



INCONEL 625 — ASTM A 494 CW6MC

Standard Specification for Castings, Nickel and Nickel Alloy

MATERIAL DATASHEET

GROUP

Non-Ferrous Nickel Alloys

SUB GROUP

ASTM A 494 CW6MC

INDUSTRY

Investment Casting

This nickel-chromium alloy with high molybdenum content offers outstanding resistance to strongly oxidizing and reducing corrosive environments, making it ideal for aggressive chemical processing applications. Its higher niobium content provides excellent stabilization against sensitization and intergranular corrosion during welding or high-temperature exposure. The investment casting process ensures precise, complex components with superior mechanical integrity for critical industrial use.



CHEMICAL COMPOSITION

ELEMENT	SYMBOL	COMPOSITION
Carbon	C %	0.060 max.
Silicon	Si %	1.000 max.
Manganese	Mn %	1.000 max.
Phosphorus	P %	0.015 max.
Sulphur	S %	0.015 max.
Chromium	Cr %	20.000 - 23.000
Niobium	Nb %	3.150 - 4.500
Molybdenum	Mo %	8.000 - 10.000
Iron	Fe %	5.000 max.
Nickel	Ni %	Balance



MECHANICAL PROPERTIES

PERFORMANCE SPECIFICATIONS

Tensile Strength **485**
Minimum Value MPa

Yield Strength **275**
Minimum Value MPa

Elongation **25**
Minimum Value %



HEAT TREATMENT

Solution Annealing



INDUSTRY APPLICATIONS

VALVES



PUMPS



ENGINEERING



AUTOMOTIVE



AEROSPACE



PHARMACEUTICAL



AUTOMATION



LOCOMOTIVES



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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