



High Alloy Steel ASTM A743 Gr. CA40

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

MATERIAL DATASHEET

GROUP
Ferrous Stainless Steel Alloys**SUB GROUP**
ASTM A743 / A743M**INDUSTRY**
Investment Casting

This higher-carbon martensitic stainless steel casting grade is specifically formulated for applications requiring elevated hardness, wear resistance, and moderate corrosion resistance in mildly aggressive environments. The defined carbon range of 0.20-0.40% combined with 11.5-14% chromium delivers superior surface hardness and abrasion resistance compared to lower-carbon martensitic grades, making it well-suited for cutlery, valve trim, wear plates, and general engineering components. Annealing or hardening and tempering heat treatment provides flexibility in achieving the desired balance of hardness and ductility for diverse corrosion-resistant casting applications.



CHEMICAL COMPOSITION

| ELEMENT | SYMBOL | COMPOSITION |
|------------|--------|-----------------|
| Carbon | C % | 0.200 - 0.400 |
| Silicon | Si % | 1.500 max. |
| Manganese | Mn % | 1.000 max. |
| Phosphorus | P % | 0.040 max. |
| Sulphur | S % | 0.040 max. |
| Chromium | Cr % | 11.500 - 14.000 |
| Nickel | Ni % | 1.000 max. |
| Molybdenum | Mo % | 0.500 max. |
| Iron | Fe % | Balance |

**HEAT TREATMENT**
Normalizing of tempering

MECHANICAL PROPERTIES

PERFORMANCE SPECIFICATIONS

Tensile Strength **690**
Minimum Value MPa**Yield Strength** **485**
Minimum Value MPa**Elongation** **15**
Minimum Value %**Reduction of Area** **25**
Minimum Value %**Hardness** **269**
max HB

INDUSTRY APPLICATIONS

Slurry pumps



Wear plates



Valve



Mining equipment



Abrasion-resistant machinery



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