



High Alloy Steel ASTM A743 Gr. CF3

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 ultra-low carbon austenitic iron-chromium-nickel casting grade is engineered to deliver reliable corrosion resistance while virtually eliminating the risk of sensitization and intergranular corrosion during welding or thermal exposure. With a maximum carbon content of just 0.03% and chromium-nickel composition closely equivalent to 304L stainless steel, it offers excellent performance in food processing, dairy, pharmaceutical, and mildly corrosive chemical environments. Solution annealing ensures a fully stable austenitic microstructure, making it a trusted and widely specified grade for general-purpose corrosion-resistant casting applications globally.



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 |
| 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

API process valves



Refinery pumps



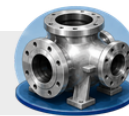
Chemical process equipment



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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