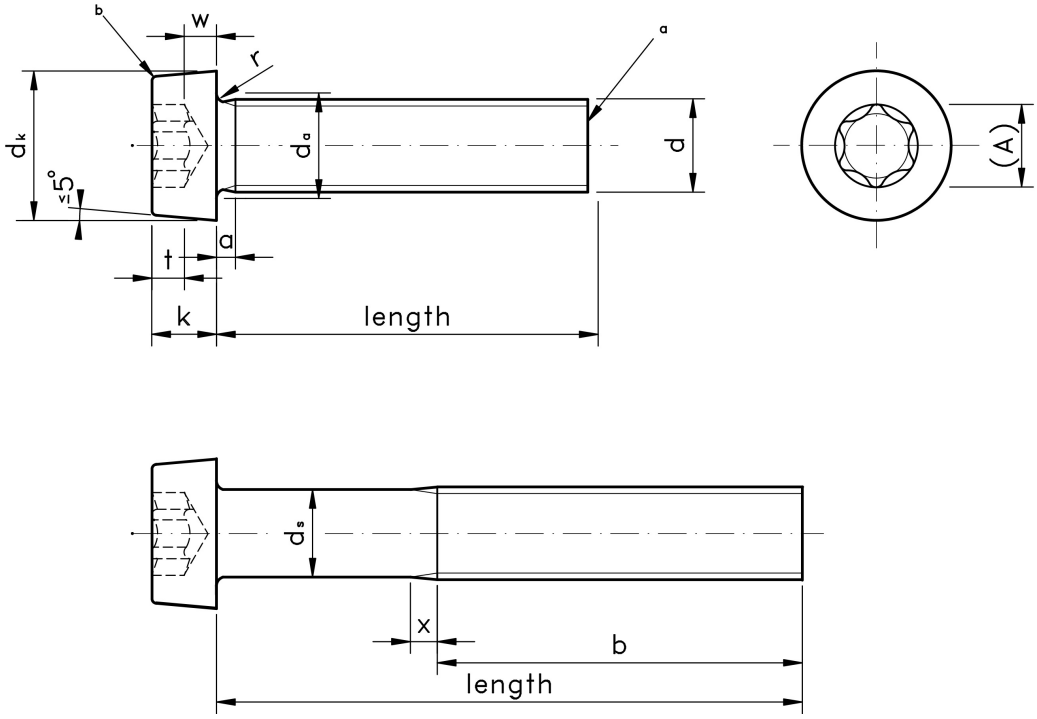
This product guide contains the specification for metric threaded hexalobular or torx drive low cap screws, a series of standard parts available from Westfield Fasteners. The basis of this specification is the ISO standard ISO 14580.

Product Description

Similar to the DIN 912 socket or torx cap screw, but with a lower head height and smaller Torx Key (6 lobe drive), the ISO 14580 is used where space is limited. This range is generally specified with a partial thread beyond a certain length for each nominal thread diameter, but occasionally some stock may include a fully threaded shank.

Scope of the ISO standard.

The ISO 14580 specifies the tolerances and variation in form of hexalobular torx drive low head cap screws, and covers metric thread diameters for sizes from M2 up to and including M10. Table 1 below defines the overall dimensions and tolerances of this screw type, and should be used in conjunction with the diagram in figure 1. Table 2 defines the tolerance on the shank length.



Notes to figure 1:

- a - The end of the threaded shank will be finished as the thread rolling machine would have created it i.e: unchamfered.
- b - The top edge of the head may be rounded or flat.

Variations from ISO 14580

The ISO standard specifies minimum thread lengths where practicable, but 8.8 high tensile variants are invariably provided with a full thread.

Table 1: Dimensions & Tolerances according to ISO 14580

Thread, d			M2	M2.5	M3	M3.5	M4	M5	M6	M8	M10
p			0.4	0.45	0.5	0.6	0.7	0.8	1	1.25	1.5
a		max	0.8	0.9	1	1.2	1.4	1.6	2	2.5	3
b		min	25	25	25	38	38	38	38	38	38
d_k		nom = max	3.80	4.50	5.50	6.00	7.00	8.50	10.00	13.00	16.00
		min	3.62	4.32	5.32	5.82	6.78	8.28	9.78	12.73	15.73
d_a		max	2.6	3.1	3.6	4.1	4.7	5.7	6.8	9.2	11.2
k		nom = max	1.55	1.85	2.40	2.60	3.10	3.65	4.40	5.80	6.90
		min	1.41	1.71	2.26	2.46	2.92	3.47	4.10	5.50	6.54
r		min	0.1	0.1	0.1	0.1	0.2	0.2	0.25	0.4	0.4
w		min	0.5	0.7	0.75	1.0	1.1	1.3	1.6	2	2.4
x		max	1.0	1.1	1.25	1.50	1.75	2.0	2.5	3.2	3.8
Hexabular socket	Socket no.		6	8	10	15	20	25	30	45	50
	A	ref	1.75	2.40	2.80	3.35	3.95	4.50	5.60	7.95	8.95
	t	max	0.84	0.91	1.27	1.33	1.66	1.91	2.26	3.05	3.43
		min	0.71	0.78	1.01	1.07	1.27	1.52	1.90	2.66	3.04

Table 2: Shank Length Tolerance according to ISO 14580

Shank Length (mm)	+/- (mm)
3	0.2
4-6	0.24
8-10	0.29
12-16	0.35
20-30	0.42
35-50	0.5
55-80	0.6

For further details, please refer to the ISO standard document for this item.