



High Alloy Steel ASTM A351 Gr. CF3

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

MATERIAL DATASHEET

GROUP
Ferrous Stainless Steel Alloys**SUB GROUP**
ASTM A351 / 351M Castings**INDUSTRY**
Investment Casting

This low-carbon austenitic stainless steel casting grade offers excellent corrosion resistance with a maximum carbon content of just 0.03%, virtually eliminating the risk of sensitization and intergranular corrosion. Its chromium-nickel composition provides reliable performance in moderately corrosive environments including food processing, dairy, and general chemical industries. Solution annealing heat treatment ensures a stable austenitic microstructure, making it a dependable and cost-effective choice for pressure-containing casting applications.



CHEMICAL COMPOSITION

ELEMENT	SYMBOL	COMPOSITION
Carbon	C %	0.030 max.
Silicon	Si %	2.000 max.
Manganese	Mn %	1.500 max.
Phosphorus	P %	0.040 max.
Sulphur	S %	0.040 max.
Chromium	Cr %	17.000 - 21.000
Nickel	Ni %	8.000 - 12.000
Molybdenum	Mo %	0.500 max.
Iron	Fe %	Balance



MECHANICAL PROPERTIES

PERFORMANCE SPECIFICATIONS

Tensile Strength **485**
Minimum Value MPa**Yield Strength** **205**
Minimum Value MPa**Elongation** **35**
Minimum Value % **HEAT TREATMENT**
Solution Annealing

INDUSTRY APPLICATIONS

Dairy plant pumps**Food Processing****Water treatment systems****Dairy Beverages****Pharmaceutical piping****Beverage industry 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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