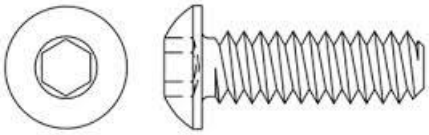
BUTTON HEAD SOCKET CAP SCREWS METRIC



Nominal Size	Thread Pitch	A		H		C	J		T	W	S		F	Min Ultimate Tensile
		Head Diameter		Head Height		Socket Size Across the	Socket Size Across the Fiats		Key Engagement	Wall Thick-ness	Loaedd, N Unthreaded Section Under the Head		Fillet Transition Diameter	
		Max	Min	Max	Min	Min	Max	Min	Min	Min	Max	Min	Max	
M3	0.5	5.7	54	1,65	140	2.3	2.045	2.020	1.04	02	1.0	0.5	3.6	4,910
M4	0.7	7.60	7.24	2.20	1.95	2.87	2.56	2.52	1.3	0.3	1.4	0.7	4.7	8,560
M5	0.8	9.50	9,14	2.75	2.50	3.44	3.071	3.020	1.56	0.38	1.6	0.8	5.7	13,800
M6	1	10.50	10.07	3.3	3.0	4.58	4.084	4.020	2.08	0.74	2	1	6.8	19,600
M8	1.25	14.00	13.57	4.4	4.1	5.72	5.084	5.020	2.6	1.05	2.50	125	9.2	35,700
M10	1.5	17.50	17.07	5.5	5.2	6.86	6.095	6.020	3.12	1.45	3.0	1.5	11.2	56,600
M12	1.75	21.00	2048	6.60	6.24	9.15	8.115	8.025	4.16	1.63	3.50	1.75	14.2	82,400
M16	2	28.00	27.48	8.80	8.44	11.43	10.115	10.025	5.2	2.25	4	2	18.2	154,000
Tolerance on Length			6mm: ±.24		8-10mm: ±.29		12-16mm: ±.35			20-30mm: ±.42			35-50mm: ±.5	

Description	Has a similar thread design as a metric socket cap screw but is fully threaded to the head. The dome shaped head is wider and has a lower profile than a socket cap screw.
Applications/ Advantages	Used when a wider bearing surface or a smoother, more finished appearance is desired, or in material too thin to accommodate a countersunk head. Button head cap screws do not afford the strength of socket head cap screws and are designed for light fastening applications.
Material	Class 10.9 button head cap screws may be made from a carbon steel, which conforms to the following chemical composition requirements-- *Carbon:* 0.25-0.55%; *Phosphorous:* 0.035% maximum; *Sulfur:* 0.035% maximum. Class 10.9 button head cap screws may be made from a carbon steel with additives such as Boron, Manganese or Chromium which conforms to the following chemical composition requirements-- *Carbon:* 0.20-0.55%; *Phosphorous:* 0.035% maximum; *Sulfur:* 0.035% maximum. Class 10.9 button head cap screws may be made from an alloy steel which contains one or more of the following: Chromium, Nickel, Molybdenum or Vanadium; and conforms to the following chemical composition requirements-- Carbon: 0.20-0.55%; *Phosphorous:* 0.035% maximum; *Sulfur:* 0.035% maximum.
Heat Treatment	Class 10.9 button head cap screws shall be heat treated by quenching in oil from above the transformation temperature and reheating to a tempering temperature of 425°C minimum.
Hardness	Rockwell C 32 - 39 (Vickers HV 320 - 380)
Tensile Strength	1,040 N/mm^2 minimum
Proof Load	940 N/mm^2 minimum
Elongation	9% minimum
Plating	Metric Class 10.9 button head screws are usually supplied with a plain finish.