

BOLT LOAD (IMPERIAL) A490 STUD

40% - 99% YIELD



Southwest Texas	West Texas	Main Office	Southeast Texas	Central & East Texas
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BOLT LOADS

TORQUE GUIDE FOR ASTM A490 STUD														
BOLT TENSION BASED ON					40	PERCENT YIELD	REQUIRED TORQUE (ft-lb)							
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA (in ²)	MIN YIELD STRENGTH (psi)	BOLT TENSION (lb)	TS-801 MolySpray K=.109	MOLYBDENUM DISULFIDE K=.100	MOLY/LEAD OXIDE/GRAPHITE K=.125	COPPER & GRAPHITE K=.140	NICKEL & GRAPHITE K=.150	API SA2 K=.157	MACHINE OIL K=.200	DRY STEEL K=.440	CUSTOM (INSERT K) K=.300	
													0.109	
3/4 x 10	1-1/4"	0.334	130,000	17,383	118	109	136	152	163	171	217	478	118	
7/8 x 9	1-7/16"	0.461	130,000	23,998	191	175	219	245	262	275	350	770	191	
1x 8	1-5/8"	0.605	130,000	31,483	286	262	328	367	394	412	525	1,154	286	
1-1/8 x 8	1-13/16"	0.790	130,000	41,083	420	385	481	539	578	605	770	1,695	420	
1-1/4 x 8	2"	0.999	130,000	51,958	590	541	677	758	812	850	1,082	2,381	590	
1-3/8 x 8	2-3/16"	1.233	130,000	64,110	801	735	918	1,028	1,102	1,153	1,469	3,232	801	
1-1/2 x 8	2-3/8"	1.491	130,000	77,536	1,056	969	1,212	1,357	1,454	1,522	1,938	4,264	1,056	

TORQUE GUIDE FOR ASTM A490 STUD														
BOLT TENSION BASED ON					50	PERCENT YIELD	REQUIRED TORQUE (ft-lb)							
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA (in ²)	MIN YIELD STRENGTH (psi)	BOLT TENSION (lb)	TS-801 MolySpray K=.109	MOLYBDENUM DISULFIDE K=.100	MOLY/LEAD OXIDE/GRAPHITE K=.125	COPPER & GRAPHITE K=.140	NICKEL & GRAPHITE K=.150	API SA2 K=.157	MACHINE OIL K=.200	DRY STEEL K=.440	CUSTOM (INSERT K) K=.300	
													0.109	
3/4 x 10	1-1/4"	0.334	130,000	21,729	148	136	170	190	204	213	272	598	148	
7/8 x 9	1-7/16"	0.461	130,000	29,997	238	219	273	306	328	343	437	962	238	
1x 8	1-5/8"	0.605	130,000	39,353	357	328	410	459	492	515	656	1,443	357	
1-1/8 x 8	1-13/16"	0.790	130,000	51,353	525	481	602	674	722	756	963	2,118	525	
1-1/4 x 8	2"	0.999	130,000	64,948	737	677	846	947	1,015	1,062	1,353	2,977	737	
1-3/8 x 8	2-3/16"	1.233	130,000	80,137	1,001	918	1,148	1,286	1,377	1,442	1,836	4,040	1,001	
1-1/2 x 8	2-3/8"	1.491	130,000	96,920	1,321	1,212	1,514	1,696	1,817	1,902	2,423	5,331	1,321	

TORQUE GUIDE FOR ASTM A490 STUD														
BOLT TENSION BASED ON					60	PERCENT YIELD	REQUIRED TORQUE (ft-lb)							
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA (in ²)	MIN YIELD STRENGTH (psi)	BOLT TENSION (lb)	TS-801 MolySpray K=.109	MOLYBDENUM DISULFIDE K=.100	MOLY/LEAD OXIDE/GRAPHITE K=.125	COPPER & GRAPHITE K=.140	NICKEL & GRAPHITE K=.150	API SA2 K=.157	MACHINE OIL K=.200	DRY STEEL K=.440	CUSTOM (INSERT K) K=.300	
													0.109	
3/4 x 10	1-1/4"	0.334	130,000	26,075	178	163	204	228	244	256	326	717	178	
7/8 x 9	1-7/16"	0.461	130,000	35,997	286	262	328	367	394	412	525	1,155	286	
1x 8	1-5/8"	0.605	130,000	47,224	429	394	492	551	590	618	787	1,732	429	
1-1/8 x 8	1-13/16"	0.790	130,000	61,624	630	578	722	809	867	907	1,155	2,542	630	
1-1/4 x 8	2"	0.999	130,000	77,937	885	812	1,015	1,137	1,218	1,275	1,624	3,572	885	
1-3/8 x 8	2-3/16"	1.233	130,000	96,164	1,201	1,102	1,377	1,543	1,653	1,730	2,204	4,848	1,201	
1-1/2 x 8	2-3/8"	1.491	130,000	116,305	1,585	1,454	1,817	2,035	2,181	2,282	2,908	6,397	1,585	

TORQUE GUIDE FOR ASTM A490 STUD														
BOLT TENSION BASED ON					70	PERCENT YIELD	REQUIRED TORQUE (ft-lb)							
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA (in ²)	MIN YIELD STRENGTH (psi)	BOLT TENSION (lb)	TS-801 MolySpray K=.109	MOLYBDENUM DISULFIDE K=.100	MOLY/LEAD OXIDE/GRAPHITE K=.125	COPPER & GRAPHITE K=.140	NICKEL & GRAPHITE K=.150	API SA2 K=.157	MACHINE OIL K=.200	DRY STEEL K=.440	CUSTOM (INSERT K) K=.300	
													0.109	
3/4 x 10	1-1/4"	0.334	130,000	30,420	207	190	238	266	285	299	380	837	207	
7/8 x 9	1-7/16"	0.461	130,000	41,996	334	306	383	429	459	481	612	1,347	334	
1x 8	1-5/8"	0.605	130,000	55,095	500	459	574	643	689	721	918	2,020	500	
1-1/8 x 8	1-13/16"	0.790	130,000	71,895	735	674	843	944	1,011	1,058	1,348	2,966	735	
1-1/4 x 8	2"	0.999	130,000	90,927	1,032	947	1,184	1,326	1,421	1,487	1,894	4,167	1,032	
1-3/8 x 8	2-3/16"	1.233	130,000	112,192	1,401	1,286	1,607	1,800	1,928	2,018	2,571	5,656	1,401	
1-1/2 x 8	2-3/8"	1.491	130,000	135,689	1,849	1,696	2,120	2,375	2,544	2,663	3,392	7,463	1,849	

TORQUE GUIDE FOR ASTM A490 STUD														
BOLT TENSION BASED ON				80	PERCENT YIELD	REQUIRED TORQUE (ft-lb)								
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA (in ²)	MIN YIELD STRENGTH (psi)	BOLT TENSION (lb)	TS-801 Moly Spray K=109	MOLYBDENUM DISULFIDE K=100	MOLY/LEAD OXIDE/GRAPHITE K=125	COPPER & GRAPHITE K=140	NICKEL& GRAPHITE K=150	API SA2 K=157	MACHINE OIL K=200	DRY STEEL K=440	CUSTOM (INSERT K) K=300	
													0.109	
3/4 x 10	1-1/4"	0.334	130,000	34,766	237	217	272	304	326	341	435	956	237	
7/8 x 9	1-7/16"	0.461	130,000	47,996	381	350	437	490	525	549	700	1,540	381	
1x 8	1-5/8"	0.605	130,000	62,965	572	525	656	735	787	824	1,049	2,309	572	
1-1/8 x 8	1-13/16"	0.790	130,000	82,165	840	770	963	1,078	1,155	1,209	1,541	3,389	840	
1-1/4 x 8	2"	0.999	130,000	103,917	1,180	1,082	1,353	1,515	1,624	1,699	2,165	4,763	1,180	
1-3/8 x 8	2-3/16"	1.233	130,000	128,219	1,601	1,469	1,836	2,057	2,204	2,307	2,938	6,464	1,601	
1-1/2 x 8	2-3/8"	1.491	130,000	155,073	2,113	1,938	2,423	2,714	2,908	3,043	3,877	8,529	2,113	

TORQUE GUIDE FOR ASTM A490 STUD														
BOLT TENSION BASED ON				90	PERCENT YIELD	REQUIRED TORQUE (ft-lb)								
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA (in ²)	MIN YIELD STRENGTH (psi)	BOLT TENSION (lb)	TS-801 Moly Spray K=109	MOLYBDENUM DISULFIDE K=100	MOLY/LEAD OXIDE/GRAPHITE K=125	COPPER & GRAPHITE K=140	NICKEL& GRAPHITE K=150	API SA2 K=157	MACHINE OIL K=200	DRY STEEL K=440	CUSTOM (INSERT K) K=300	
													0.109	
3/4 x 10	1-1/4"	0.334	130,000	39,112	266	244	306	342	367	384	489	1,076	266	
7/8 x 9	1-7/16"	0.461	130,000	53,995	429	394	492	551	591	618	787	1,732	429	
1x 8	1-5/8"	0.605	130,000	70,836	643	590	738	826	885	927	1,181	2,597	643	
1-1/8 x 8	1-13/16"	0.790	130,000	92,436	945	867	1,083	1,213	1,300	1,361	1,733	3,813	945	
1-1/4 x 8	2"	0.999	130,000	116,906	1,327	1,218	1,522	1,705	1,827	1,912	2,436	5,358	1,327	
1-3/8 x 8	2-3/16"	1.233	130,000	144,246	1,802	1,653	2,066	2,314	2,479	2,595	3,306	7,272	1,802	
1-1/2 x 8	2-3/8"	1.491	130,000	174,457	2,377	2,181	2,726	3,053	3,271	3,424	4,361	9,595	2,377	

TORQUE GUIDE FOR ASTM A490 STUD														
BOLT TENSION BASED ON				99	PERCENT YIELD	REQUIRED TORQUE (ft-lb)								
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA (in ²)	MIN YIELD STRENGTH (psi)	BOLT TENSION (lb)	TS-801 Moly Spray K=109	MOLYBDENUM DISULFIDE K=100	MOLY/LEAD OXIDE/GRAPHITE K=125	COPPER & GRAPHITE K=140	NICKEL& GRAPHITE K=150	API SA2 K=157	MACHINE OIL K=200	DRY STEEL K=440	CUSTOM (INSERT K) K=300	
													0.109	
3/4 x 10	1-1/4"	0.334	130,000	43,023	293	269	336	376	403	422	538	1,183	293	
7/8 x 9	1-7/16"	0.461	130,000	59,395	472	433	541	606	650	680	866	1,906	472	
1x 8	1-5/8"	0.605	130,000	77,920	708	649	812	909	974	1,019	1,299	2,857	708	
1-1/8 x 8	1-13/16"	0.790	130,000	101,680	1,039	953	1,192	1,335	1,430	1,497	1,906	4,194	1,039	
1-1/4 x 8	2"	0.999	130,000	128,597	1,460	1,340	1,674	1,875	2,009	2,103	2,679	5,894	1,460	
1-3/8 x 8	2-3/16"	1.233	130,000	158,671	1,982	1,818	2,273	2,545	2,727	2,854	3,636	8,000	1,982	
1-1/2 x 8	2-3/8"	1.491	130,000	191,902	2,615	2,399	2,998	3,358	3,598	3,766	4,798	10,555	2,615	