

MARYLAND METRICS

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TECHNICAL INFORMATION and DATA

Reduced load

Socket cap screws with low heads

For socket cap screws with low heads, with shallow or small sockets, the critical cross section may be underneath the socket and not in the thread.

It is recommended not to use such screws in applications where high loads and full preloading are required.

Property class 10.9 is used to reduce wear in the socket, it is not to get high-strength application fasteners.

Such screws should be tightened by nuts, the socket should be used to prevent rotation of the screws only. In case the screws has to be tightened by the socket, **reduced tightening torques should be used.**

Recommended maximum tightening torques $M_{a \max}$ (Nm) for low head screws or screws with small sockets.

steel	ISO 7379 12.9	DIN 7984 8.8	DIN 6912 8.8	K 323 10.9	ISO 7380 10.9	DIN 7991 10.9	DIN 913-916 45 H
M 3		1			0,9	1,0	0,6
4		2,3	2,3	1,8	1,7	2	1,5
5	Ø 6 4,6	4	5	5	3,7	5	3,5
6	Ø 8 9,5	7,5	9	6	8	8	6,0
8	Ø 10 22	13,5	19	13	13	16	14
10	Ø 12 45	34	36	22	30	37	26
12	Ø 16 100	52	60		60	65	50
14		80	90			100	55
16	Ø 20 200	110	155		105	110	110
20		210	280			165	210
24		350	440			400	350
stainless steel	-	A2 / A4-70	A2 / A4-70	-	A2 / A4-70	A2 / A4-70	A2 / A4-70
M 3		0,6			0,5	0,5	0,2
4		1,4	1,7		0,8	1,3	0,5
5		2,5	3,5		1,8	2,8	1,5
6		5,5	6,4		4	4,2	2,5
8		10	14		7	8,5	5
10		24	26		15	20	10
12		39	44		33	34	20
14		60	68			52	22
16		85	115		60	58	50
20		160	210			88	80
24		250	330			210	130

The above tightening torques are estimated, taking into consideration head configuration, key size, socket depth and the strength of the screw. They should be double checked by means of testing if used for critical applications.