



High Alloy Steel ASTM A743 Gr. CA15

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 straight chromium martensitic stainless steel casting grade offers a practical combination of moderate corrosion resistance and good mechanical strength, making it ideal for applications requiring hardness and wear resistance alongside mild corrosion protection. With chromium content of 11.5-14% and a maximum carbon of 0.15%, it delivers reliable performance in mildly corrosive environments such as steam turbines, pump casings, and general engineering components. The flexible heat treatment options of annealing or hardening and tempering allow precise tailoring of hardness and strength, making it a versatile and cost-effective choice for corrosion-resistant structural casting applications.



CHEMICAL COMPOSITION

ELEMENT	SYMBOL	COMPOSITION
Carbon	C %	0.150 max.
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**

Annealing/normalizing of tempering



MECHANICAL PROPERTIES

PERFORMANCE SPECIFICATIONS**Tensile Strength** **620**
Minimum Value MPa**Yield Strength** **450**
Minimum Value MPa**Elongation** **18**
Minimum Value %**Reduction of Area** **30**
Minimum Value %**Hardness** **241**
max HB

INDUSTRY APPLICATIONS

Steam turbine blades



Valve



Pump shafts



Wear-resistant components



Mining slurry equipment



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.

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