

MARYLAND METRICS

P.O.Box 261 Owings Mills, MD 21117 USA

(410)358-3130 (800)638-1830 Faxes: (410)358-3142 (800)872-9329

<http://mdmetric.com>

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TECHNICAL INFORMATION and DATA

Preload F_v and tightening torque M_a for screws and nuts with special torque or bearing surfaces
Values for plain or zinc plated fasteners as supplied.

Serrated screws and nuts

Property class	Clamped material	M 5	M 6	M 8	M 10	M 12	M 14	M 16	
		Tightening torque M_a [Nm]							
Screws 8.8 (90)	Steel	9	16	34	58	97	155	215	
	Cast iron	7	13	28	49	83	130	195	
Nuts 8		Preload F_v [N]							
		6350	9000	16 500	26 200	38 300	52 500	73 000	
Screws 10.9 (100)	Steel: Rm 500–1000 [N/mm ²]	12	21	44	75	120	185	280	
	Cast iron	9,5	16	36	64	105	170	260	
Nuts 10		Preload F_v [N]							
		9000	12 600	23 200	37 000	54 000	74 000	102 000	

Ribbed screws and nuts

		M 5	M 6	M 8	M 10	M 12	M 14	M 16
		Tightening torque M_a [Nm]						
Screws 10.9 (100)	Steel: Rm , 800 [N/mm ²]	11	19	42	85	130	230	330
	Steel: Rm 800–1100 [N/mm ²]	10	18	37	80	120	215	310
Nuts 10	Cast iron	9	16	35	75	115	200	300
		Preload F_v [N]						
		9000	12 600	23 200	37 000	54 000	74 000	102 000

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Thread forming screws

Screws according DIN 7500 case hardened	Steel (sufficient sheet metal thickness assumed)	M 2	M 3	M 4	M 5	M 6	M 8	M 10		
		max. forming torque M_f [Nm]								
		0,3	1	2,4	4,7	8	20	39		
		Tightening torque M_t [Nm]								
		0,4	1,2	2,8	5,7	10	24	48		
Preload F_t [N]										
		900	2 100	3 900	6 400	9 100	16 800	26 700		

Oval head screws with pressed-on washer (K748)

Class 5.8	mges 0,125	M 3	M 4	M 5	M 6	M 8	M 10	M 12	
		Tightening torque M_t [Nm]							
		0,8	1,8	3,3	6,1	14	25	51	
Preload F_t [N]									
		1400	2450	3500	5700	9900	14 000	23 500	
Class 10.9	mges 0,125	Tightening torque M_t [Nm]							
		1,8	4,2	7,4	14	32	58	115	
Preload F_t [N]									
		3200	5600	8000	13 000	22 500	31 800	53 800	