

Table of bolt- torque

Bolts strength grade			4.8	6.8	8.8	10.9	12.9
The minimum broken strength			392Mpa	588Mpa	784Mpa	941Mpa	1176Mpa
Bolt	Indent Hex	Hex Socket	Recommend Torque				
mm	mm	mm	Nm	Nm	Nm	Nm	Nm
M14	22	12	69	98	137	165	225
M16	24	14	98	137	206	247	353
M18	27	14	137	206	284	341	480
M20	30	17	176	296	402	569	480
M22	32	17	225	333	539	765	911
M24	36	19	314	470	686	981	1176
M27	41	19	441	637	1029	1472	1764
M30	46	22	588	882	1225	1962	2350
M33	50	24	735	1127	1470	2060	2450
M36	55	27	980	1470	1764	2453	2940
M39	60	27/30	1176	1764	2156	2943	3626
M42	65	32	1519	2352	2744	3826	4606
M45	70	—	1764	2744	3136	4415	5390
M48	75	36	2254	3430	3920	5592	6664
M52	80	36	2744	4116	4704	6573	8330
M56	85	41	3528	5149	5978	8437	10290
M60	90	46	4018	5978	7742	10791	13230
M64	95	46	4998	7448	8820		
M68	100	50	5684	8528	10780		
M72	105	55	6468	9800	12640		
M76	110	60	7350	10780	14700		
M80	115	65	8143	12250	18130		
M85	120	70	8820	13720	22050		
M90	130	70/75	10584	16170	24500		
M100	145	85	13720	20090			
M110	155	—	16366	24990			

Note:

- 1、 Above is only for reference, when dealing with specific connection, please according to the technological requirements
- 2、 The above data is German industrial standard, torque for bolt to yield limit when 70%.
- 3、 Advice about torque: in accordance with 70-80% of table datas, when locking bolts.

Torque units

1Nm=0.7376Ft.lbs

Ft.lbs=1.3558 Nm

1Nm=8.8507 Ft.in

Ft.in =0.1130 Nm

1Nm=0.1019Kgf.m

Kgf.m= 9.8068Nm

1Nm=10.1970 Kgf.cm

Kgf.cm=0.0981 Nm