

BOLT LOAD (METRIC) SOCKET HEAD CAP SCREWS (MATERIAL 1.7258)

40% - 99% YIELD



Southwest Texas	West Texas	Main Office	Southeast Texas	Central & East Texas
4802 Baldwin Blvd. Corpus Christi 78408 361-888-5080	3508 S County Rd 1290 Odessa, TX 78765 432-561-8481	12420 Texaco Rd Houston, TX 77013 713-453-6677	2484 W Cardinal #4 Beaumont, TX 77705 409-840-9699	7900 Rodeo Trl. #500 Mansfield, TX 76063 682-334-2679

TORQUE GUIDE FOR MATERIAL STANDARD 1.7258												
MINIMUM YIELD (Mpa)			440									
BOLT LOAD BASED ON			40 PERCENT YIELD									
REQUIRED TORQUE (N-m)												
BOLT SIZE DIA. x P	HEX NUT ACROSS FLAT (mm)	STRESS AREA (mm) ²	BOLT LOAD (kN)	LoaDISC TS 801 MOLY K=.109	MOLYBDENUM DISULFIDE K=.100	MOLY/LEAD OXIDE/GRAPHIT E	COPPER & GRAPHITE K=.140	NICKEL & GRAPHITE K=.150	API SA2 K=.157	MACHINE OIL K=.200	DRY STEEL K=.440 K=.300	CUSTOM (INSERT K)
M20x2.5	30	245	43.09	94	86	108	121	129	135	172	379	94
M22x2.5	32	303	53.40	128	117	147	164	176	184	235	517	128
M24x3	36	353	62.04	162	149	186	208	223	234	298	655	162
M27x3	41	459	80.86	238	218	273	306	327	343	437	961	238
M30x3.5	46	561	98.67	323	296	370	414	444	465	592	1,302	323
M33x3.5	50	694	122.07	439	403	504	564	604	632	806	1,772	439
M36x4	55	817	143.75	564	518	647	725	776	812	1,035	2,277	564
M39x4	60	976	171.74	730	670	837	938	1,005	1,052	1,340	2,947	730
M42x4.5	65	1121	197.29	903	829	1,036	1,160	1,243	1,301	1,657	3,646	903
M45x4.5	70	1306	229.87	1,127	1,034	1,293	1,448	1,552	1,624	2,069	4,551	1,127
M48x5	75	1473	259.29	1,357	1,245	1,556	1,742	1,867	1,954	2,489	5,476	1,357
M52x5	80	1758	309.39	1,754	1,609	2,011	2,252	2,413	2,526	3,218	7,079	1,754
M56x5.5	85	2030	357.30	2,181	2,001	2,501	2,801	3,001	3,141	4,002	8,804	2,181
M60x5.5	90	2362	415.73	2,719	2,494	3,118	3,492	3,742	3,916	4,989	10,975	2,719
M64x6	95	2676	470.99	3,286	3,014	3,768	4,220	4,522	4,733	6,029	13,263	3,286
M68x6	100	3055	537.75	3,986	3,657	4,571	5,119	5,485	5,741	7,313	16,090	3,986
M72x6	105	3460	608.94	4,779	4,384	5,480	6,138	6,577	6,883	8,769	19,291	4,779
M76x6	110	3889	684.55	5,671	5,203	6,503	7,284	7,804	8,168	10,405	22,891	5,671
M80x6	115	4344	764.58	6,667	6,117	7,646	8,563	9,175	9,603	12,233	26,913	6,667
M90x6	130	5591	984.01	9,653	8,856	11,070	12,399	13,284	13,904	17,712	38,967	9,653
M100x6	145	6995	1,231.09	13,419	12,311	15,389	17,235	18,466	19,328	24,622	54,168	13,419
M110x6	155	8556	1,505.81	18,055	16,564	20,705	23,190	24,846	26,005	33,128	72,881	18,055
M125x6	180	11192	1,969.74	26,838	24,622	30,777	34,470	36,933	38,656	49,243	108,336	26,838

BOLT LOADS

TORQUE GUIDE FOR MATERIAL STANDARD 1.7258												
MINIMUM YIELD (Mpa)			440									
BOLT LOAD BASED ON			50 PERCENT YIELD									
REQUIRED TORQUE (N-m)												
BOLT SIZE DIA. x P	HEX NUT ACROSS FLAT (mm)	STRESS AREA (mm) ²	BOLT LOAD (kN)	LoaDISC TS 801 MOLY K=.109	MOLYBDENUM DISULFIDE K=.100	MOLY/LEAD OXIDE/GRAPHIT E	COPPER & GRAPHITE K=.140	NICKEL & GRAPHITE K=.150	API SA2 K=.157	MACHINE OIL K=.200	DRY STEEL K=.440 K=.300	CUSTOM (INSERT K)
M20x2.5	30	245	53.86	117	108	135	151	162	169	215	474	117
M22x2.5	32	303	66.75	160	147	184	206	220	231	294	646	160
M24x3	36	353	77.56	203	186	233	261	279	292	372	819	203
M27x3	41	459	101.07	297	273	341	382	409	428	546	1,201	297
M30x3.5	46	561	123.34	403	370	463	518	555	581	740	1,628	403
M33x3.5	50	694	152.59	549	504	629	705	755	791	1,007	2,216	549
M36x4	55	817	179.69	705	647	809	906	970	1,016	1,294	2,846	705
M39x4	60	976	214.68	913	837	1,047	1,172	1,256	1,314	1,674	3,684	913
M42x4.5	65	1121	246.61	1,129	1,036	1,295	1,450	1,554	1,626	2,072	4,557	1,129
M45x4.5	70	1306	287.33	1,409	1,293	1,616	1,810	1,940	2,030	2,586	5,689	1,409
M48x5	75	1473	324.11	1,696	1,556	1,945	2,178	2,334	2,442	3,111	6,845	1,696
M52x5	80	1758	386.74	2,192	2,011	2,514	2,815	3,017	3,157	4,022	8,849	2,192
M56x5.5	85	2030	446.62	2,726	2,501	3,126	3,502	3,752	3,927	5,002	11,005	2,726
M60x5.5	90	2362	519.67	3,399	3,118	3,897	4,365	4,677	4,895	6,236	13,719	3,399
M64x6	95	2676	588.74	4,107	3,768	4,710	5,275	5,652	5,916	7,536	16,579	4,107
M68x6	100	3055	672.19	4,982	4,571	5,714	6,399	6,856	7,176	9,142	20,112	4,982
M72x6	105	3460	761.17	5,974	5,480	6,851	7,673	8,221	8,604	10,961	24,114	5,974
M76x6	110	3889	855.68	7,088	6,503	8,129	9,104	9,755	10,210	13,006	28,614	7,088
M80x6	115	4344	955.72	8,334	7,646	9,557	10,704	11,469	12,004	15,292	33,641	8,334
M90x6	130	5591	1,230.01	12,066	11,070	13,838	15,498	16,605	17,380	22,140	48,709	12,066
M100x6	145	6995	1,538.86	16,774	15,389	19,236	21,544	23,083	24,160	30,777	67,710	16,774
M110x6	155	8556	1,882.27	22,568	20,705	25,881	28,987	31,057	32,507	41,410	91,102	22,568

BOLT LOADS

TORQUE GUIDE FOR MATERIAL STANDARD 1.7258												
MINIMUM YIELD (Mpa)			440		BOLT LOADS							
BOLT LOAD BASED ON			60		PERCENT YIELD							
REQUIRED TORQUE (N-m)												
BOLT SIZE DIA. x P	HEX NUT ACROSS FLAT (mm)	STRESS AREA (mm) ²	BOLT LOAD (kN)	LoaDISC TS 801 MOLY K=.109	MOLYBDENUM DISULFIDE K=.100	MOLY/LEAD OXIDE/GRAPHIT E	COPPER & GRAPHITE K=.140	NICKEL& GRAPHITE K=.150	API SA2 K=.157	MACHINE OIL K=.200	DRY STEEL K=.440 K=.300	CUSTOM (INSERT K)
M20x2.5	30	245	64.63	141	129	162	181	194	203	259	569	141
M22x2.5	32	303	80.10	192	176	220	247	264	277	352	775	192
M24x3	36	353	93.07	243	223	279	313	335	351	447	983	243
M27x3	41	459	121.29	357	327	409	458	491	514	655	1,441	357
M30x3.5	46	561	148.00	484	444	555	622	666	697	888	1,954	484
M33x3.5	50	694	183.11	659	604	755	846	906	949	1,209	2,659	659
M36x4	55	817	215.63	846	776	970	1,087	1,164	1,219	1,553	3,416	846
M39x4	60	976	257.61	1,095	1,005	1,256	1,407	1,507	1,577	2,009	4,421	1,095
M42x4.5	65	1121	295.93	1,355	1,243	1,554	1,740	1,864	1,951	2,486	5,469	1,355
M45x4.5	70	1306	344.80	1,691	1,552	1,940	2,172	2,327	2,436	3,103	6,827	1,691
M48x5	75	1473	388.93	2,035	1,867	2,334	2,614	2,800	2,931	3,734	8,214	2,035
M52x5	80	1758	464.09	2,630	2,413	3,017	3,379	3,620	3,789	4,827	10,618	2,630
M56x5.5	85	2030	535.95	3,271	3,001	3,752	4,202	4,502	4,712	6,003	13,206	3,271
M60x5.5	90	2362	623.60	4,078	3,742	4,677	5,238	5,612	5,874	7,483	16,463	4,078
M64x6	95	2676	706.49	4,928	4,522	5,652	6,330	6,782	7,099	9,043	19,895	4,928
M68x6	100	3055	806.63	5,979	5,485	6,856	7,679	8,228	8,612	10,970	24,134	5,979
M72x6	105	3460	913.41	7,168	6,577	8,221	9,207	9,865	10,325	13,153	28,937	7,168
M76x6	110	3889	1,026.82	8,506	7,804	9,755	10,925	11,706	12,252	15,608	34,337	8,506
M80x6	115	4344	1,146.87	10,001	9,175	11,469	12,845	13,762	14,405	18,350	40,370	10,001
M90x6	130	5591	1,476.02	14,480	13,284	16,605	18,598	19,926	20,856	26,568	58,450	14,480
M100x6	145	6995	1,846.64	20,128	18,466	23,083	25,853	27,700	28,992	36,933	81,252	20,128
M110x6	155	8556	2,258.72	27,082	24,846	31,057	34,784	37,269	39,008	49,692	109,322	27,082
M125x6	180	11192	2,954.61	40,257	36,933	46,166	51,706	55,399	57,984	73,865	162,503	40,257

TORQUE GUIDE FOR MATERIAL STANDARD 1.7258												
MINIMUM YIELD (Mpa)			440		BOLT LOADS							
BOLT LOAD BASED ON			70		PERCENT YIELD							
REQUIRED TORQUE (N-m)												
BOLT SIZE DIA. x P	HEX NUT ACROSS FLAT (mm)	STRESS AREA (mm) ²	BOLT LOAD (kN)	LoaDISC TS 801 MOLY K=.109	MOLYBDENUM DISULFIDE K=.100	MOLY/LEAD OXIDE/GRAPHIT E	COPPER & GRAPHITE K=.140	NICKEL& GRAPHITE K=.150	API SA2 K=.157	MACHINE OIL K=.200	DRY STEEL K=.440 K=.300	CUSTOM (INSERT K)
M20x2.5	30	245	75.40	164	151	189	211	226	237	302	664	164
M22x2.5	32	303	93.45	224	206	257	288	308	323	411	905	224
M24x3	36	353	108.58	284	261	326	365	391	409	521	1,147	284
M27x3	41	459	141.50	416	382	478	535	573	600	764	1,681	416
M30x3.5	46	561	172.67	565	518	648	725	777	813	1,036	2,279	565
M33x3.5	50	694	213.62	768	705	881	987	1,057	1,107	1,410	3,102	768
M36x4	55	817	251.56	987	906	1,132	1,268	1,358	1,422	1,811	3,985	987
M39x4	60	976	300.55	1,278	1,172	1,465	1,641	1,758	1,840	2,344	5,157	1,278
M42x4.5	65	1121	345.26	1,581	1,450	1,813	2,030	2,175	2,277	2,900	6,380	1,581
M45x4.5	70	1306	402.27	1,973	1,810	2,263	2,534	2,715	2,842	3,620	7,965	1,973
M48x5	75	1473	453.75	2,374	2,178	2,723	3,049	3,267	3,419	4,356	9,583	2,374
M52x5	80	1758	541.44	3,069	2,815	3,519	3,942	4,223	4,420	5,631	12,388	3,069
M56x5.5	85	2030	625.27	3,817	3,502	4,377	4,902	5,252	5,497	7,003	15,407	3,817
M60x5.5	90	2362	727.53	4,758	4,365	5,456	6,111	6,548	6,853	8,730	19,207	4,758
M64x6	95	2676	824.23	5,750	5,275	6,594	7,385	7,913	8,282	10,550	23,210	5,750
M68x6	100	3055	941.07	6,975	6,399	7,999	8,959	9,599	10,047	12,799	28,157	6,975
M72x6	105	3460	1,065.64	8,363	7,673	9,591	10,742	11,509	12,046	15,345	33,760	8,363
M76x6	110	3889	1,197.96	9,924	9,104	11,381	12,746	13,657	14,294	18,209	40,060	9,924
M80x6	115	4344	1,338.01	11,667	10,704	13,380	14,986	16,056	16,805	21,408	47,098	11,667
M90x6	130	5591	1,722.02	16,893	15,498	19,373	21,697	23,247	24,332	30,996	68,192	16,893
M100x6	145	6995	2,154.41	23,483	21,544	26,930	30,162	32,316	33,824	43,088	94,794	23,483
M110x6	155	8556	2,635.18	31,596	28,987	36,234	40,582	43,480	45,509	57,974	127,543	31,596
M125x6	180	11192	3,447.04	46,966	43,088	53,860	60,323	64,632	67,648	86,176	189,587	46,966

TORQUE GUIDE FOR MATERIAL STANDARD 1.7258												
MINIMUM YIELD (Mpa)			440		BOLT LOADS							
BOLT LOAD BASED ON			80		PERCENT YIELD							
REQUIRED TORQUE (N-m)												
BOLT SIZE DIA. x P	HEX NUT ACROSS FLAT (mm)	STRESS AREA (mm) ²	BOLT LOAD (kN)	LoaDISC TS 801 MOLY K=.109	MOLYBDENUM DISULFIDE K=.100	MOLY/LEAD OXIDE/GRAPHIT E	COPPER & GRAPHITE K=.140	NICKEL & GRAPHITE K=.150	API SA2 K=.157	MACHINE OIL K=.200	DRY STEEL K=.440 K=.300	CUSTOM (INSERT K) 0.109
M20x2.5	30	245	86.17	188	172	215	241	259	271	345	758	188
M22x2.5	32	303	106.80	256	235	294	329	352	369	470	1,034	256
M24x3	36	353	124.09	325	298	372	417	447	468	596	1,310	325
M27x3	41	459	161.72	476	437	546	611	655	686	873	1,921	476
M30x3.5	46	561	197.34	645	592	740	829	888	929	1,184	2,605	645
M33x3.5	50	694	244.14	878	806	1,007	1,128	1,209	1,265	1,611	3,545	878
M36x4	55	817	287.50	1,128	1,035	1,294	1,449	1,553	1,625	2,070	4,554	1,128
M39x4	60	976	343.48	1,460	1,340	1,674	1,875	2,009	2,103	2,679	5,894	1,460
M42x4.5	65	1121	394.58	1,806	1,657	2,072	2,320	2,486	2,602	3,314	7,292	1,806
M45x4.5	70	1306	459.73	2,255	2,069	2,586	2,896	3,103	3,248	4,138	9,103	2,255
M48x5	75	1473	518.57	2,713	2,489	3,111	3,485	3,734	3,908	4,978	10,952	2,713
M52x5	80	1758	618.78	3,507	3,218	4,022	4,505	4,827	5,052	6,435	14,158	3,507
M56x5.5	85	2030	714.60	4,362	4,002	5,002	5,602	6,003	6,283	8,003	17,608	4,362
M60x5.5	90	2362	831.47	5,438	4,989	6,236	6,984	7,483	7,832	9,978	21,951	5,438
M64x6	95	2676	941.98	6,571	6,029	7,536	8,440	9,043	9,465	12,057	26,526	6,571
M68x6	100	3055	1,075.51	7,972	7,313	9,142	10,239	10,970	11,482	14,627	32,179	7,972
M72x6	105	3460	1,217.88	9,558	8,769	10,961	12,276	13,153	13,767	17,537	38,582	9,558
M76x6	110	3889	1,369.09	11,342	10,405	13,006	14,567	15,608	16,336	20,810	45,783	11,342
M80x6	115	4344	1,529.16	13,334	12,233	15,292	17,127	18,350	19,206	24,467	53,826	13,334
M90x6	130	5591	1,968.02	19,306	17,712	22,140	24,797	26,568	27,808	35,424	77,934	19,306
M100x6	145	6995	2,462.18	26,838	24,622	30,777	34,471	36,933	38,656	49,244	108,336	26,838
M110x6	155	8556	3,011.63	36,109	33,128	41,410	46,379	49,692	52,011	66,256	145,763	36,109
M125x6	180	11192	3,939.48	53,675	49,243	61,554	68,941	73,865	77,312	98,487	216,671	53,675

TORQUE GUIDE FOR MATERIAL STANDARD 1.7258												
MINIMUM YIELD (Mpa)			440		BOLT LOADS							
BOLT LOAD BASED ON			90		PERCENT YIELD							
REQUIRED TORQUE (N-m)												
BOLT SIZE DIA. x P	HEX NUT ACROSS FLAT (mm)	STRESS AREA (mm) ²	BOLT LOAD (kN)	LoaDISC TS 801 MOLY K=.109	MOLYBDENUM DISULFIDE K=.100	MOLY/LEAD OXIDE/GRAPHIT E	COPPER & GRAPHITE K=.140	NICKEL & GRAPHITE K=.150	API SA2 K=.157	MACHINE OIL K=.200	DRY STEEL K=.440 K=.300	CUSTOM (INSERT K) 0.109
M20x2.5	30	245	96.94	211	194	242	271	291	304	388	853	211
M22x2.5	32	303	120.15	288	264	330	370	397	415	529	1,163	288
M24x3	36	353	139.60	365	335	419	469	503	526	670	1,474	365
M27x3	41	459	181.93	535	491	614	688	737	771	982	2,161	535
M30x3.5	46	561	222.00	726	666	833	932	999	1,046	1,332	2,930	726
M33x3.5	50	694	274.66	988	906	1,133	1,269	1,360	1,423	1,813	3,988	988
M36x4	55	817	323.44	1,269	1,164	1,455	1,630	1,747	1,828	2,329	5,123	1,269
M39x4	60	976	386.42	1,643	1,507	1,884	2,110	2,261	2,366	3,014	6,631	1,643
M42x4.5	65	1121	443.90	2,032	1,864	2,330	2,610	2,797	2,927	3,729	8,203	2,032
M45x4.5	70	1306	517.20	2,537	2,327	2,909	3,258	3,491	3,654	4,655	10,241	2,537
M48x5	75	1473	583.39	3,052	2,800	3,500	3,920	4,200	4,396	5,601	12,321	3,052
M52x5	80	1758	696.13	3,946	3,620	4,525	5,068	5,430	5,683	7,240	15,928	3,946
M56x5.5	85	2030	803.92	4,907	4,502	5,627	6,303	6,753	7,068	9,004	19,809	4,907
M60x5.5	90	2362	935.40	6,118	5,612	7,015	7,857	8,419	8,811	11,225	24,695	6,118
M64x6	95	2676	1,059.73	7,393	6,782	8,478	9,495	10,173	10,648	13,565	29,842	7,393
M68x6	100	3055	1,209.94	8,968	8,228	10,285	11,519	12,341	12,917	16,455	36,202	8,968
M72x6	105	3460	1,370.11	10,753	9,865	12,331	13,811	14,797	15,488	19,730	43,405	10,753
M76x6	110	3889	1,540.23	12,759	11,706	14,632	16,388	17,559	18,378	23,412	51,505	12,759
M80x6	115	4344	1,720.30	15,001	13,762	17,203	19,267	20,644	21,607	27,525	60,555	15,001
M90x6	130	5591	2,214.03	21,720	19,926	24,908	27,897	29,889	31,284	39,852	87,675	21,720
M100x6	145	6995	2,769.95	30,192	27,700	34,624	38,779	41,549	43,488	55,399	121,878	30,192
M110x6	155	8556	3,388.08	40,623	37,269	46,586	52,176	55,903	58,512	74,538	163,983	40,623
M125x6	180	11192	4,431.91	60,385	55,399	69,249	77,558	83,098	86,976	110,798	243,755	60,385

TORQUE GUIDE FOR MATERIAL STANDARD 1.7258				BOLT LOADS								
MINIMUM YIELD (Mpa)			440									
BOLT LOAD BASED ON			99			PERCENT YIELD						
				REQUIRED TORQUE (N-m)								
BOLT SIZE DIA. x P	HEX NUT ACROSS FLAT (mm)	STRESS AREA (mm) ²	BOLT LOAD (kN)	LoaDISC TS 801 MOLY K=.109	MOLYBDENUM DISULFIDE K=.100	MOLY/LEAD OXIDE/GRAPHIT E	COPPER & GRAPHITE K=.140	NICKEL & GRAPHITE K=.150	API SA2 K=.157	MACHINE OIL K=.200	DRY STEEL K=.440 K=.300	CUSTOM (INSERT K)
M20x2.5	30	245	106.64	232	213	267	299	320	335	427	938	232
M22x2.5	32	303	132.17	317	291	363	407	436	457	582	1,279	317
M24x3	36	353	153.56	402	369	461	516	553	579	737	1,622	402
M27x3	41	459	200.13	589	540	675	756	811	848	1,081	2,378	589
M30x3.5	46	561	244.20	799	733	916	1,026	1,099	1,150	1,465	3,224	799
M33x3.5	50	694	302.13	1,087	997	1,246	1,396	1,496	1,565	1,994	4,387	1,087
M36x4	55	817	355.78	1,396	1,281	1,601	1,793	1,921	2,011	2,562	5,636	1,396
M39x4	60	976	425.06	1,807	1,658	2,072	2,321	2,487	2,603	3,315	7,294	1,807
M42x4.5	65	1121	488.29	2,235	2,051	2,564	2,871	3,076	3,220	4,102	9,024	2,235
M45x4.5	70	1306	568.92	2,791	2,560	3,200	3,584	3,840	4,019	5,120	11,265	2,791
M48x5	75	1473	641.73	3,358	3,080	3,850	4,312	4,620	4,836	6,161	13,553	3,358
M52x5	80	1758	765.75	4,340	3,982	4,977	5,575	5,973	6,252	7,964	17,520	4,340
M56x5.5	85	2030	884.31	5,398	4,952	6,190	6,933	7,428	7,775	9,904	21,790	5,398
M60x5.5	90	2362	1,028.94	6,729	6,174	7,717	8,643	9,260	9,693	12,347	27,164	6,729
M64x6	95	2676	1,165.70	8,132	7,460	9,326	10,445	11,191	11,713	14,921	32,826	8,132
M68x6	100	3055	1,330.94	9,865	9,050	11,313	12,671	13,576	14,209	18,101	39,822	9,865
M72x6	105	3460	1,507.12	11,828	10,851	13,564	15,192	16,277	17,037	21,703	47,746	11,828
M76x6	110	3889	1,694.25	14,035	12,876	16,095	18,027	19,314	20,216	25,753	56,656	14,035
M80x6	115	4344	1,892.33	16,501	15,139	18,923	21,194	22,708	23,768	30,277	66,610	16,501
M90x6	130	5591	2,435.43	23,892	21,919	27,399	30,686	32,878	34,413	43,838	96,443	23,892
M100x6	145	6995	3,046.95	33,212	30,469	38,087	42,657	45,704	47,837	60,939	134,066	33,212
M110x6	155	8556	3,726.89	44,685	40,996	51,245	57,394	61,494	64,363	81,992	180,382	44,685
M125x6	180	11192	4,875.10	66,423	60,939	76,173	85,314	91,408	95,674	121,878	268,131	66,423

