



High Alloy Steel ASTM A487 Gr. CA6NM(B)

Standard Specification for Castings, martensite, for Pressure-Containing Parts

MATERIAL DATASHEET

GROUP

Ferrous Stainless Steel Alloys

SUB GROUP

ASTM A487 / A487M

INDUSTRY

Investment Casting

This lower-strength class of the CA6NM martensitic stainless steel casting grade shares the same chromium-nickel-molybdenum chemical composition as Class A but is heat treated to deliver greater ductility and toughness at moderately reduced strength levels. With a minimum tensile strength of 690 MPa, improved elongation of 17%, and a defined hardness of 255 HB Maximum, it offers an ideal balance between toughness and wear resistance for applications requiring enhanced impact performance. Its annealing, normalizing, or hardening and tempering heat treatment flexibility makes it well-suited for pressure-containing castings in pumps, valves, and general engineering applications where ductility and structural reliability are prioritized over maximum strength.



CHEMICAL COMPOSITION

| ELEMENT | SYMBOL | COMPOSITION |
|------------|--------|-----------------|
| Carbon | C % | 0.060 max. |
| Silicon | Si % | 1.000 max. |
| Manganese | Mn % | 1.000 max. |
| Phosphorus | P % | 0.035 max. |
| Sulphur | S % | 0.030 max. |
| Chromium | Cr % | 11.500 - 14.000 |
| Nickel | Ni % | 3.500 - 4.500 |
| Molybdenum | Mo % | 0.400 - 1.000 |
| Copper | Cu % | 0.500 max. |
| Vanadium | V % | 0.050 max. |
| Tungsten | W % | 0.100 max. |
| Iron | Fe % | Balance |



HEAT TREATMENT

Normalizing & Double tempering

MECHANICAL PROPERTIES

PERFORMANCE SPECIFICATIONS

Tensile Strength **690**
Minimum Value MPa

Yield Strength **515**
Minimum Value MPa

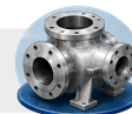
Elongation **17**
Minimum Value %

Reduction of Area **35**
Minimum Value %

Hardness **255**
Maximum Value HB



INDUSTRY APPLICATIONS

Process valves**Refinery pumps****Chemical process equipment****Industrial piping****Corrosion-resistant castings**

DISCLAIMER: All information in this datasheet is indicative only and is not intended to be a substitute for the full specification. It provides typical values for comparison between metal alloy options rather than a definitive statement of mechanical performance. Values may vary with temperature, product type, and application. This data does not constitute any guarantee of properties.

Tamboli Castings Limited

Bhavnagar, Gujarat, India

Phone: +91 278 2541000

Email: info@tambolicastingslimited.com