

TECHNICAL DATASHEET

[AISI 420A]

Datasheet No. SX-001 · Version 260723

► GENERAL DESCRIPTION

AISI 420A is a widely used martensitic stainless steel that provides a good balance of corrosion resistance, mechanical properties, and machinability. Its moderate carbon and chromium content allows the material to be significantly strengthened through heat treatment, making it suitable for various structural components and cutting tool parts that require both hardness and rust resistance. It is a commonly used industrial material that offers a practical balance between performance and cost.

► DESIGNATIONS & STANDARDS

DIN	ASTM	UNS	EN 10088	JIS
1.4021	A276/F899	S42000	X20Cr13	SUS420J1

► PRODUCT FORMS & APPLICABLE STANDARDS

Product Form	Applicable Standards
Plate / Sheet	ASTM F899 Type 420A; ASTM A240; EN 10088-1; EN 10088-2; JIS G4305
Bar / Rod	ASTM F899 Type 420A; ASTM A276; EN 10088-3; JIS G4303
Wire	ASTM F899 Type 420A; ASTM A580; EN 10088-3; JIS G4309
Tube / Pipe	ASTM F899 Type 420A; ASTM A269

► CHEMICAL COMPOSITION (MASS %) *In accordance with: [ASTM F899]*

Element	C	Mn	P	S	Si	Cr	Ni	Fe
Content (%)	0.16-0.25	≤1.00	≤0.04	≤0.030	≤1.00	12.00-14.00	≤1.00	Balance

► HEAT TREATMENT

Condition	Temperature (°C)	Hardness (HRC)
Annealed	/	≤220 (HBW)
Hardening / Quenching	Q 1850°F/1010°C T 300°F/149°C+	≥48 (HRC)

► APPLICATIONS

Condition	Dimension
Medical	Basic scalpel handles / Scissors / Tweezers / Forceps / General medical instrument housings / Low-load cutting tools
Aerospace	Light-load wear-resistant pin shafts / Locating sleeves / Instrument structural parts / Non-critical corrosion-resistant small mechanical parts
Industrial	Blades / Mold parts / Pump shafts / Valve stems / Mechanical wear-resistant sleeves / Food machinery cutting tools
Mechanical engineering	Gripper contact plates / Locating pins / Small drive shafts / Wear-resistant guide blocks / End-effector auxiliary parts

► AVAILABLE FORMS

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

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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