

## ASTM A 193 Gr.B8R

# STAINLESS STEEL

BOLTING MATERIAL FOR LOW TEMPERATURE SERVICE

ASTM A193 Gr.B8R also known as Nitronic 50 is a chromium-nickel-manganese-molybdenum austenitic stainless steel that remains completely nonmagnetic after severe cold working or exposure to low temperatures. Its unique feature is the combination of higher strength and better corrosion resistance than the more widely used austenitic stainless grades. ASTM A193 Gr.B8R which covers alloy and stainless steel bolting for pressure vessels, valves, flanges, and fittings for high temperature or high pressure service, or other special purpose applications. Nitronic 50 is ideal where 316, 316L, 317 and 317L are marginal. It has found wide use in the petroleum, petrochemical, chemical, pulp and paper, textile, food, nuclear and marine industries. It is carbide solution treated.

### Chemical Properties

C	Si	Mn	P	S	Cr	Mo	Ni	V	N	Cb+Ta
0.06 Max	1.00 Max	4.0-6.0	0.045 Max	0.030 Max	20.5-23.5	1.50-3.00	11.5-13.5	0.10-0.30	0.20-0.40	0.10-0.30

### Mechanical Properties

Yield strength	Tensile strength	Elongation	Reduction	Hardness
Min 0.2% Mpa	Min Mpa	Min %	Min %	HRB Max
380	690	35	55	271

### Heat Treatment

Carbide Solution Treated

### Equivalent Designation

UNS S20910  
Din X3 CrNiMnMoNbN  
Werkstoff.No. 1.4565

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