# **Material:** ASTM B 446 N06650

## Standard Specification for Nickel-Chromium-Molybdenum-Columbium Alloy, Rod and Bar

**Group:** *Non-Ferrous Nickel Alloys*
**Sub Group:** *ASTM B 446 N06650 Nickel-Chromium-Molybdenum-Columbium Alloy, Rod and Bar*
**Application:** *Intended for Valve, Pump, General Engineering, Automotive and other Industries*
**Grade Belongs to the Industry:** *Rod and Bar*

| Chemical Composition | | |
|---|---|---|
| Carbon | C % | 0.030 max. |
| Silicon | Si % | 0.500 max. |
| Manganese | Mn % | 0.500 max. |
| Chromium | Cr % | 19.000 - 21.000 |
| Sulphur | S % | 0.010 max. |
| Copper | Cu % | 0.300 max. |
| Iron | Fe % | 12.000 - 16.000 |
| Molybdenum | Mo % | 9.500 - 12.500 |
| Cobalt | Co % | 1.000 max. |
| Aluminium | Al % | 0.050 - 0.500 |
| Nb + Ta | Nb% + Ta% | 0.050 - 0.500 |
| Phosphorus | P % | 0.020 max. |
| Tungsten | W % | 0.500 - 2.500 |
| Nitrogen | N % | 0.050 - 0.200 |
| Nickel | Ni % | Balance |

| Heat Treatment |
|---|
| As-Cast or Annealing or Age Hardning |

| Mechanical Properties | |
|---|---|
| Tensile Strength in Mpa | 800 min. |
| Yield Strength in Mpa | 400 min. |
| Elongation in % | 45 min. |
| Reduction of Area in % | - |
| Hardness in BHN | - |
| Impact in Joule | - |

| Cross Reference Table | | | |
|---|---|---|---|
| **Material** | **Standard** | **Country** | **Grade Belong to the Industry** |
| SB-446 N06650 | ASME | USA | Rod and Bar |
| - | - | - | - |
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