

TECHNICAL DATASHEET

[AISI 630]

Datasheet No. SX-0015 · Version 260723

► GENERAL DESCRIPTION

17-4PH stainless steel/ also known as AISI 630/ UNS S17400/ 1.4542/ SUS630 and X5CrNiCuNb16-4/ is a widely used martensitic precipitation-hardening stainless steel that combines high strength/ excellent corrosion resistance/ and good machinability and heat treatment performance. Through different aging conditions (such as H900 and H1025)/ it allows flexible adjustment of strength and toughness to meet the comprehensive performance requirements under various demanding service conditions/ making it a highly versatile and broadly applied stainless steel.

► DESIGNATIONS & STANDARDS

DIN	ASTM	UNS	EN 10088	JIS
1.4542	A564/F899/AMS 5643	S17400	X5CrNiCuNb16-4	SUS630

► PRODUCT FORMS & APPLICABLE STANDARDS

Product Form	Applicable Standards
Plate / Sheet	ASTM F899 Type 630; ASTM A693 Type 630; AMS 5604; EN 10088-1; EN 10088-2; JIS G4305
Bar / Rod	ASTM F899 Type 630; ASTM A564 Type 630; AMS 5643; EN 10088-1; EN 10088-3; JIS G4303
Wire	ASTM F899 Type 630; ASTM A564 Type 630; AMS 5643; EN 10088-3; JIS G4309
Tube / Pipe	ASTM F899 Type 630; EN 10088-1

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

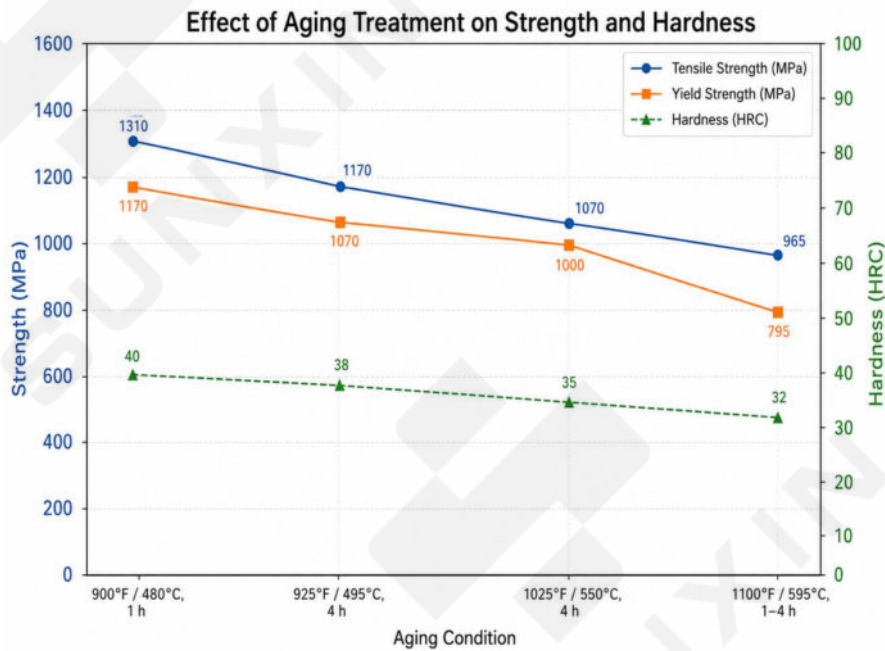
Element	C	Mn	P	S	Si	Cr	Ni	Cu	Nb+Ta	Fe
Content (%)	≤0.07	≤1.00	≤0.04	≤0.03	≤1.00	15.00-17.50	3.00-5.00	3.00-5.00	0.15-0.45	Balance

► SOLUTION TREATMENT

Condition	Heating Temperature	Holding Time (h)	Tensile Strength (MPa)	Yield Strength (MPa)	Elongation (4D)	Reduction of Area (%)	Hardness (HRC)
Solution Annealed	1900 ± 25 ° F/1040±15°C	1	/	/	/	/	≤38

► AGING TREATMENT

Condition	Heating Temperature	Holding Time (h)	Tensile Strength (MPa)	Yield Strength (MPa)	Elongation (4D)	Reduction of Area (%)	Hardness (HRC)
Aged	900°F/480°C	1	≥1310	≥1170	10	40	≥40
Aged	925°F/495°C	4	≥1170	≥1070	10	44	≥38
Aged	1025°F/550°C	4	≥1070	≥1000	12	45	≥35
Aged	1100°F/595°C	1月4日	≥965	≥795	14	45	≥32



► APPLICATIONS

Condition	Dimension
Medical	Surgical instruments/ orthopedic instruments/ dental instruments/ endoscope structural components/ high-strength connection components for medical equipment
Aerospace	Structural brackets/ landing gear components/ actuator components/ shafts/ pins/ fasteners/ control mechanism components
Industrial	Pump shafts/ valve stems/ gears/ couplings/ chemical equipment components/ high-strength components for food processing machinery
Mechanical engineering	High-strength joint shafts/ transmission shafts/ gears/ fixtures/ end-effector structural 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
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



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