# *Super Duplex — ASTM A995 3A*

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 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** | Minimum Value | 655 MPa |
| **Yield Strength** | Minimum Value | 450 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