



# PROPERTIES OF A193 B8 TYPE 1

NOMINAL DIAMETER	PITCH in TPI			stress area in mm <sup>2</sup>			BOLT, SCREW & STUD ASTM A193 B8-1					HEAVY HEX NUT ASTM A194 Gr. 8				
	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	207	18.9	517	32.3	-96		552	50.5	60-105
9/16	12	18			117	131	117	207	24.2	517	46.5	-96		552	64.6	60-105
5/8	11	18			146	165	146	207	30.2	517	64.4	-96		552	80.6	60-105
3/4	10	16			216	241	216	207	44.7	517	114.3	-96		552	119.2	60-105
7/8	9	14			298	329	298	207	61.7	517	184.1	-96		552	164.5	60-105
1	8	12	8		391	428	391	207	80.9	517	275.9	-96		552	215.7	60-105
1 1/16			8				448	207	92.8	517	336.3	-96		552	247.5	60-105
1 1/8	7	12	8		492	552	510	207	105.6	517	405.0	-96	30.0	552	281.5	60-105
1 3/16			8				575	207	119.1	517	482.4	-96	30.0	552	317.7	60-105
1 1/4	7	12	8		625	692	645	207	133.5	517	569.1	-96	30.0	552	356.0	60-105
1 5/16			8				718	207	148.7	517	665.6	-96	30.0	552	396.6	60-105
1 3/8	6	12	8		745	848	796	207	164.7	517	772.4	-96	30.0	552	439.3	60-105
1 7/16			8				877	207	181.6	517	890.0	-96	30.0	552	484.2	60-105
1 1/2	6	12	8		907	1,020	962	207	199.2	517	1,019	-96	30.0	552	531.3	60-105
1 9/16			8				1,052	207	217.7	517	1,160	-96	30.0	552	580.6	60-105
1 5/8			8				1,145	207	237.0	517	1,313	-96	30.0	552	632.0	60-105
1 11/16			8				1,242	207	257.1	517	1,480	-96	30.0	552	685.7	60-105
1 3/4	5		8		1,225		1,343	207	278.1	517	1,659	-96	30.0	552	741.5	60-105
1 7/8			8				1,557	207	322.4	517	2,061	-96	30.0	552	859.7	60-105
2	4 1/2		8		1,612		1,788	207	370.0	517	2,523	-96	30.0	552	986.7	60-105
2 1/4	4 1/2		8		2,095		2,295	207	475.1	517	3,645	-96	30.0	552	1,267	60-105
2 1/2	4		8		2,580		2,866	207	593.2	517	5,057	-96	30.0	552	1,582	60-105
2 3/4			8				3,819	207	790.5	517	7,413	-96	30.0	552	2,108	60-105
3			8				4,198	207	868.9	517	8,889	-96	30.0	552	2,317	60-105
3 1/4			8				4,959	207	1,026	517	11,375	-96	30.0	552	2,737	60-105
3 1/2			8				5,783	207	1,197	517	14,286	-96	30.0	552	3,192	60-105
4			8				7,621	207	1,578	517	21,518	-96	30.0	552	4,207	60-105
DIMENSION							HEAVY HEX					HEAVY HEX				
MARKING							'RS' B8'					'RS' '8'				
TEMPERING oC																
Heating for 24Hours for the Nut oC																
HARDNESS AFTER HEATING																
CARBON							-0.06					-0.08				
MANAGENESE							-2.0					-2.0				
SULPHUR							-0.03					-0.03				
SILICON							-1.0					-1.0				
CHROMIUM							18.0-20.0					18.0-20.0				
MOLYBDENUM																
NICKLE							8.0-11.0					8.0-11.0				
VANADIUM																
PHOPHORUS												-0.045				
MATERIAL							SS-304					SS-304				

**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 minimum value
- Eg. 2.0- min is 2.0 no maximum value

# Elongation in length of 4 times Diameter

\* 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