

MANUFACTURERS TEST CERTIFICATE - EN 10204 3.1

Certificate No:- **IF/___/___/___ dt 10.02.2019**

Name of Customer :- _____

Finish :- **SELF**

Purchase Order:- _____

RM Supplier:- _____

RM Invoice No:- _____

Invoice # _____ dt. _____

Material Description:- **Stud Bolt Full Thread**

Grade:- **ASTM A 193 / A 194**

RM Certificate No:- _____ Dtd: _____

RM Heat Number:- _____

RM Qty:- _____ **MT**

Chemical analysis as per ASTM A193-14a (Table-1)

STUD BOLT

Material / Description	C%	Mn%	Si%	P %	S %	Cr.%	Ni.%	Mo.%		RM Number
Specified Min	0.37	0.65	0.15	-	-	0.75	-	0.15		
Max	0.49	1.10	0.35	0.035	0.040	1.20	-	0.25		
2"x14.5"	0.42	0.90	0.24	0.019	0.022	0.99	-	0.210		950
1.7/8"x13"	0.45	1.02	0.30	0.025	0.027	0.95	-	0.021		925
2.1/2"x16.5"	0.41	0.94	0.25	0.020	0.024	0.98	-	0.200		982

Mechanical properties for stud bolts as per ASTM A193-14a

Size	Qty stud bolts In Pcs	Hardness in HRC	Tensile Strength, min, ksi	Yield Strength, 0.2%, offset, ksi	Elongation in 4D, min, %	Reduction of Area, min, %				
Min		-	125	105	16%	50%				
Max		35	-	-	-	-				
2"x14.5"	943	30-32	130.56	109.85	19.77	58.93				
1.7/8"x13"	1,728	31-32	134.41	114.52	18.65	57.85				
2.1/2"x16.5"	76	30-31	131.28	109.12	17.97	56.67				

Dimensions for studs

SIZE	Pcs. Checked	TL	D	D1	D2	Visual	Remark				
Min											
Max											
2"x14.5"	1	FT	50.65	48.60	47.20	ok	ok				
2"x14.5"	2	FT	50.68	48.61	47.25	ok	ok				
1.7/8"x13"	3	FT	47.45	45.40	44.20	ok	ok				
1.7/8"x13"	4	FT	47.45	45.40	44.20	ok	ok				
2.1/2"x16.5"	5	FT	63.21	61.26	60.25	ok	ok				
2.1/2"x16.5"	6	FT	63.25	61.25	60.22	ok	ok				

(1) Thread sizes are 8 UN according to ASME B1.1

(2) Stud bolts are full thread according to ASME B18.2.1 full length of threads

(3) Stud bolts PMI checked 100% for conformity to standard

Tested By

Quality Department

INSCO FASTENERS

Manufacturing Unit

Sohar

Sultanate of OMAN