SUNXIN

Specialized medical materials distribution and manufacturing center

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TECHNICAL DATASHEET

[420Mod]

Datasheet No. SX-005 · Version 260723

GENERAL DESCRIPTION

420MOD is a modified martensitic stainless steel produced through a relatively complex melting process. Its special nitrogen-alloying process improves corrosion resistance while maintaining high hardness, and the addition of vanadium helps reduce heat-treatment sensitivity and improve performance stability. This material is commonly used in applications such as bearings, medical cutting instruments, and other components requiring a combination of hardness, wear resistance, and corrosion resistance.

DESIGNATIONS & STANDARDS

DIN	ASTM	UNS	EN 10088	JIS
1.4123	A276/F899	S42000	X40CrMoVN16-2	—

Product Forms & Applicable Standards

Product Form	Applicable Standards
Plate / Sheet	ASTM F899 UNS S42026 Class 4; ASTM A240; EN 10088-2; JIS G4305
Wire	ASTM F899 UNS S42026 Class 4; ASTM A580; EN 10088-3; JIS G4309

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

Element	C	Mn	P	S	Si	Cr	Ni	Mo	V	N	Fe
Content (%)	0.37-0.45	≤0.6	≤0.02	≤0.005	≤0.6	15.0-16.5	≤1.00	1.5-1.9	0.2-0.4	0.16-0.25	Balance

HEAT TREATMENT

Condition	Temperature (°C)	Hardness (HRC)
Annealed	/	≤255 (HBW)
Hardening / Quenching	Q 1850℉/1010℃ T 350℉/177℃+	≥54 (HRC)

APPLICATIONS

Condition	Dimension
Medical	High-performance surgical scissors / orthopedic instruments / dental instruments / endoscopic instrument components / reusable sterilizable tools
Aerospace	Corrosion-resistant shafts / pins and shafts / instrument transmission components / light-duty wear-resistant structural parts
Industrial	Mold components / cutting tools / valve components / pump shafts / wear-resistant mechanical parts
Mechanical engineering	Precision gripper fingers / wear-resistant guide components / end-of-arm tool connectors / small shafts

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
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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