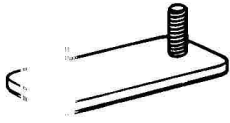


STANDARD BOLT TIGHTENING TORQUE

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STANDARD BOLT TIGHTENING TORQUE

HOW TO DETERMINE BOLT STRENGTH

	Mark	Class		Mark	Class
Hexagon head bolt	 Bolt head No. 4 –	4T	Stud bolt	 No mark	4T
	5 –	5T			
	6 –	6T			
	7 –	7T			
	 No mark	4T			
Hexagon flange bolt w/washer hexagon bolt	 No mark	4T		 Grooved	6T
Hexagon head bolt	 Two protruding lines	5T			
Hexagon flange bolt w/washer hexagon bolt	 Two protruding lines	6T	Welded bolt		4T
Hexagon head bolt	 Three protruding lines	7T			

SPECIFIED TORQUE FOR STANDARD BOLTS

Class	Diameter mm	Pitch mm	Tightening torque		
			Hexagon head bolt		
			kg-cm	ft-lb	N·m
4T	6	1	55	48 in.-lb	5.4
	8	1.25	130	9	13
	10	1.25	260	19	25
	12	1.25	480	35	47
	14	1.5	760	55	75
	16	1.5	1,150	83	113
5T	6	1	65	56 in.-lb	6.4
	8	1.25	160	12	16
	10	1.25	330	24	32
	12	1.25	600	43	59
	14	1.5	930	67	91
	16	1.5	1,400	101	137
6T	6	1	80	69 in.-lb	7.8
	8	1.25	195	14	19
	10	1.25	400	29	39
	12	1.25	730	53	72
	14	1.5	—	—	—
7T	6	1	110	8	11
	8	1.25	260	19	25
	10	1.25	530	38	52
	12	1.25	970	70	95
	14	1.5	1,500	108	147
	16	1.5	2,300	166	226
			Hexagon flange bolt		
			kg-cm	ft-lb	N·m
			60	52 in.-lb	5.9
			145	10	14
			290	21	28
			540	39	53
			850	61	83
			—	—	—
			—	—	—
			—	—	—
			—	—	—
			—	—	—
			—	—	—
			90	78 in.-lb	8.8
			215	16	21
			440	32	43
			810	59	79
			1,250	90	123
			120	9	12
			290	21	28
			590	43	58
			1,050	76	103
			1,700	123	167
			—	—	—