

SOCKET FLAT HEAD CAP SCREWS ALLOY STEEL



Nominal Size	Body Dia.		Head Dia.		Head Height		Protrusion Gage Diameter		Protrusion		Hex Socket Size	Key Engagement	Dia.	Tensile Strength lbs. Min		Shear Stren. of Body lbs min	Recomm. Seating Torq. in lbs.	
	Max	Min	Sharp Max	Abs Min	Ref	Max	Min	Max	Min	Nom	Min	Max		UNRC	UNRF		Coarse	Fine
4	0.1120	0.1075	0.255	0.218	0.083	0.172	0.171	0.047	0.037	1/16	0.055	0.136	900		940	8.		
	0.1250	0.1202	0.281	0.240	0.090	0.196	0.195	0.048	0.037	5/64	0.061	0.153	1,185		1,180	12.		
	0.1380	0.1329	0.307	0.263	0.097	0.220	0.219	0.049	0.037	5/64	0.066	0.168	1,350		1,440	15.		
	0.1640	0.1585	0.359	0.311	0.112	0.267	0.266	0.051	0.039	3/32	0.076	0.194	2,085		2,030	30.		
10	0.1900	0.1840	0.411	0.359	0.127	0.313	0.312	0.054	0.041	1/8	0.087	0.220	2,610	2,610	2,720	40.	45.	
	0.2500	0.2435	0.531	0.480	0.161	0.424	0.423	0.059	0.046	5/32	0.111	0.280	4,750	4,750	4,710	100.	110.	
	0.3125	0.3053	0.656	0.600	0.198	0.539	0.538	0.063	0.050	3/16	0.135	0.343	7,800	7,800	7,360	200.	220.	
	0.3750	0.3678	0.781	0.720	0.234	0.653	0.652	0.069	0.056	7/32	0.159	0.405	11,600	11,600	10,600	350.	400.	
1/4	0.4375	0.4294	0.844	0.781	0.234	0.690	0.689	0.084	0.071	1/4	0.159	0.468	15,900	15,900	14,400	560.		
	0.5000	0.4919	0.938	0.872	0.251	0.739	0.738	0.110	0.096	5/16	0.172	0.530	21,200	21,200	18,850	850.	1,000.	
	0.6250	0.6163	1.188	1.112	0.324	0.962	0.961	0.123	0.108	3/8	0.220	a 655	33,800	33,800	29,450	1,700.		
	0.7500	0.7406	1.438	1.355	0.396	1.186	1.185	0.136	0.121	1/2	0.220	0.780	50,000	50,000	42,400	3,000	-	
Tolerance on Length	Nominal Screw Size							Nominal Screw Length										
								Up to 1 in., Incl.			Over 1 in. to 2-1/2 in., Incl.			Over 2-1/2 in. to 3 in., Incl.				
	0 thru 3/8, Inclusive							-0.03			-0.04			-0.06				
7/16 thru 3/4, Inclusive							-0.03			-0.06			-0.08					

Description	Similar in design to a socket button head cap screw but with an 82° countersunk flat head.
Applications/Advantages	Used when a flush mounting, high strength screw is required. Commonly used in tools and dies where moving parts pass over the fastened area.
Material	Screws shall be made from an alloy steel which conforms to the following chemical composition requirements (per product analysis)-- <i>Carbon</i> : 0.28 to 0.50%; <i>Phosphorus</i> : 0.040% maximum; <i>Sulfur</i> : 0.045% maximum. Also, one or more of the following elements shall be present in sufficient quantity to meet the performance requirements listed below: chromium, nickel, molybdenum or vanadium.
Heat Treatment	Screws shall be heat treated by oil quenching from above the transformation temperature and then tempered at a temperature not lower than 650°F.
Hardness	Rockwell C38 - 44
Tensile Strength	180,000 psi. minimum (material only)
Yield Strength	160,000 psi. minimum (material only)
Elongation	8% minimum (applies to machined specimens of length at least 4D where D equals the nominal diameter of the screw)
Reduction of Area	35% minimum (applies to machined specimens)
Finish	Screws are supplied with a thermal black finish.