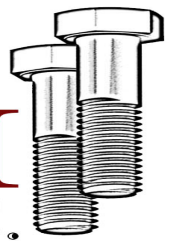




SHABBARI

TRADING L.L.C.



PROPERTIES OF GRADE 10.9 BOLT & NUT (ISO)

BOLT SIZE	PITCH	STRESS AREA MM ²	BOLT/STUD/SCREW ISO 898-1 Gr. 10.9						NUT ISO 898-2 Gr. 10		
			PROOF STRESS N/MM ²	PROOF LOAD KN	TENSILE STRESS N/MM ²	TORQUE* N-m	HARDNESS HRC	ELONGATION# %	PROOF STRESS N/MM ²	PROOF LOAD KN	HARDNESS HRC
M6	1	20.1	830	16.7	1,040.0	13.4	32-39	9.0	1050	20.9	28-38
M8	1.25	36.6	830	30.4	1,040.0	32.6	32-39	9.0	1060	38.1	28-38
M10	1.5	58.8	830	48.8	1,040.0	65.5	32-39	9.0	1060	61.7	28-38
M12	1.75	84.3	830	70.0	1,040.0	112.7	32-39	9.0	1050	88.5	28-38
M14	2.0	115.0	830	95.5	1,040.0	179.4	32-39	9.0	1050	120.8	28-38
M16	2.0	157.0	830	130.3	1,040.0	279.9	32-39	9.0	1060	166.4	28-38
M18	2.5	192.0	830	159.4	1,040.0	385.1	32-39	9.0	1060	203.5	28-38
M20	2.5	245.0	830	203.4	1,040.0	546.0	32-39	9.0	1060	259.7	28-38
M22	2.5	303.0	830	251.5	1,040.0	742.8	32-39	9.0	1060	321.2	28-38
M24	3.0	353.0	830	293.0	1,040.0	944.0	32-39	9.0	1060	374.2	28-38
M27	3.0	459.0	830	381.0	1,040.0	1,381	32-39	9.0	1060	486.5	28-38
M30	3.5	561.0	830	465.6	1,040.0	1,875	32-39	9.0	1060	594.7	28-38
M33	3.5	694.0	830	576.0	1,040.0	2,552	32-39	9.0	1060	735.6	28-38
M36	4.0	817.0	830	678.1	1,040.0	3,277	32-39	9.0	1060	866.0	28-38
M39	4.0	976.0	830	810.1	1,040.0	4,241	32-39	9.0	1060	1,034.6	28-38
M42	4.5	1,120.0	830	929.6	1,040.0	5,242	32-39	9.0	1060	1,187.2	28-38
M45	4.5	1,310.0									
M48	5.0	1,470.0									
M52	5.0	1,760.0									
M56	5.5	2,030.0									
M60	5.5	2,360.0									
M64	6.0	2,680.0									
M68	6.0	3,060.0									
M72	6.0	3,460.0									
DIMENSIONS			NORMAL HEX						NORMAL HEX		
MARKINGS			'10.9'						'10'		
CARBON			0.15-0.35						-0.58		
MANGANESE			0.7-						V0.30-		
SULPHUR			-0.035						-0.058		
SILICON											
CHROMIUM											
MOLYBDENUM											
NICKLE											
VANADIUM											
BORON			-0.003								
PHOSPHOROUS			-0.035						-0.046		
MATERIAL			Carbon with add Eg B, Mn or Cr Quenched & tempered						Medium Carbon or Alloy Steel		

NOTES:

- Left hand side of '-' is minimum 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

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