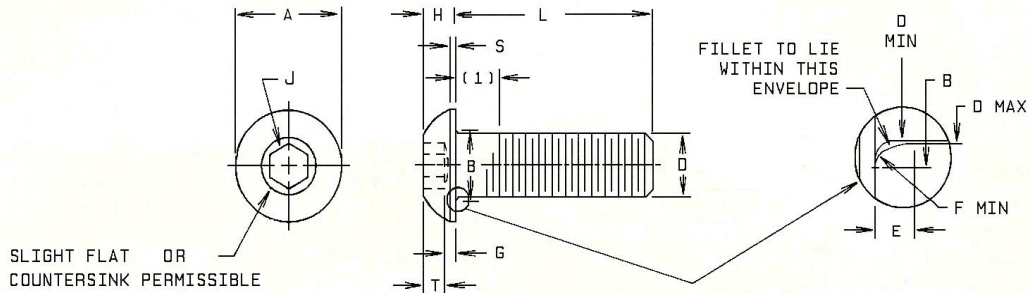


## Metric Button Head Socket Cap Screws-Property Class 12.9



Nominal Size	A Head Diameter		H Head Height		S Head Side Height	J Hexagon Socket Size	T Key Engagement
	Max.	Min.	Max.	Min.	Ref.	Nominal	Min.
M3x0.5	5.70	5.40	1.65	1.43	0.38	2.0	1.04
M4x0.7	7.60	7.24	2.20	1.95	0.38	2.5	1.30
M5x0.8	9.50	9.14	2.75	2.50	0.50	3.0	1.56
M6x1.0	10.50	10.07	3.30	3.00	0.80	4.0	2.08
M8x1.25	14.00	13.57	4.40	4.05	0.80	5.0	2.60
M10x1.50	17.50	17.07	5.50	5.20	0.80	6.0	3.12
M12x1.75	21.00	20.48	6.60	6.24	0.80	8.0	4.16
M16x2.0	28.00	27.48	8.80	8.44	1.00	10.0	5.20

Nominal Size	G Wall Thickness	B Transition Diameter		E Fillet Transition Length	F Fillet Juncture Radius	L Maximum Standard Length
	Min.	Max.	Min.	Max.	Min.	
M3x0.5	0.20	3.6	3.2	0.51	0.10	12
M4x0.7	0.30	4.7	4.4	0.60	0.20	20
M5x0.8	0.38	5.7	5.4	0.60	0.20	30
M6x1.0	0.74	6.8	6.5	0.68	0.25	30
M8x1.25	1.05	9.2	8.8	1.02	0.40	40
M10x1.50	1.45	11.2	10.8	1.02	0.40	40
M12x1.75	1.63	14.2	13.2	1.87	0.60	60
M16x2.0	2.25	18.2	17.2	1.87	0.60	60

**Applicable Standards: ASME B18.3.4M and ASTM F835M. Hardness: R<sub>C</sub> 38-44. Tensile Strength: 1220 MPa min. for machined test specimen, 980 MPa full size screws.**

**Note: Screws of nominal length shorter than those listed in Column L will be threaded to the head.**

# Metric Button Head Socket Cap Screws-Property Class 12.9 (continued)

## Mechanical Properties and Tightening Torques

Nominal Size	Tensile Strength kN Min.	Shear Strength Thread Section kN Min.	Tightening Torque Nm Max.
M3x0.5	4.93	3.81	1.25
M4x0.7	8.60	6.65	2.9
M5x0.8	13.9	10.7	5.9
M6x1.0	19.7	15.2	10
M8x1.25	35.9	27.7	24
M10x1.50	56.8	43.9	48
M12x1.75	82.6	63.9	84
M16x2.0	155.0	119.0	207

