

# AANURAJ FASTENERS PVT.LTD.

## ASTM A193 Gr.B7M (Metric) Stud Bolt Screws

Chemical Requirements		
	Range	Product Variation, Over or Under
Carbon	0.37-0.49	0.02
Manganese	0.65-1.10	0.04
Phosphorus, max	0.035	0.005over
Sulphur, max	0.040	0.005over
Silicon	0.15-0.35	0.02
Chromium	0.75-1.20	0.05
Molybdenum	0.15-0.25	0.02

Mechanical Requirements- Metric					
Diameter, in	Minimum Tempering Temperature, °C	Tensile Strength, Min, MPa	Yield Strength, Min, 0.2% offset, MPa	Elongation In 4D, Min, %	Reduction of Area, Min, %
M100 and under	620	690	550	18	50
Over M100 to M180	620	690	515	18	50

Hardness –Max (Metric)	
M100 and under	99 HRB
Over M100 to M180	99 HRB

Process Carried Out	
Stage I	Hardening at 880°C For 2 Hours in Electric Furnace.
Stage II	Quench in Hot oil 60 to 95°C.
Stage III	As Quenched Hardness 52/54 HRC.
Stage IV	Tempering at 690°C for 3Hrs.
Stage V	Cool in Air