



PROPERTIES OF HIGH TEMPERATURE, HIGH PRESSURE FASTENERS (INCH)

NOMINAL DIAMETER	PITCH in TPI			stress area in mm ²			BOLT, SCREW & STUD ASTM A193 B7						HEAVY HEX NUT ASTM A194 2H			
	SIZE	UNC	UNF	8UN	UNC	UNF	8UN	Yeild Stress 8UN N/mm	Yeild Load 8UN KN	Tensile Stress N/mm	Tourque* N m	Hardness HRC	ELONGATION# %	Proof Stress N/mm	Proof Load 8UN KN	Hardness HRC
1/4	20	28		20.5	23.5											
5/16	18	24		33.8	37.5											
3/8	16	24		50.0	56.7											
7/16	14	20		68.6	76.6											
1/2	13	20		91.5	103	91.5	724	66.2	862	112.9	-35	16.0	1206	110.3	24-35	
9/16	12	18		117	131	117	724	84.7	862	162.5	-35	16.0	1206	141.1	24-35	
5/8	11	18		146	165	146	724	105.7	862	225.3	-35	16.0	1206	176.1	24-35	
3/4	10	16		216	241	216	724	156.4	862	399.9	-35	16.0	1206	260.5	24-35	
7/8	9	14		298	329	298	724	215.8	862	643.7	-35	16.0	1206	359.4	24-35	
1	8	12	8	391	428	391	724	282.9	862	964.8	-35	16.0	1206	471.3	24-35	
1 1/16			8			448	724	324.6	862	1,176	-35	16.0	1206	540.8	24-35	
1 1/8	7	12	8	492	552	510	724	369.2	862	1,416	-35	16.0	1206	615.0	24-35	
1 3/16			8			575	724	416.7	862	1,687	-35	16.0	1206	694.0	24-35	
1 1/4	7	12	8	625	692	645	724	467.0	862	1,990	-35	16.0	1206	777.8	24-35	
1 5/16			8			718	724	520.1	862	2,328	-35	16.0	1206	866.4	24-35	
1 3/8	6	12	8	745	848	796	724	576.2	862	2,701	-35	16.0	1206	959.7	24-35	
1 7/16			8			877	724	635.1	862	3,113	-35	16.0	1206	1,058	24-35	
1 1/2	6	12	8	907	1,020	962	724	696.8	862	3,564	-35	16.0	1206	1,161	24-35	
1 9/16			8			1,052	724	761.5	862	4,057	-35	16.0	1206	1,268	35 Max	
1 5/8			8			1,145	724	829.0	862	4,593	-35	16.0	1206	1,381	35 Max	
1 11/16			8			1,242	724	899.3	862	5,175	-35	16.0	1206	1,498	35 Max	
1 3/4	5		8	1,225		1,343	724	972.6	862	5,804	-35	16.0	1206	1,620	35 Max	
1 7/8			8			1,557	724	1,128	862	7,210	-35	16.0	1206	1,878	35 Max	
2	4 1/2		8	1,612		1,788	724	1,294	862	8,826	-35	16.0	1206	2,156	35 Max	
2 1/4	4 1/2		8	2,095		2,295	724	1,662	862	12,748	-35	16.0	1206	2,768	35 Max	
2 1/2	4		8	2,580		2,866	724	2,075	862	17,688	-35	16.0	1206	3,456	35 Max	
2 3/4			8			3,819	655	2,501	793	23,457	-35	16.0	1206	4,606	35 Max	
3			8			4,198	655	2,749	793	28,126	-35	16.0	1206	5,062	35 Max	
3 1/4			8			4,959	655	3,248	793	35,993	-35	16.0	1206	5,980	35 Max	
3 1/2			8			5,783	655	3,788	793	45,205	-35	16.0	1206	6,974	35 Max	
4			8			7,621	655	4,992	793	68,088	-35	16.0	1206	9,191	35 Max	
DIMENSION							HEAVY HEX						HEAVY HEX			
MARKING							'RS' 'B7'						'RS' '2H'			
TEMPERING oC							593						455			
Heating for 24Hours for the Nut oC													540			
HARDNESS AFTER HEATING													89 HRb <= 1-1/2" 79 HRb > 1-1/2"			
CARBON							0.37-0.48						0.4-			
MANAGENESE							0.85-1.10						1.0-			
SULPHUR							-0.04						0.050-			
SILICON							0.15-0.35						0.40-			
CHROMIUM							0.75-1.20									
MOLYBDENUM							0.15-0.25									
NICKLE																
VANADIUM																
PHOPHORUS													0.040-			
MATERIAL							Chromium - Moly Steel						Carbon Steel			

Notes:

- 1. 8UN means less than 1" UNC thread and above 1" 8 TPI thread
- 2. Left hand side of '-' is minium value right hand side of '-' is maximum value
Eg. 0.5-0.7 min is 0.5 and max is 0.7
Eg. -0.8 max is 0.8 no minimam value
Eg. 2.0- min is 2.0 no maximam value

* Torque value based on 75% of proof load and finish as recieved steel

| Metric Units is followed, if not available it has been converted to metric unit for uniformity