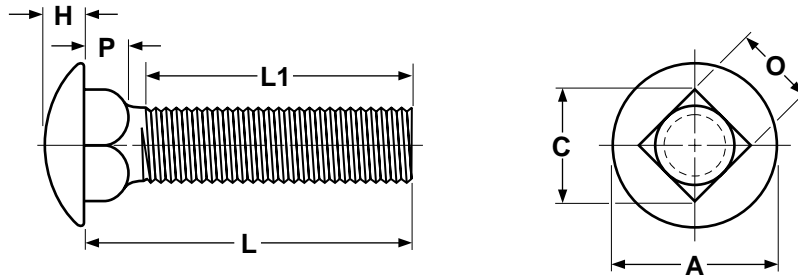


# Cap Screws & Bolts

## METRIC

### Carriage Bolts Square Neck (large)



METRIC - CARRIAGE BOLTS													ISO 8677; DIN 603; JIS B 1171	
Nominal Diameter	Pitch (mm)	O		C	P		A		H		L1			
		Square Width Across Flats		Square Width Across Corners	Square Depth		Head Diameter		Head Height		Thread Length <=125	Thread Length >125 & <=200	Thread Length >200	
mm		Max	Min	Min	Max	Min	Max	Min	Max	Min	Ref	Ref	Ref	
M5	0.8	5.48	4.52	5.9	4.1	2.9	13	11.9	3.1	2.5	16	-	-	
M6	1	6.48	5.52	7.2	4.6	3.4	16	14.9	3.6	3	18	-	-	
M8	1.25	8.58	7.42	9.6	5.6	4.4	20	18.7	4.8	4	22	28	-	
M10	1.5	10.58	9.42	12.2	6.6	5.4	24	22.7	5.8	5	26	32	-	
M12	1.75	12.7	11.3	14.7	8.8	7.2	30	28.7	6.8	6	30	36	-	
M16	2	16.7	15.3	19.9	12.9	11.1	38	36.4	8.9	8	38	44	57	
M20	2.5	20.84	19.16	24.9	15.9	14.1	46	44.4	10.9	10	46	52	65	
Tolerance on Length		20-30mm: ±1.05				35-50mm: ±1.25				55-80mm: ±1.5				
		90-120mm: ±1.75		130-150mm: ±2.0		160-180mm: ±4.0		200mm: ±4.6						

Description	A round head, self-anchoring bolt with a square neck under the head and a metric thread pitch.
Applications/Advantages	The square neck is designed to keep the bolt from turning as a nut is tightened. Best for use in wood or thick gauge sheet metal.
Material	Class 4.6 carriage bolts shall be made from a carbon steel which conforms to the following chemical composition-- <i>Carbon: 0.55% maximum; Phosphorus: 0.05% maximum; Sulfur: 0.06% maximum.</i>
Hardness	Rockwell B 67 - 99.5 (Vickers HV 120 - 250)
Yield Strength	240 N/mm <sup>2</sup> minimum
Tensile Strength	400 N/mm <sup>2</sup> minimum
Elongation	22% minimum
Plating	See Appendix-A for plating information