



METRIC - SET SCREWS, DOG POINT

ISO 4028 & 898/5

Nominal Size	Thread Pitch	P		E	S		Screws Below this Length are Short Sizes	T		Z				Min Length of Screw for Torque Test	Test Torque
		Point Diameter		Socket Size Across Corners	Socket Size Across the Flats			Key Engagement (Min)		Dog Point Length (short sizes)		Dog Point Length (long sizes)			
		Max	Min	Min	Max	Min		Short Sizes	Long Sizes	Max	Min	Max	Min		N.m
M1.6	0.35	0.80	0.55	0.803	0.724	0.711	3	0.7	1.5	0.65	0.40	1.05	0.80	-	-
M2	0.4	1.00	0.75	1.003	0.902	0.889	4	0.8	1.7	0.75	0.50	1.25	1.00	-	-
M2.5	0.45	1.50	1.25	1.427	1.295	1.270	5	1.2	2	0.88	0.63	1.50	1.25	-	-
M3	0.5	2.00	1.75	1.73	1.545	1.520	6	1.2	2	1.00	0.75	1.75	1.50	5	0.9
M4	0.7	2.50	2.25	2.3	2.045	2.020	8	1.5	2.5	1.25	1.00	2.25	2.00	6	2.5
M5	0.8	3.5	3.2	2.87	2.560	2.520	8	2	3	1.50	1.25	2.75	2.50	8	5
M6	1	4.0	3.7	3.44	3.071	3.020	10	2	3.5	1.75	1.50	3.25	3.00	8	8.5
M8	1.25	5.5	5.2	4.58	4.084	4.020	12	3	5	2.25	2.00	4.3	4.0	10	20
M10	1.5	7.00	6.64	5.72	5.084	5.020	16	4	6	2.75	2.50	5.3	5.0	12	40
M12	1.75	8.50	8.14	6.86	6.095	6.020	20	4.8	8	3.25	3.00	6.3	6.0	16	65
M16	2	12.00	11.57	9.15	8.115	8.025	25	6.4	10	4.3	4.0	8.36	8.00	20	160
M20	2.5	15.00	14.57	11.43	10.115	10.025	30	8	12	5.3	5.0	10.36	10.00	25	310
M24	3	18.00	17.57	13.72	12.142	12.032	35	10	15	6.3	6.0	12.43	12.00	30	520
Tolerance on Length	2-3mm: ±0.2		4-6mm: ±0.24		8-10mm: ±0.29		12-16mm: ±0.35								
	20-30mm: ±0.42		35-50mm: ±0.5		55-60mm: ±0.6										

Description	A headless screw threaded the entire length with a metric thread pitch. It has a protruding tip with a flat surface at the end opposite that of the hexagonal drive..
Applications/ Advantages	Dog point set screws are intended for permanent setting. The point should fit closely to the diameter of the drilled hole or against the flat. Often used instead of a dowel pin.
Material	Metric socket set screws shall be made from an alloy steel which conforms to the following chemical composition requirements-- <i>Carbon:</i> 0.19-0.50%; <i>Phosphorous:</i> 0.05% maximum; <i>Sulfur:</i> 0.05% maximum; <i>Lead:</i> 0.35% maximum. Set screws shall also contain one or more of these following elements: chromium, nickel, molybdenum, vanadium or boron.
Heat Treatment	Metric socket set screws shall be heat treated by quenching in oil from above the transformation temperature and then tempered by reheating to meet the hardness requirements listed below.
Hardness	Rockwell HRC 45 - 53 (Vickers HV 450 - 560)
Torsional Strength	Metric socket set screws of a sufficient length to be tested (as listed in the above table) shall withstand application of the test torque specified in said table without evidence of the socket reaming or the screw bursting.
Plating	Metric socket set screws are usually supplied with a thermal black finish.