

TECHNICAL DATASHEET

[Nitronic60]

Datasheet No. SX-0012 · Version 260723

► GENERAL DESCRIPTION

Nitronic 60 (UNS S21800) is a high-silicon, high-manganese strengthened austenitic stainless steel known for its excellent galling resistance, wear resistance, and corrosion resistance. It maintains stable mechanical performance even under high-load, high-friction, and elevated-temperature operating conditions, making it widely used for critical components that require superior wear resistance and anti-seizing performance.

► DESIGNATIONS & STANDARDS

ASTM	UNS
F899	S21800

► PRODUCT FORMS & APPLICABLE STANDARDS

Product Form	Applicable Standards
Plate / Sheet	ASTM F899 Class 3; ASTM A240; ASTM A666; EN 10088-2; JIS G4305
Bar / Rod	ASTM F899 Class 3; ASTM A276; ASTM A479; EN 10088-3; JIS G4303
Wire	ASTM F899 Class 3; ASTM A580; ASTM A313; EN 10088-3; JIS G4309

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

Element	C	Mn	P	S	Si	Cr	Ni	N	Fe
Content (%)	≤0.10	7.00-9.00	≤0.060	≤0.030	3.50-4.50	16.00-18.00	8.00-9.00	0.08-0.18	Balance

► HEAT TREATMENT

Condition	Tensile Strength (MPa)	Yield Strength (MPa)	Elongation (4D)	Reduction of Area (%)	Hardness (HBW)
Hot working or Cold working	≥655	≥345	35	55	≤241

► APPLICATIONS

Condition	Dimension
Medical	Surgical scissors / Cartilage cutters / Forceps contact surfaces / Wear-resistant medical tools / Instrument hinges
Aerospace	Anti-galling fasteners / Bushings / Pins / Sliding parts / Wear-resistant actuator components
Industrial	Valve stems / Valve seats / Pump shafts / Threaded connectors / Wear-resistant bushings / Marine equipment parts
Mechanical engineering	Anti-galling joint pins / Sliding bushings / Gripper friction surfaces / Guide rods / Threaded drive components

► 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	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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