

TECHNICAL DATASHEET

[AISI 440B]

Datasheet No. SX-004 · Version 260723

► GENERAL DESCRIPTION

AISI 440B stainless steel belongs to the high-carbon martensitic stainless steel series. It features uniform material structure and stable performance, combining excellent wear resistance, moderate corrosion resistance, and good toughness. Developed for small precision wear-resistant components, it is well suited for high-end precision manufacturing fields such as precision machinery, electronics, and medical applications..

► DESIGNATIONS & STANDARDS

DIN	ASTM	UNS	EN 10088	JIS
1.4112	A276/F899	S44003	X90CrMo17	SUS440B

► Product Forms & Applicable Standards

Product Form	Applicable Standards
Plate / Sheet	ASTM F899 Type 440B Class 4; ASTM A240; EN 10088-2 X90CrMoV18; JIS G4305 SUS440B
Bar / Rod	ASTM F899 Type 440B Class 4; ASTM A276; EN 10088-3 X90CrMoV18; JIS G4303 SUS440B
Wire	ASTM F899 Type 440B Class 4; ASTM A580; EN 10088-3 X90CrMoV18; JIS G4309 SUS440B

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

Element	C	Mn	P	S	Si	Cr	Mo	Fe
Content (%)	0.75-0.95	≤1.00	≤0.04	≤0.030	≤1.00	16.00-18.00	≤0.75	Balance

► HEAT TREATMENT

Condition	Temperature (°C)	Hardness (HRC)
Annealed	/	≤285 (HBW)
Hardening / Quenching	Q 1900°F/1038°C T 300°F/149°C+	≥54 (HRC)

► APPLICATIONS

Condition	Dimension
Medical	High-hardness surgical blades / dental cutting tools / scissor edges / puncture instruments / scraping instruments
Aerospace	Small bearings / wear-resistant pins / locking components / instrument shafts / low-speed wear-resistant rolling parts
Industrial	High-hardness cutting tools / balls / bearing rings / valve seats / wear-resistant bushings / cutting inserts
Mechanical engineering	High-hardness gripper surfaces / rolling bearings / positioning balls / wear-resistant pins / precision rotating components

► 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

*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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