Super Duplex — ASTM A995 4A

Standard Specification for Castings, Austenitic-Ferritic (Duplex) Stainless Steel, for Pressure-Containing Parts

MATERIAL DATASHEET

GROUP	SUB GROUP	INDUSTRY
Ferrous Stainless Steel Alloys	**ASTM A995 / A995M**	**Investment Casting**

This austenitic-ferritic duplex stainless steel casting grade for pressure-containing parts combines low carbon content with chromium, molybdenum, nitrogen, and copper to deliver excellent resistance to pitting, crevice corrosion, and stress corrosion cracking under demanding pressure conditions. The controlled copper addition enhances performance in reducing acid environments, while the balanced molybdenum and nitrogen levels ensure strong mechanical properties with outstanding ductility of 25% elongation. Solution annealing produces an optimal dual-phase microstructure, making it a dependable choice for pressure-critical valve, pump, and industrial casting applications.

CHEMICAL COMPOSITION

ELEMENT	SYMBOL	COMPOSITION
Carbon	C %	0.030 max.
Silicon	Si %	1.000 max.
Manganese	Mn %	1.500 max.
Phosphorus	P %	0.040 max.
Sulphur	S %	0.020 max.
Chromium	Cr %	21.000 – 23.500
Nickel	Ni %	4.500 – 6.500
Molybdenum	Mo %	2.500 – 3.500
Nitrogen	N %	0.100 – 0.300
Copper	Cu %	1.000 max.
Iron	Fe %	Balance

MECHANICAL PROPERTIES

PERFORMANCE SPECIFICATIONS

Tensile Strength	Minimum Value	**620** MPa
Yield Strength	Minimum Value	**415** MPa
Elongation	Minimum Value	**25** %

✓ HEAT TREATMENT
Solution Annealing

INDUSTRY APPLICATIONS

- **Offshore oil & gas**

- **Chemical process industries**

- **Seawater systems**

- **Marine engineering**

- **Pressure-containing pump**

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.

Tamboli Castings Limited
Bhavnagar, Gujarat, India

Phone: +91 278 2541000
Email: info@tambolicastingslimited.com

TAMBOLI CASTINGS LIMITED