High Alloy Steel ASTM A743 Gr. CF8M

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

MATERIAL DATASHEET

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

This molybdenum-enhanced austenitic casting grade represents a significant performance upgrade over CF8, offering superior resistance to pitting, crevice corrosion, and reducing acids through the addition of 2–3% molybdenum. As the cast counterpart of 316 stainless steel, it is the preferred choice for pump and valve components exposed to seawater, chloride solutions, and aggressive chemical media in marine, chemical processing, and offshore industries. Solution annealing ensures microstructural integrity and dimensional precision, establishing it as a premium and globally trusted grade for demanding corrosion-resistant casting applications.

CHEMICAL COMPOSITION

ELEMENT	SYMBOL	COMPOSITION
Carbon	C %	0.080 max.
Silicon	Si %	2.000 max.
Manganese	Mn %	1.500 max.
Phosphorus	P %	0.040 max.
Sulphur	S %	0.040 max.
Chromium	Cr %	18.000 - 21.000
Nickel	Ni %	9.000 - 12.000
Molybdenum	Mo %	2.000 - 3.000
Iron	Fe %	Balance

MECHANICAL PROPERTIES

PERFORMANCE SPECIFICATIONS

Tensile Strength	Minimum Value	**485** MPa
Yield Strength	Minimum Value	**205** MPa
Elongation	Minimum Value	**30** %

✓ HEAT TREATMENT
Solution Annealing

INDUSTRY APPLICATIONS

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

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