

## ASTM A 193 Gr.B8MLNA

# STAINLESS STEEL

BOLTING MATERIAL FOR LOW TEMPERATURE SERVICE

ASTM A193 Gr.B8MLNA is a lowcarbon, nitrogen-enhanced version of Type 316 molybdenum-bearing austenitic stainless steel. The Type 316 alloys are more resistant to general corrosion and pitting/crevice corrosion than the conventional chromium-nickel austenitic stainless steels such as Type 304. They also offer higher creep, stress-rupture and tensile strength at elevated temperature. The nitrogen in Type 316LN adds additional resistance to sensitization in some circumstances. ASTM A193 Gr. B8MLNA are also used for conveying fluids under extreme temperatures in heat transfer process equipment like boilers, heaters, heat exchangers, condensers and others.

### Chemical Properties

| C        | Si       | Mn       | P         | S         | Cr        | Mo        | Ni        | N         |
|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.08 Max | 1.00 Max | 2.00 Max | 0.045 Max | 0.030 Max | 16.0-18.0 | 2.00-3.00 | 10.0-13.0 | 0.10-0.16 |

### Mechanical Properties

| Yield strength | Tensile strength | Elongation | Reduction | Hardness |
|----------------|------------------|------------|-----------|----------|
| Min 0.2% Mpa   | Min Mpa          | Min %      | Min %     | HRB Max  |
| 205            | 515              | 30         | 50        | 192      |

### Heat Treatment

Carbide Solution Treated in the finished condition.

### Equivalent Designation

UNS S31653  
Din X6 CrNiMoN 17 2 2  
Werkstoff.No. 1.4406  
Jis sus316  
AFNOR Z 2 CND 17.12

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