PROPERTIES OF HIGH TEMPERATURE,HIGH PRESSURE FASTENERS (B7M)

NOMINAL DIAMETER	PITCH in TPI			stress area in mm2			BOLT, SCREW & STUD ASTM A193 B7M						HEAVY HEX NUT ASTM A194 2HM		
SIZE	UNC	UNF	8UN	UNC	UNF	8UN	Yeild Stress 8UN N/mm	Yeild Load 8UN KN	Tensile Stress N/mm	Tourque* N m	Hard-ness HRC	ELONGA-TION# %	Proof Stress N/mm	Proof Load 8UN KN	Hard-ness 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	552	50.5	690	86.1	-99		1035	94.7	-22
9/16	12	18		117	131	117	552	64.6	690	123.9	-99		1035	121.1	-22
5/8	11	18		146	165	146	552	80.6	690	171.8	-99		1035	151.1	-22
3/4	10	16		216	241	216	552	119.2	690	304.9	-99		1035	223.6	-22
7/8	9	14		298	329	298	552	164.5	690	490.8	-99		1035	308.4	-22
1	8	12	8	391	428	391	552	215.7	690	735.6	-99		1035	404.5	-22
1 1/16			8			448	552	247.5	690	897	-99		1035	464.1	-22
1 1/8	7	12	8	492	552	510	552	281.5	690	1,080	-99	18.0	1035	527.8	-22
1 3/16			8			575	552	317.7	690	1,286	-99	18.0	1035	595.6	-22
1 1/4	7	12	8	625	692	645	552	356.0	690	1,518	-99	18.0	1035	743.6	-22
1 5/16			8			718	552	396.6	690	1,775	-99	18.0	1035	823.7	-22
1 3/8	6	12	8	745	848	796	552	439.3	690	2,060	-99	18.0	1035	907.9	-22
1 7/16			8			877	552	484.2	690	2,373	-99	18.0	1035	996.2	-22
1 1/2	6	12	8	907	1,020	962	552	531.3	690	2,717	-99	18.0	1035	1,089	-22
1 9/16			8			1,052	552	580.6	690	3,093	-99	18.0	1035	1,850	-22
1 5/8			8			1,145	552	632.0	690	3,502	-99	18.0	1035	1,185	-22
1 11/16			8			1,242	552	685.7	690	3,946	-99	18.0	1035	1,286	-22
1 3/4	5		8	1,225		1,343	552	741.5	690	4,425	-99	18.0	1035	1,390	-22
1 7/8			8			1,557	552	859.7	690	5,497	-99	18.0	1035	1,612	-22
2	4 1/2		8	1,612		1,788	552	986.7	690	6,729	-99	18.0	1035	1,850	-22
2 1/4	4 1/2		8	2,095		2,295	552	1,267	690	9,720	-99	18.0	1035	2,375	-22
2 1/2	4		8	2,580		2,866	552	1,582	690	13,486	-99	18.0	1035	2,966	-22
2 3/4			8			3,819	552	2,108	690	19,768	-99	18.0	1035	3,953	-22
3			8			4,198	552	2,317	690	23,703	-99	18.0	1035	4,345	-22
3 1/4			8			4,959	552	2,737	690	30,333	-99	18.0	1035	5,132	-22
3 1/2			8			5,783	552	3,192	690	38,097	-99	18.0	1035	5,985	-22
4			8			7,621	552	4,207	690	57,381	-99	18.0	1035	7,888	-22

DIMENSION	HEAVY HEX	HEAVY HEX
MARKING	'RS' 'B7M'	'RS' '2HM'
TEMPERING oC	620	620
Heating for 24Hours for the Nut oC		540
HARDNESS AFTER HEATING		84 HRb
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

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