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Westfield Fasteners Product Specification:

ASME B18.3 - UNC Low Socket Head Cap Machine Screws

This product guide contains the specification for UNC threaded Low Socket Head Cap Machine Screws, a series of standard parts available from Westfield Fasteners. The basis of this specification is the ASME standard ASME B18.3.

Product Description

UNC socket head cap screw, with a low head. Socket low caps are designed to be used where there is restricted clearance for the head of the screw. These screw's low head includes a shallower hex drive compared to a full height socket head cap screw. The lower head height means that they cannot be used to the same tightening torque as full height socket head cap screws.

This range is generally manufactured with a partial thread beyond a certain length which varies depending on the diameter of screw, but occasionally some stock may include a fully threaded shank. The socket head generally has a flat chamfered top surface with smooth or knurled cylindrical sides and a flat bearing surface.

Scope of the ASME B18.6.3 Standard.

Unlike ISO standards, each ASME standard generally covers a range or family of product types. ASME B18.3 covers several socket screw types, including these UNC low socket head cap screws. This standard describes the form, dimensions and tolerances, starting from the thread diameter of gauge size 4, up to and including 5/8 inch.

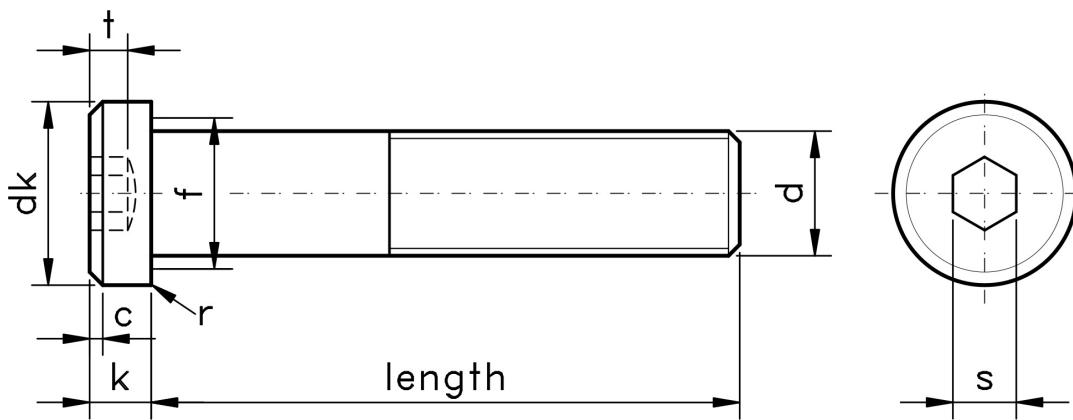


Figure 1: UNC Low Socket Head Cap machine Screw

Table 1: Dimensions & Tolerances for UNC Low Socket Head Cap machine Screws according to ASME B18.3 (inches)

Thread Diameter, d	TPI	Body Diameter, f		Head Diameter, dk		Head Height, k		Maximum Chamfer or Radius, c	Socket Size, s	Socket Depth, t	r	
		max	min	max	min	max	min					
4	0.1120	40	0.1120	0.1075	0.183	0.176	0.059	0.053	0.009	0.050	0.038	0.008
5	0.1250	40	0.1250	0.1202	0.205	0.198	0.065	0.059	0.012	0.062	0.044	0.008
6	0.1380	32	0.1380	0.1329	0.226	0.218	0.072	0.066	0.013	0.062	0.050	0.008
8	0.1640	32	0.1640	0.1585	0.270	0.262	0.085	0.079	0.014	0.078	0.060	0.008
10	0.1900	24	0.1900	0.1840	0.312	0.303	0.098	0.092	0.018	0.094	0.072	0.008
1/4	0.2500	20	0.2500	0.2435	0.375	0.365	0.127	0.121	0.025	0.125	0.094	0.010
5/16	0.3125	18	0.3125	0.3053	0.437	0.431	0.158	0.152	0.033	0.156	0.110	0.010
3/8	0.3750	16	0.3750	0.3678	0.562	0.550	0.192	0.182	0.040	0.188	0.115	0.010
7/16	0.4375	14	0.4375	0.4294	0.625	0.618	0.223	0.213	0.047	0.219	0.135	0.015
1/2	0.5000	13	0.5000	0.4919	0.750	0.743	0.254	0.244	0.055	0.250	0.151	0.015
5/8	0.6250	11	0.6250	0.6163	0.875	0.867	0.316	0.306	0.070	0.312	0.250	0.015

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