

ASTM A 193 Gr.B7M

ALLOY STEEL

HIGH TENSILE

BOLTING MATERIAL FOR LOW TEMPERATURE SERVICE

ASTM A193 Gr.B7M is a modified version of B7 that is used for "sour service" (NACE MR0175) applications for environments exposed to the H₂S (hydrogen sulfide). It's common on flanges, vessels, valves, pumps, etc. etc. ASTM A 193 Gr.B7M is often found on pots, tanks, boilers, heat exchangers, and other pressure vessels, especially in the oil/gas industry. It has the same chemistry as B7. Physicals have max hardness of 235 Brinell or RC22. 100,000 PSI tensile and 80,000 PSI yield. Used in areas where H₂S is present.

Chemical Properties

C	Si	Mn	P	S	Cr	Mo
0.37-0.49	0.15-0.35	0.65-1.10	0.035 Max	0.040 Max	0.75-1.20	0.15-0.25

Mechanical Properties

Yield strength	Tensile strength	Elongation	Reduction	Hardness
Min 0.2% Mpa	Min Mpa	Min %	Min %	HRB Max
550	690	18	50	235

Heat Treatment

Hardened @850°C & Tempered @650°C

Equivalent Designation

UNS G41400
W.Nr. 1.7225
SS 2378*
AFNOR Z1 CNDU 20.18.06AZ*

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