



# Super Duplex — ASTM A995 3A

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

## MATERIAL DATASHEET

GROUP

**Ferrous Stainless Steel Alloys**

SUB GROUP

**ASTM A995 / A995M**

INDUSTRY

**Investment Casting**

This austenitic-ferritic duplex stainless steel is specifically designed for pressure-containing casting applications, featuring high chromium content of up to 27% combined with nitrogen additions to provide excellent resistance to pitting, crevice corrosion, and stress corrosion cracking. Its well-balanced composition delivers reliable mechanical performance with notable elongation of 25%, ensuring ductility alongside strength in demanding pressure environments. Solution annealing maintains optimal dual-phase microstructure, making it a trusted grade for critical valve, pump, and pressure-service industrial casting applications.



### CHEMICAL COMPOSITION

ELEMENT	SYMBOL	COMPOSITION
Carbon	C %	0.060 max.
Silicon	Si %	1.000 max.
Manganese	Mn %	1.000 max.
Phosphorus	P %	0.040 max.
Sulphur	S %	0.040 max.
Chromium	Cr %	24.000 – 27.000
Nickel	Ni %	4.000 – 6.000
Molybdenum	Mo %	1.750 – 2.500
Nitrogen	N %	0.150 – 0.250
Iron	Fe %	Balance



### MECHANICAL PROPERTIES

#### PERFORMANCE SPECIFICATIONS

**Tensile Strength** **655**  
Minimum Value MPa

**Yield Strength** **450**  
Minimum Value MPa

**Elongation** **25**  
Minimum Value %



#### 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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