



High Alloy Steel ASTM A743 Gr. CF3M

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 low-carbon molybdenum-alloyed austenitic casting grade combines the sensitization resistance of ultra-low carbon content with the enhanced pitting and crevice corrosion resistance provided by 2-3% molybdenum addition. Closely equivalent to wrought 316L stainless steel, it is ideally suited for aggressive chemical processing, marine, pharmaceutical, and chloride-bearing environments where standard CF3 grades are insufficient. Solution annealing optimizes the austenitic microstructure for maximum corrosion resistance and dimensional stability, making it one of the most reliable and widely used grades for demanding general-purpose corrosion-resistant castings.



CHEMICAL COMPOSITION

ELEMENT	SYMBOL	COMPOSITION
Carbon	C %	0.030 max.
Silicon	Si %	1.500 max.
Manganese	Mn %	1.500 max.
Phosphorus	P %	0.040 max.
Sulphur	S %	0.040 max.
Chromium	Cr %	17.000 - 21.000
Nickel	Ni %	9.000 - 13.000
Molybdenum	Mo %	2.000 - 3.000
Iron	Fe %	Balance



MECHANICAL PROPERTIES

PERFORMANCE SPECIFICATIONS

Tensile Strength **485**
Minimum Value MPa

Yield Strength **205**
Minimum Value MPa

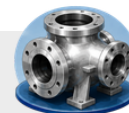
Elongation **30**
Minimum Value %



HEAT TREATMENT

Solution Annealing

INDUSTRY APPLICATIONS

API 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.

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