Super Duplex — ASTM A995 5A

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 high-performance pressure-grade duplex casting alloy leverages an optimized balance of chromium, nickel, and elevated molybdenum to withstand extreme corrosive and high-pressure service conditions where standard grades fall short. Its austenitic-ferritic microstructure delivers twice the strength of conventional austenitic stainless steels while maintaining excellent ductility and toughness. Globally certified across American, European, and German standards, it is the preferred casting material for engineers designing critical pressure-containing components in the most demanding chemical, petrochemical, and industrial environments.

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 %	0.040 max.
Chromium	Cr %	24.000 – 26.000
Nickel	Ni %	6.000 – 8.000
Molybdenum	Mo %	4.000 – 5.000
Nitrogen	N %	0.100 – 0.300
Iron	Fe %	Balance

MECHANICAL PROPERTIES

PERFORMANCE SPECIFICATIONS

Tensile Strength	Minimum Value	690 MPa
Yield Strength	Minimum Value	515 MPa
Elongation	Minimum Value	18 %

✓ 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.

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