



TECHNICAL DATA SHEET

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MATERIALS LIBRARY

304 Stainless Steel / SUS304

General Purpose Austenitic Stainless Steel

Document Control

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Specification	ASTM A240 / A276 / A312 by product form	Product Form / UNS	Plate, sheet, bar, pipe, tube / UNS S30400

Engineering use note: Starter-library values are intended for engineering screening and template standardization. Verify against the latest governing specification, drawing, PO, and MTR before production release.

1. General Description

304 is the most widely used austenitic stainless steel and offers a practical combination of corrosion resistance, formability, weldability, and availability. It is often selected for general industrial and commercial service where chloride severity is modest.

2. Chemical Composition (wt%)

Property	Value
Chromium (Cr)	18.0-20.0
Nickel (Ni)	8.0-10.5
Carbon (C)	<=0.08
Manganese (Mn)	<=2.00
Silicon (Si)	<=0.75
Phosphorus (P)	<=0.045
Sulfur (S)	<=0.03
Nitrogen (N)	<=0.10
Iron (Fe)	Balance

3. Mechanical Properties

Property	Value
Condition	Annealed

Property	Value
Ultimate tensile strength	≥ 515 MPa
0.2% yield strength	≥ 205 MPa
Elongation	≥ 40 %
Hardness	≤ 92 HRB typical wrought

4. Physical Properties

Property	Value
Density	8.00 g/cm ³
Elastic modulus	193 GPa
Thermal conductivity	16.2 W/m.K
Melting range	1400-1450 C

5. Heat Treatment / Processing

Normally used in the annealed condition. Not hardenable by heat treatment; strength increase is achieved through cold work.

6. Corrosion / Environmental Performance

Good resistance in many atmospheric and mildly corrosive services. Less resistant than 316L in chloride environments and may pit or tea stain where chlorides are present.

7. Key Characteristics

- Excellent formability
- Excellent weldability
- Broad availability
- Good hygiene/cleanability
- Generally non-magnetic when annealed

8. Typical Applications

- General fabrication
- Food equipment
- Architectural trim
- Fasteners and enclosures
- Tanks and tubing

9. Standards & Equivalents

ASTM A240
ASTM A276
ASTM A312
JIS SUS304
UNS S30400



EN 1.4301

10. Notes & Limitations

Use 304L instead of 304 when low-carbon weld performance is specifically required by design or code.