

TECHNICAL DATASHEET

[AISI 301]

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► GENERAL DESCRIPTION

AISI 301 is a metastable austenitic stainless steel with excellent cold work hardening characteristics. After cold working, it can achieve very high strength while maintaining good formability and ductility. In the annealed condition, the material is soft and easy to process, while its tensile strength increases significantly after cold working.

AISI 301 is widely used in springs, fasteners, precision stamped components, and other applications requiring high strength and lightweight performance, offering high dimensional accuracy and stable mechanical properties.

► DESIGNATIONS & STANDARDS

DIN	ASTM	UNS	EN 10088	JIS
1.4310	A240 / F899	S30100	X10CrNi18-8	SUS301

► PRODUCT FORMS & APPLICABLE STANDARDS

Product Form	Applicable Standards
Plate / Sheet	ASTM F899 Class 3 ; ASTM A240; ASTM A666; AMS 5517 ; AMS 5518; AMS 5519; EN 10088-2; JIS G4305 SUS301
Bar / Rod	ASTM F899 Class 3; ASTM A276; ASTM A479; EN 10088-3; JIS G4303
Wire	ASTM F899 Class 3; ASTM A313; AMS 5688; ASTM A580; JIS G4314
Tube / Pipe	ASTM F899 Class 3; ASTM A269; ASTM A249

► CHEMICAL COMPOSITION (MASS %) *In accordance with: [ASTM A240]*

Element	C	Mn	P	S	Si	Cr	Ni	N	Fe
Content (%)	≤0.15	≤2.00	≤0.045	≤0.030	≤1.00	16.00-18.00	6.00-8.00	≤0.10	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	25	/	/
1/2 Hard	≥1035	≥760	18	/	/
3/4 Hard	≥1205	≥930	12	/	/
Full Hard	≥1275	≥965	9	/	/
Super Full Hard	≥1860	≥1790	/	/	/

► APPLICATIONS

Condition	Dimension
Medical	Medical spring sheets / Clips / Springs / Instrument housings / Trays / Light brackets
Aerospace	Spring sheets / Clamps / Fixtures / Cabin structural sheets / Lightweight elastic components
Industrial	Springs / Washers / Conveyor equipment parts / Stamped parts / Decorative structural parts
Mechanical engineering	Elastic connecting sheets / Sensor spring contacts / Gripper return sheets / Flexible support parts / Housing sheets

► 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	Solution treatment/Cold working
Bar	φ1.0-φ200.0mm	Ground / Precision Polished	3M/PCS	h6-h9	Solution treatment/Cold working
Wire	φ1.0-φ3.0mm	Ground / Precision Polished	1M/PCS	h6-h9	Solution treatment/Cold working
Tube	OD: 1.0-10.0mm ID:0.08mm-2.0mm	Ground / Precision Polished	3M/PCS	h6-h9	Solution treatment/Cold working

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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