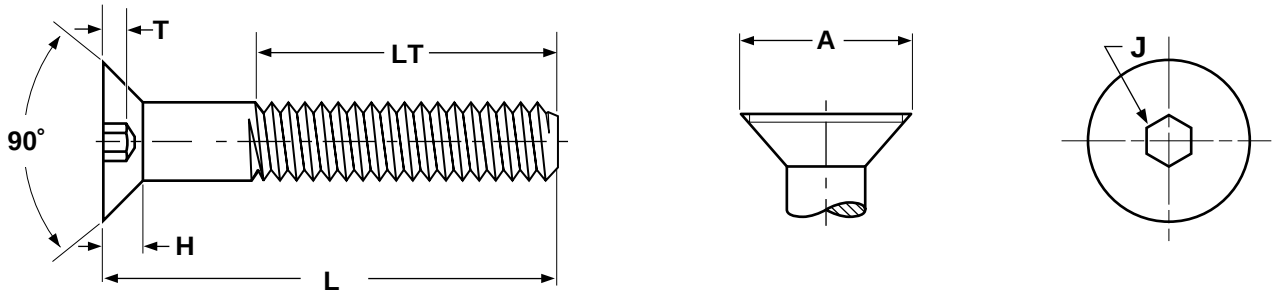
Flat Head Socket Cap Screws — *METRIC* — Sockets



METRIC - Flat Head Socket Cap Screws, Class 10.9

ANSI/ASME B18.3.5M

Nominal Size	Thread Pitch	B		A		H		J	T	W	D
		Body Diameter		Head Diameter		Head Height		Hex Socket Size	Key Engage-ment	Wall Thickness	Drill Allowance
		Max	Min	Theoretical Sharp	Absolute Min.	Ref	Flush Tolerance	Nom	Min	Min	Max
M3	0.5	3.00	2.86	6.72	5.35	1.86	0.30	2.0	1.1	0.25	0.3
M4	0.7	4.00	3.82	8.96	7.80	2.48	0.30	2.5	1.5	0.45	0.4
M5	0.8	5.00	4.82	11.20	9.75	3.10	0.35	3.0	1.9	0.66	0.5
M6	1	6.00	5.82	13.44	11.70	3.72	0.35	4.0	2.2	0.70	0.6
M8	1.25	8.00	7.78	17.92	15.60	4.96	0.40	5.0	3.0	1.16	0.8
M10	1.5	10.00	9.78	22.40	19.50	6.20	0.50	6.0	3.6	1.62	0.9

Tolerance on Length	Up to 16mm, incl.: ±0.3	Over 16mm to 60mm, incl.: ±0.5	Over 60mm to 150mm, incl.: ±0.8

Description	Has a similar design as a metric socket button head screw but has 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	Class 10.9 socket flat head cap screws shall be made from an alloy steel which conforms to the following chemical composition requirements-- *Carbon:* 0.28-0.50%; *Phosphorous:* 0.035% maximum; *Sulfur:* 0.035% maximum.
Heat Treatment	Class 10.9 socket flat head cap screws shall be heat treated by quenching in oil from above the transformation temperature and reheating to a tempering temperature of 380°C minimum.
Hardness	Rockwell C 38 - 44
Tensile Strength	**Full-size screws:** 1040 MPa minimum; **Machined test specimen:** 1220 MPa minimum
Yield Strength	**Machined test specimen:** 1100 MPa minimum
Elongation in 5D	8% minimum
Reduction of Area	35% minimum
Plating	Metric class 10.9 socket flat head cap screws are usually supplied with a plain finish.