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TECHNICAL DATASHEET

[AISI 316]

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► GENERAL DESCRIPTION

AISI 316 (UNS S31600) is a molybdenum-containing austenitic stainless steel that offers enhanced resistance to pitting and crevice corrosion in chloride-containing environments, such as seawater and chemical media.

This material combines good formability, weldability, and high-temperature resistance, making it suitable for critical applications in marine environments, chemical equipment, medical devices, and other demanding service conditions.

► DESIGNATIONS & STANDARDS

DIN	ASTM	UNS	EN 10088	JIS
1.4401	A240 / F899	S31600	X5CrNiMo17-11-2	SUS316

► PRODUCT FORMS & APPLICABLE STANDARDS

Product Form	Applicable Standards
Plate / Sheet	ASTM F899 Class 3; ASTM A240; ASTM A666; AMS 5524; EN 10088-2; JIS G4305
Bar / Rod	ASTM F899 Class 3; ASTM A276; ASTM A479; AMS 5648; EN 10088-3; JIS G4303
Wire	ASTM F899 Class 3; ASTM A580; EN 10088-3; JIS G4309
Tube / Pipe	ASTM F899 Class 3; ASTM A269; ASTM A312; JIS G3459

► CHEMICAL COMPOSITION (MASS %) *In accordance with: [ASTM A666]*

Element	C	Mn	P	S	Si	Cr	Ni	Mo	Fe
Content (%)	≤0.08	≤2.00	≤0.045	≤0.030	≤0.75	16.00-18.00	10.00-14.00	2.00-3.00	Balance

► HEAT TREATMENT

Condition	Tensile Strength (MPa)	Yield Strength (MPa)	Elongation (4D)	Reduction of Area (%)	Hardness (HRB)
Annealed	≥515	≥205	40	/	≥95
1/4 Hard	≥860	≥515	10	/	/
1/2 Hard	≥1035	≥760	7	/	/

► APPLICATIONS

Condition	Dimension
Medical	Surgical instruments / Medical equipment housings / Sterilization trays / Non-long-term implant parts / Medical fluid connectors
Aerospace	Corrosion-resistant fasteners / Piping / Brackets / Sensor housings / Cabin structural parts
Industrial	Marine equipment / Chemical valves / Pump bodies / Pipelines / Flanges / Fasteners
Mechanical engineering	Corrosion-resistant housings / Connectors / Fixtures / Sensor protective covers / Robot parts for humid environments

► AVAILABLE FORMS

Available Form	Size Range	Surface Finish	Length (Customizable)	Tolerance (Customizable)	Delivery Condition
Plate	T0.5-T200.0mm	Milled	L:200/250/300 W:200/300/500/1000	-0.0/+1.0mm	Solid solution
Bar	φ1.0-φ200.0mm	Ground / Precision Polished	3M/PCS	h6-h9	Solid solution
Wire	φ1.0-φ3.0mm	Ground / Precision Polished	1M/PCS	h6-h9	Solid solution
Tube	OD: 1.0-10.0mm ID:0.08mm-2.0mm	Ground / Precision Polished	3M/PCS	h6-h9	Solid solution

Materials, specifications or special requirements not shown in the table can all be customized. Please contact our sales team.

► TESTING & CERTIFICATION

TESTING CAPABILITIES	QUALITY & TRACEABILITY
- Chemical: OES · O/N/H analyzer - Mechanical: tensile · Rockwell/Vickers · impact - NDT: ultrasonic testing (UT) - Metallography: optical & electron microscope - Dimensional: straightness / roundness / coaxiality	- ERP full-process traceability · heat-number control - Batch consistency control - Third-party testing: on request, at extra cost - Standards: ASTM · ISO · EN · AMS · DIN - MTC with each shipment

CERTIFICATION: ISO 13485 · ISO 9001

THIRD-PARTY TESTING: SGS



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