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TECHNICAL DATASHEET

[M30NW]

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► GENERAL DESCRIPTION

M30NW (UNS S31675) is a high-nitrogen, ultra-high-cleanliness medical-grade austenitic stainless steel, offering higher strength, superior corrosion resistance, and excellent biocompatibility. This material is produced through vacuum melting and secondary remelting processes, resulting in extremely low internal inclusion levels, making it suitable for long-term implant-grade medical applications.

The material maintains stable performance even under high-stress and highly corrosive environments, making it one of the important material choices for high-end orthopedic and dental implant instruments.

► DESIGNATIONS & STANDARDS

DIN	ASTM	UNS	EN 10088
1.4472	F1586/ISO5832-9	S31675	X4CrNiMoN21-9-4

► PRODUCT FORMS & APPLICABLE STANDARDS

Product Form	Applicable Standards
Plate / Sheet	ASTM F1586; ISO 5832-9 ;EN 10088-2
Bar / Rod	ASTM F1586; ISO 5832-9;EN 10088-3
Wire	ASTM F1586; ISO 5832-9;EN 10088-3

► CHEMICAL COMPOSITION (MASS %) *In accordance with: [ISO5832-9]*

Element	C	Mn	P	S	Si	Cr	Ni	Mo	N	Nb	Cu	Fe
Content (%)	≤0.08	2.00-4.25	≤0.025	≤0.01	≤0.75	19.50-22.00	9.00-11.00	2.00-3.00	0.25-0.50	0.25-0.80	≤0.25	Balance

► HEAT TREATMENT

Condition	Diameter or thickness (mm)	Tensile Strength (MPa)	Yield Strength (MPa)	Elongation (4D)	Reduction of Area (%)	Hardness (HRB)
Annealed	≤ 80	≥740	≥430	35	/	/
Medium Hard	≤ 20	≥1000	≥700	20	/	/
Hard	≤ 20	≥1000	≥1000	10	/	/

► APPLICATIONS

Condition	Dimension
Medical	Orthopedic implants / Trauma fixation parts / Bone screws / Bone plates / Dental instruments / Orthodontic parts
Aerospace	Corrosion-resistant elastic parts / Precision fasteners / Instrument components / Small structural parts for special environments
Industrial	High-corrosion-resistant shafts / Springs / Valve parts / Chemical equipment fasteners
Mechanical engineering	Medical robot instrument parts / Corrosion-resistant micro shafts / Elastic gripping parts / Precision connectors

► 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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