



Engineering Excellence in Seamless Tubular Solutions

MASTER CATALOG

2026

Stainless Steel | Duplex | Super Duplex | Nickel Alloy
Seamless Pipes & Tubes | OD 6.35mm to 273.1mm

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TECHNICAL DATA SHEETS

SS 304 / 304L	
SS 304H	
SS 316 / 316L	
SS 316H	
SS 321	
SS 347	
SS 310S	
SS 317L	
SS 904L	
Duplex 2205	
Duplex S31803	
Duplex 2304	
13Cr	

13CrA (Super 13Cr)	
Alloy 600	
Alloy 601	
Alloy 718	
Alloy 625	
Monel 400	
Alloy 800	
Alloy 800HT	
Alloy 825	
Alloy C-276	
Super Duplex 2507	
Super Duplex Zeron 100	

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COMPANY INTRODUCTION

STANCOR



At Stancor Tubular Products Pvt. Ltd., we don't just manufacture stainless steel pipes — we engineer excellence. With state-of-the-art facilities and a legacy of precision, we deliver seamless stainless steel and nickel alloy pipes and tubes that meet the highest global standards. From powering critical infrastructure to driving industrial innovation, our products are built to perform in the most demanding environments

KEY HIGHLIGHTS

- State-of-the-art integrated seamless tube plant
- Modern extrusion, cold-drawing, heat-treatment, and finishing lines
- Wide material portfolio across SS, Duplex, and Nickel Alloy grades
- Serving Oil & Gas, Power, Petrochemicals, Desalination, and more

OUR MISSION

To maintain the Stancor mark of quality by consistently delivering precision-engineered steel products. With over 45 years of expertise, we aim to uphold global standards in quality, safety, and innovation — empowering our customers to move ahead with confidence.

OUR VISION

To be a trusted global force in the manufacturing, import, export, and distribution of value-added steel products. We envision sustainable growth through innovation, customer delight, and a commitment to excellence since 1975.

CORE VALUES

At Stancor, our core values revolve around delivering top-quality products and timely service, fostering strong internal cooperation, maintaining a positive and healthy work environment, and promoting teamwork driven by loyalty and professionalism — all aimed at ensuring customer satisfaction and continuous growth.

GROUP COMPANY: Stancor Alloys Private Limited

Stancor Alloys Pvt. Ltd., a group company of Stancor Tubulars, is a diversified multinational enterprise with operations across Asia, the Middle East, and Europe.

Products: Abrasion Resistant Steel Plates (Hardox, Rockstar, Abrex), Wear Plates, Boiler Quality Plates, High Tensile Plates, and Quenched & Tempered Steel.

OUR BRANDS

TRUSTED BRAND PORTFOLIO



Stan | Stainless

Stainless Steel Seamless Pipes & Tubes

Premium austenitic stainless steel seamless pipes & tubes in SS 304, 304L, 316, 316L, 321, 347, 310S, 317L, 904L. OD 6.35mm to 273.1mm. ASTM/ASME & DIN certified.

- SS 304, 304L, 316, 316L, 321, 347
- 310S, 317L, 904L grades
- OD 6.35mm to 273.1mm
- ASTM A312, A213, A249 certified



Stan | Duplex

Duplex & Super Duplex Seamless Pipes

Duplex & super duplex stainless steel seamless pipes in grades 2205, S31803, 2304, 2507, Zeron 100. OD 6.35mm to 273.1mm. ASTM/ASME & DIN certified.

- Duplex 2205, S31803, 2304
- Super Duplex 2507, Zeron 100
- ASTM A790, A928 certified
- Superior pitting resistance



Stan | Nickel

Nickel Alloy Seamless Pipes & Tubes

Nickel alloy seamless pipes & tubes — Inconel 600, 601, 625, 718, Incoloy 800, 800HT, 825, Monel 400, Hastelloy C-276. OD 6.35mm to 273.1mm. ASTM/ASME & DIN certified.

- Inconel 600, 601, 625, 718
- Incoloy 800, 800HT, 825
- Monel 400, Hastelloy C-276
- ASTM B407, B444, B622



Stan | Heat Exchanger

Heat Exchanger & Condenser Tubes

Heat exchanger tubes for process control, sensing, and sampling lines. OD 15.87mm to 38.1mm. ASTM/ASME & DIN certified.

- U-bend & straight lengths
- TEMA & ASME Section VIII compliant
- OD 15.87mm to 38.1mm
- SS, Duplex & Nickel alloy options



Stan | CuNi

Copper-Nickel Seamless Pipes & Tubes

Copper-Nickel alloy pipes and tubes

- 90/10 and 70/30 CuNi alloys
- Superior seawater resistance
- ASTM B111, B466 certified
- Marine & offshore condensers



Stan | HollowX

Extended Hollow Bar Solutions

Hollow section steel tubes and pipes

- Large OD hollow sections
- Custom bore sizes
- Austenitic & duplex grades
- Machined components feedstock



Stan | Hollow

Stainless Steel Mother Hollows

Stainless steel hollow bars (mother hollows) in austenitic, duplex, and nickel alloys. Used as feedstock for machined components, valve bodies, and fittings.

- Austenitic & duplex grades
- OD up to 250mm
- ID precisely bored
- ASTM A511, A554



Stan | Precision

Instrumentation Tubes

Ultra-precision seamless instrumentation tubes for process control, hydraulic, and pneumatic systems. Small OD with tight tolerances, excellent surface finish.

- OD 3.18mm to 25.4mm
- Tight tolerances $\pm 0.05\text{mm}$
- ASTM A269, A213
- 316L, 304L, Duplex 2205

INDUSTRY APPLICATIONS

SERVING CRITICAL SECTORS WORLDWIDE

Industry	Recommended Grades
Aerospace	Alloy 600, Alloy 625, Alloy 718, SS 321
Architecture	Duplex 2304, SS 304 / 304L
Automotive	Alloy 601
Boiler & Pressure Vessels	SS 304H, SS 316H
Cement	SS 310S
Chemical Processing	Alloy 600, Alloy 625, Alloy 800, Alloy 800HT, Alloy 825
Construction	Duplex 2304
Cryogenic	Alloy 718
Desalination	Duplex 2205, Duplex S31803, Monel 400, Super Duplex 2507, Super Duplex Zeron 100
Electronics	Alloy 600
FGD Systems	Alloy C-276, SS 317L
Fertilizer	Alloy 800, Alloy 800HT, SS 317L, SS 347, SS 904L
Food & Beverage	Duplex 2304, SS 304 / 304L
Geothermal	Super Duplex 2507
Glass Manufacturing	Alloy 601, SS 310S
Heat Treatment	Alloy 600, Alloy 601, Alloy 800, SS 304H, SS 310S
Hydrogen Production	Alloy 800HT
Marine	Alloy 625, Alloy 825, Duplex 2205, Duplex S31803, Monel 400
Medical	SS 316 / 316L
Mining	SS 904L, Super Duplex 2507, Super Duplex Zeron 100
Nuclear	Alloy 600, Alloy 625, Alloy 718, Alloy 825, Alloy C-276
Nuclear Energy	SS 304 / 304L
Offshore Oil & Gas	Super Duplex 2507, Super Duplex Zeron 100
Oil & Gas	13Cr, 13CrA (Super 13Cr), Alloy 625, Alloy 718, Alloy 825
Petrochemical	13Cr, 13CrA (Super 13Cr), Alloy 601, Alloy 800, Alloy 800HT
Pharmaceutical	Alloy C-276, SS 304 / 304L, SS 316 / 316L, SS 317L
Pollution Control	Alloy 825
Power Generation	13Cr, Alloy 601, Alloy 718, Alloy 800, Alloy 800HT
Pulp & Paper	Duplex 2205, SS 316 / 316L, SS 317L, SS 904L
Refineries	SS 304H, SS 316H, SS 321, SS 347
Steel Making	SS 310S

Subsea	Super Duplex 2507, Super Duplex Zeron 100
Subsea Engineering	13CrA (Super 13Cr)
Transport	Duplex 2304
Waste Treatment	Alloy C-276
Water Treatment	Duplex 2304, SS 304 / 304L

SUPPLY PROJECTS

GLOBAL TRACK RECORD



01 Stainless Steel Pipes for Oil & Gas – UAE

Region: United Arab Emirates | Industry: Oil & Gas | Materials: SS 304/304L, SS 316/316L, Duplex 2205

02 Stainless Steel Pipes for Oil & Gas – UAE

Region: United Arab Emirates | Industry: Oil & Gas | Materials: SS 304/304L, SS 316/316L, Duplex 2205



03 Seamless Pipes Supplier to Saudi Arabia

Region: Saudi Arabia (KSA) | Industry: Oil & Gas, Petrochemical, Desalination | Materials: SS 316/316L, Duplex 2205 (UNS S31803), Super Duplex 2507 (UNS S32750)

04 Seamless Pipes Supplier to Saudi Arabia

Region: Saudi Arabia (KSA) | Industry: Oil & Gas, Petrochemical, Desalination | Materials: SS 316/316L, Duplex 2205 (UNS S31803), Super Duplex 2507 (UNS S32750)



05 EN 10216-5 Stainless Steel Pipes for Europe

Region: Europe (EU) | Industry: Chemical, Pharmaceutical, Energy | Materials: 1.4301 (SS 304), 1.4307 (SS 304L), 1.4401 (SS 316)

06 EN 10216-5 Stainless Steel Pipes for Europe

Region: Europe (EU) | Industry: Chemical, Pharmaceutical, Energy | Materials: 1.4301 (SS 304), 1.4307 (SS 304L), 1.4401 (SS 316)



07 Boiler Tubes Supplier for Qatar Projects

Region: Qatar | Industry: Power Generation, Desalination, LNG | Materials: SS 304/304L, SS 316/316L, SS 321

08 Boiler Tubes Supplier for Qatar Projects

Region: Qatar | Industry: Power Generation, Desalination, LNG | Materials: SS 304/304L, SS 316/316L, SS 321



09 EN 10216-5 Stainless Steel Seamless Pipe Manufacturer

Region: Global (Manufacturing in India) | **Industry:** Chemical, Oil & Gas, Pharmaceutical, Power | **Materials:** 1.4301/1.4307 (304/304L), 1.4401/1.4404 (316/316L), 1.4462 (Duplex 2205)

10 EN 10216-5 Stainless Steel Seamless Pipe Manufacturer

Region: Global (Manufacturing in India) | **Industry:** Chemical, Oil & Gas, Pharmaceutical, Power | **Materials:** 1.4301/1.4307 (304/304L), 1.4401/1.4404 (316/316L), 1.4462 (Duplex 2205)

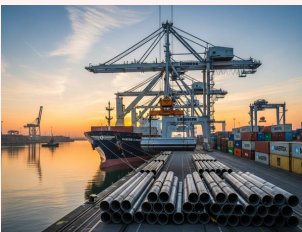


11 PED Compliant Seamless Pipe Supplier

Region: Global Export | **Industry:** Pressure Equipment, Chemical, Power, Oil & Gas | **Materials:** SS 304/304L, SS 316/316L, SS 321/321H

12 PED Compliant Seamless Pipe Supplier

Region: Global Export | **Industry:** Pressure Equipment, Chemical, Power, Oil & Gas | **Materials:** SS 304/304L, SS 316/316L, SS 321/321H



13 Stainless Steel Pipe Manufacturer Europe

Region: Europe | **Industry:** Chemical, Pharmaceutical, Food, Energy | **Materials:** 1.4301 (304), 1.4307 (304L), 1.4401 (316)

14 Stainless Steel Pipe Manufacturer Europe

Region: Europe | **Industry:** Chemical, Pharmaceutical, Food, Energy | **Materials:** 1.4301 (304), 1.4307 (304L), 1.4401 (316)



15 Oil & Gas Stainless Steel Pipe Saudi Arabia

Region: Saudi Arabia | **Industry:** Oil & Gas, Petrochemical | **Materials:** SS 316L (UNS S31603), Duplex 2205 (UNS S31803), Super Duplex 2507 (UNS S32750)

16 Oil & Gas Stainless Steel Pipe Saudi Arabia

Region: Saudi Arabia | **Industry:** Oil & Gas, Petrochemical | **Materials:** SS 316L (UNS S31603), Duplex 2205 (UNS S31803), Super Duplex 2507 (UNS S32750)



17 ASTM A312 TP316L Seamless Pipe Exporter

Region: Global (12+ Countries) | **Industry:** Chemical, Pharmaceutical, Food & Beverage, Oil & Gas, Water Treatment | **Materials:** TP316L (UNS S31603), TP316 (UNS S31600), TP316Ti (UNS S31635)

18 ASTM A312 TP316L Seamless Pipe Exporter

Region: Global (12+ Countries) | **Industry:** Chemical, Pharmaceutical, Food & Beverage, Oil & Gas, Water Treatment | **Materials:** TP316L (UNS S31603), TP316 (UNS S31600), TP316Ti (UNS S31635)

MANUFACTURING OVERVIEW

STATE-OF-THE-ART SEAMLESS PIPE MANUFACTURING

Stancor Tubular Products Pvt. Ltd. operates state-of-the-art integrated manufacturing facilities. Our facility handles the complete manufacturing cycle from raw material to finished product.

12,000+ MT

Annual Capacity

6.35 – 273.1mm

OD Size Range

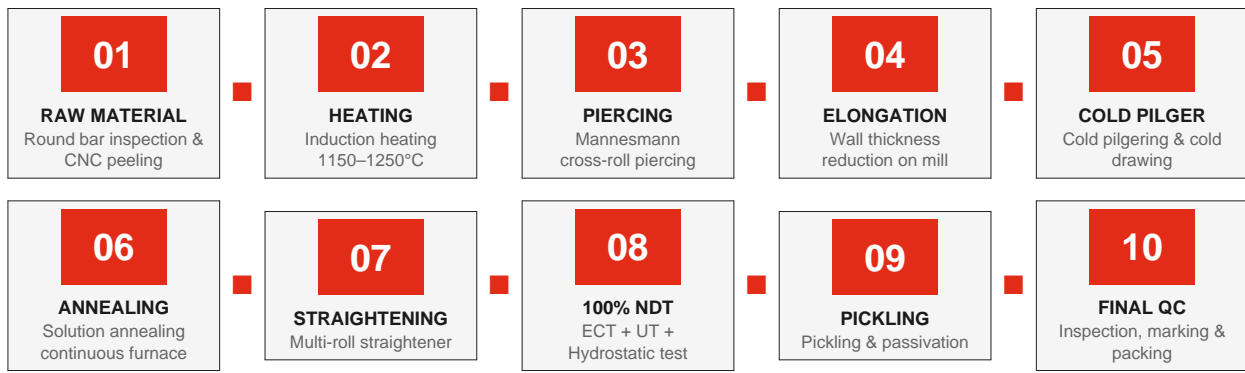
25+

Grade Varieties

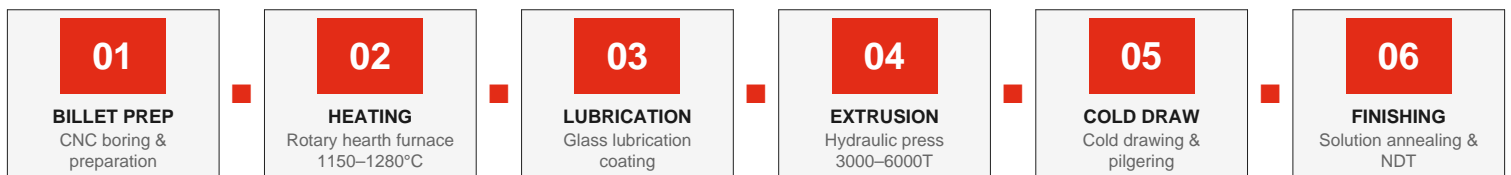
50+

Countries Served

PIERCING ROUTE (Mannesmann Process)



HOT EXTRUSION ROUTE



QUALITY MANAGEMENT SYSTEM

CERTIFICATIONS & APPROVALS

Certification	Standard	Scope
ISO 9001:2015	Quality Management System	International standard for quality management systems ensuring consistent quality in manufacturing.
ISO 14001:2015	Environmental Management	Committed to environmental responsibility with certified environmental management practices across all operations.
PED 2014/68/EU	Pressure Equipment Directive	European CE marking certification for pressure equipment, enabling export to EU markets.
IBR Approved	Indian Boiler Regulations	Approved under Indian Boiler Regulations for manufacturing boiler-quality pipes and tubes.
EIL Approved	EIL approval acts as a seal of Quality	Engineers India Limited (EIL) approval is required to ensure that materials, equipment, and services in critical projects—particularly in the oil, gas, and petrochemical sectors—meet stringent technical, safety, and quality standards
ADNOC Approved	German Pressure Vessel Code	Compliance with AD 2000-Merkblatt W2/W10 for pressure vessel applications in the German market.

CERTIFICATE GALLERY



ISO 9001:2015



ISO 14001:2015



PED 2014/68/EU



Approved by Office of the Director of Boiler (IBR)

IBR Approved



EIL Approved



ADNOC Approved

TESTING CAPABILITIES

Test	Coverage	Standard
Eddy Current Testing	100% of production	ASTM E309 / EN 10246-2
Ultrasonic Testing	100% of production	ASTM E213 / EN 10246-7
Hydrostatic Testing	100% of production	ASTM A450 / EN 10216-5
PMI	100% of production	OES / XRF analysis

IGC Test	Per heat	ASTM A262 Practice E
Charpy Impact	Per heat	ASTM A370
Ferrite Measurement	Per piece (DSS)	ASTM A799 / E562

PROCESS FLOWS

SEAMLESS PIPE MANUFACTURING PROCESSES

HOT PIERCING PROCESS

Converting solid round bars into hollow shells using the Mannesmann cross-roll piercing method.

STEP 1	Raw Material Loading	Solid round bars inspected for surface quality
STEP 2	Preheating	Heated to 1200–1280°C in rotary hearth furnace
STEP 3	Cross-Roll Piercing	Barrel-shaped rolls + piercing plug create hollow
STEP 4	Elongation	Wall thickness reduced in elongation mill
STEP 5	Sizing	Final OD achieved through sizing rolls

COLD PILGER ROLLING

Precision reduction of tube dimensions using cold pilger mills for tight tolerances and excellent surface finish.

STEP 1	Tube Loading	Pre-treated mother tubes loaded onto feed rack
STEP 2	Cold Reduction	Reciprocating dies reduce OD and wall thickness
STEP 3	Annealing	Intermediate annealing restores ductility
STEP 4	Final Sizing	Cold drawing to final dimensions and tolerances

HEAT TREATMENT

Solution annealing, normalizing, and stress relieving in continuous roller hearth furnaces with precise temperature control per ASTM/ASME/EN standards for each grade.

MACHINE GALLERY

OUR MANUFACTURING EQUIPMENT

RAW MATERIAL PROCESSING



Round Bar Peeling Machine

High-precision CNC-controlled peeling machines for removing the outer skin of round bars before piercing. Ensures consistent surface quality and dimensional accuracy of input material.

- Diameter range: 80-300mm
- Surface finish: Ra 3.2 or better
- Tolerance: ± 0.1 mm



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PRIMARY FORMING



Hot Piercing Machine

State-of-the-art Mannesmann cross-roll piercing mill that converts solid round bars into hollow shells. The heart of seamless pipe manufacturing.

- Piercing capacity: up to 250mm OD
- Shell length: up to 12m
- Temperature: 1200-1280°C



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- Piercing capacity: up to 250mm OD
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- Temperature: 1200-1280°C

HEAT TREATMENT



Solution Annealing Furnace

Continuous walking beam furnaces for solution annealing of stainless steel and nickel alloy tubes. Ensures consistent metallurgical properties throughout the length.

- Temperature range: 950-1200°C
- Atmosphere: Nitrogen/Hydrogen mix
- Capacity: 3 MT/hour



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- Temperature range: 950-1200°C
- Atmosphere: Nitrogen/Hydrogen mix
- Capacity: 3 MT/hour

FINISHING



Straightening Machine

Multi-roll straightening machines for achieving precise straightness tolerances. Critical for heat exchanger tubes and instrumentation applications.

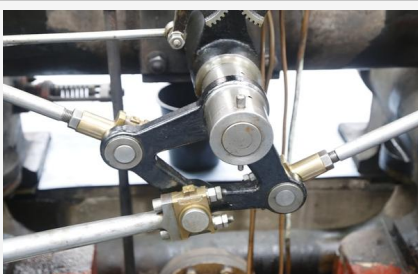
- Straightness: 1mm/m or better
- Diameter range: 6-168mm
- Roll configuration: 6/10/14 roll



OD Grinding & Polishing Machine

Centerless grinding and polishing machines for achieving mirror-finish surfaces and precise OD dimensions on stainless steel tubes.

- Surface finish: up to Ra 0.4
- OD tolerance: $\pm 0.02\text{mm}$
- Diameter range: 6-100mm



ID Grinding & Polishing Machine

Internal honing and polishing machines for achieving precise ID dimensions and surface finish. Essential for hydraulic and pneumatic applications.

- Surface finish: up to Ra 0.2
- ID tolerance: $\pm 0.01\text{mm}$
- Length: up to 6m



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Multi-roll straightening machines for achieving precise straightness tolerances. Critical for heat exchanger tubes and instrumentation applications.

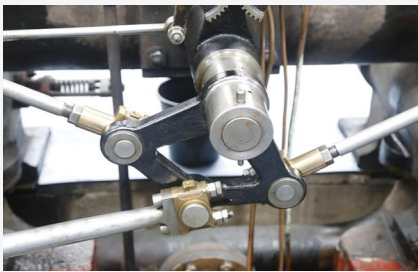
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- Length: up to 6m

SURFACE TREATMENT



Pickling Plant

Automated acid pickling and passivation lines for removing oxide scale and enhancing corrosion resistance. Environmentally compliant with closed-loop systems.

- Acid: $\text{HNO}_3 + \text{HF}$ mixture
- Temperature: 40-60°C
- Capacity: 50 MT/day



Pickling Plant

Automated acid pickling and passivation lines for removing oxide scale and enhancing corrosion resistance. Environmentally compliant with closed-loop systems.

- Acid: $\text{HNO}_3 + \text{HF}$ mixture
- Temperature: 40-60°C
- Capacity: 50 MT/day

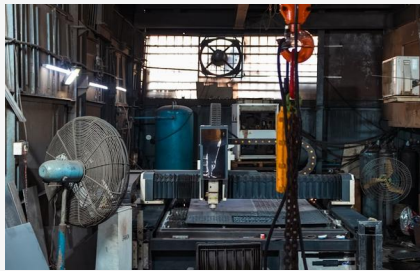
COLD WORKING



Pilger Machine

Cold pilger mills for precision reduction of tube dimensions. Produces tight tolerance tubes with excellent surface finish for critical applications.

- Reduction ratio: up to 80%
- OD range: 10-180mm
- Wall reduction: up to 75%



Pilger Machine

Cold pilger mills for precision reduction of tube dimensions. Produces tight tolerance tubes with excellent surface finish for critical applications.

- Reduction ratio: up to 80%
- OD range: 10-180mm
- Wall reduction: up to 75%

QUALITY CONTROL



Hydrostatic Testing

High-pressure hydrostatic testing equipment for verifying pipe integrity. Every pipe is tested to 1.5x design pressure before dispatch.

- Pressure: up to 1000 bar
- Pipe length: up to 14m
- Test medium: Water + corrosion inhibitor



NABL Approved Laboratory

NABL-accredited testing laboratory equipped with latest instruments for chemical analysis, mechanical testing, and metallographic examination.

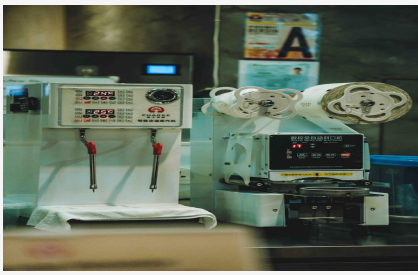
- Accreditation: NABL ISO 17025
- Tests: Chemical, Mechanical, Metallurgical
- Equipment: OES, XRF, UTM, Impact tester



Hydrostatic Testing

High-pressure hydrostatic testing equipment for verifying pipe integrity. Every pipe is tested to 1.5x design pressure before dispatch.

- Pressure: up to 1000 bar
- Pipe length: up to 14m
- Test medium: Water + corrosion inhibitor



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NABL-accredited testing laboratory equipped with latest instruments for chemical analysis, mechanical testing, and metallographic examination.

- Accreditation: NABL ISO 17025
- Tests: Chemical, Mechanical, Metallurgical
- Equipment: OES, XRF, UTM, Impact tester

NDT



Ultrasonic Testing (UT)

Automated ultrasonic testing lines for 100% volumetric inspection. Detects internal and surface defects with high accuracy.

- Defect detection: 5% wall notch
- Coverage: 100% wall volume
- Speed: up to 30 m/min



Eddy Current Testing (ECT)

High-speed eddy current testing for surface and near-surface defect detection. Particularly effective for detecting small surface cracks and pitting.

- Defect detection: 0.2mm depth
- Testing speed: up to 60 m/min
- Frequency: Multi-frequency



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NDT LABORATORY

NON-DESTRUCTIVE TESTING CAPABILITIES

Our NABL-accredited NDT laboratory performs 100% testing on all production. Every pipe undergoes multiple NDT methods to ensure zero-defect delivery.

Method	Description	Standards
Hydrostatic Testing (HT)	Verifies structural integrity via internal water pressure at 1.5x design pressure	ASTM A530, EN 10216-5
Ultrasonic Testing (UT)	High-frequency sound waves detect internal defects and measure wall thickness	ASTM E213, EN 10246-7
Eddy Current Testing (ECT)	Electromagnetic induction detects surface and near-surface defects	ASTM E309, EN 10246-2
PMI (Positive Material ID)	XRF/OES analysis verifies alloy composition of every pipe	ASTM E1476

ADDITIONAL TESTING

- Intergranular Corrosion Test (ASTM A262 Practice E)
- Charpy Impact Test (ASTM A370) for low-temperature service
- Ferrite Content Measurement (ASTM E562) for duplex grades
- Flattening, Flaring & Ring Tensile Tests
- Macro / Micro Examination

TOLERANCE CHARTS

DIMENSIONAL TOLERANCES PER INTERNATIONAL STANDARDS

SEAMLESS PIPE TOLERANCES (ASTM A312 / A213)

OD Range (mm)	OD Tolerance	Wall Thickness Tol.	Length Tolerance
6.35 – 12.70	± 0.13	+22% / -0%	+6mm / -0
12.70 – 25.40	± 0.25	+22% / -0%	+6mm / -0
25.40 – 50.80	± 0.38	+22% / -12.5%	+6mm / -0
50.80 – 88.90	± 0.76	+22% / -12.5%	+6mm / -0
88.90 – 168.30	± 1.00%	+22% / -12.5%	+10mm / -0
168.30 – 273.10	± 1.00%	+17.5% / -12.5%	+10mm / -0

HEAT EXCHANGER TUBE TOLERANCES (ASTM A213 / A249)

OD Range (mm)	OD Tolerance (mm)	Wall Thickness Tol.	Straightness
6.35 – 9.53	± 0.05	± 10%	0.8 mm/m
9.53 – 12.70	± 0.08	± 10%	0.8 mm/m
12.70 – 19.05	± 0.10	± 10%	1.0 mm/m
19.05 – 25.40	± 0.13	± 10%	1.0 mm/m
25.40 – 38.10	± 0.15	± 10%	1.2 mm/m
38.10 – 50.80	± 0.20	± 10%	1.5 mm/m

Available Forms: Seamless Pipes, Tubes, U-bend Tubes, Coiled Tubes, Hollow Bars, Capillary Tubes

End Finish: Plain End, Beveled End, Threaded & Coupled | **Length:** Up to 18 meters

SUSTAINABILITY

NET NEUTRAL & GREEN MANUFACTURING

At Stancor Tubular Products Pvt. Ltd., sustainability isn't just a commitment — it's integral to how we operate. We are dedicated to achieving net-neutral manufacturing through cutting-edge green technologies, responsible resource management, and continuous environmental improvement.



SOLAR POWER GENERATION

Our manufacturing facility is powered by a large-scale rooftop solar installation, significantly reducing our carbon footprint and dependence on grid electricity. This clean energy initiative enables us to offset a major portion of our power consumption with renewable solar energy.

- Rooftop solar panels generating renewable energy
- Significant reduction in grid electricity dependence
- Lower CO2 emissions per ton of production



100% ZERO LIQUID DISCHARGE (ZLD)

Stancor operates a 100% Zero Liquid Discharge system ensuring that no process wastewater is released into the environment. All water used in our manufacturing processes — including pickling, passivation, and cooling — is treated, recycled, and reused within the facility.

- 100% water recycling — zero discharge to environment
- Advanced effluent treatment plant (ETP)
- Closed-loop water management system

OUR SUSTAINABILITY PILLARS

ENVIRONMENTAL

Carbon footprint reduction, renewable energy adoption, waste minimization, and responsible resource management across all manufacturing processes.

SOCIAL

Safe workplace practices, community development initiatives, employee welfare programs, and skill development for local workforce.

GOVERNANCE

Transparent business practices, ethical supply chain management, regulatory compliance, and stakeholder accountability.

OUR TEAM

LEADERSHIP & MANAGEMENT



Kalpesh Jain

Executive Director & Board Member

45+ years of experience in seamless pipe manufacturing. Pioneer in introducing duplex and nickel alloy seamless pipes in India.



Haresh Jain

Director - Operations & Board Member

Oversees manufacturing, quality, and supply chain operations across all production facilities.



Mangilal Jain

Non Executive Director

Leads global sales strategy, key account management, and brand development across 12+ countries.



STANCOR TUBULAR PRODUCTS PVT. LTD.

Engineering Excellence in Seamless Tubular Solutions

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WEBSITE

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Scan to visit our website

ISO 9001:2015 | ISO 14001:2015 | PED 2014/68/EU | IBR Approved | EIL Approved | ADNOC Approved

Stainless Steel 304 / 304L Seamless Pipes & Tubes

UNS S30400 / S30403 | W.Nr 1.4301 / 1.4307 | Austenitic Stainless Steel

SS 304 / 304L (UNS S30400 / S30403) are the most widely used austenitic stainless steel grades. 304 is the standard 18/8 grade offering excellent corrosion resistance and formability. 304L is the low-carbon variant (C: 0.030% max) that prevents carbide precipitation during welding, making it preferred for welded fabrication and cryogenic applications.

QUICK REFERENCE

Parameter	Value
Grade	SS 304 / 304L
UNS Designation	S30400 / S30403
Werkstoff Number	1.4301 / 1.4307
EN Designation	X5CrNi18-10 / X2CrNi18-9
Size Range	1/4" NPS to 10" NPS (6.35mm to 273.1mm OD)
Wall Thickness	SCH 5S to SCH 160, XXS
Standards	ASTM A312 / ASME SA312, ASTM A213 / ASME SA213, ASTM A269, DIN EN 10216-5

CHEMICAL COMPOSITION (% by weight)

C	Mn	Si	Cr	Ni	P	S
0.08 / 0.030 max	2.00 max	0.75 max	18.0-20.0	8.0-10.5 / 8.0-12.0	0.045 max	0.030 max

MECHANICAL PROPERTIES (Min. at Room Temperature)

Property	Value
Tensile Strength	515 / 485 MPa min
Yield Strength	205 / 170 MPa min
Elongation	35% min
Hardness	92 HRB max

PHYSICAL PROPERTIES

Property	Value
Density	7.93 g/cm ³
Melting Range	1400-1450 C
Thermal Conductivity	16.2 W/m-K
Electrical Resistivity	720 nOhm-m
Specific Heat	500 J/kg-K
Coeff. of Thermal Expansion	17.2 um/m-C

CORROSION RESISTANCE

Property	Rating / Value
Pitting Resistance (PREN)	~18
Max Service Temp (Oxidizing)	870 C
Intergranular Corrosion	304: Susceptible if sensitized / 304L: Resistant (low carbon)
Stress Corrosion Cracking	Susceptible in chlorides >60C
General Corrosion Rate	<0.1 mm/yr in mild acids



Property	Rating / Value
Seawater Resistance	Limited - pitting risk

EQUIVALENT INTERNATIONAL GRADES

ASTM	JIS	BS	GOST
TP304 / TP304L	SUS 304 / SUS 304L	304S31 / 304S11	08Kh18N10 / 03Kh18N11

TYPICAL APPLICATIONS

General corrosion-resistant piping | Food & beverage processing | Chemical processing equipment | Welded structures (304L preferred) | Heat exchangers | Pharmaceutical equipment | Cryogenic vessels and piping (304L) | Nuclear industry applications (304L)

APPLICABLE STANDARDS

ASTM A312 / ASME SA312 | ASTM A213 / ASME SA213 | ASTM A269 | DIN EN 10216-5

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Stainless Steel 304H Seamless Pipes & Tubes

UNS S30409 | W.Nr 1.4948 | Austenitic Stainless Steel

SS 304H (UNS S30409) is the high-carbon version of 304, with carbon controlled to 0.04-0.10%. This higher carbon content provides significantly improved creep strength and rupture properties at temperatures between 425-816C, making it the preferred grade for boiler, superheater, and heat exchanger applications in power generation and petrochemical industries.

QUICK REFERENCE

Parameter	Value
Grade	SS 304H
UNS Designation	S30409
Werkstoff Number	1.4948
EN Designation	X6CrNi18-10
Size Range	1/4" NPS to 10" NPS (6.35mm to 273.1mm OD)
Wall Thickness	SCH 5S to SCH 160, XXS
Standards	ASTM A312 / ASME SA312, ASTM A213 / ASME SA213, ASTM A269, DIN EN 10216-5

CHEMICAL COMPOSITION (% by weight)

C	Mn	Si	Cr	Ni	P	S
0.04-0.10	2.00 max	0.75 max	18.0-20.0	8.0-10.5	0.045 max	0.030 max

MECHANICAL PROPERTIES (Min. at Room Temperature)

Property	Value
Tensile Strength	515 MPa min
Yield Strength	205 MPa min
Elongation	35% min
Hardness	92 HRB max

PHYSICAL PROPERTIES

Property	Value
Density	7.93 g/cm ³
Melting Range	1400-1450 C
Thermal Conductivity	16.2 W/m-K
Electrical Resistivity	720 nOhm-m
Specific Heat	500 J/kg-K
Coeff. of Thermal Expansion	17.2 um/m-C

CORROSION RESISTANCE

Property	Rating / Value
Pitting Resistance (PREN)	~18
Max Service Temp (Oxidizing)	870 C (continuous)
Intergranular Corrosion	Susceptible if sensitized (higher carbon)
Stress Corrosion Cracking	Susceptible in chlorides >60C
General Corrosion Rate	<0.1 mm/yr in mild acids



Property	Rating / Value
Seawater Resistance	Limited - pitting risk

EQUIVALENT INTERNATIONAL GRADES

ASTM	JIS	BS	GOST
TP304H	SUS 304HTB	304S51	08Kh18N10

TYPICAL APPLICATIONS

High-temperature service (425-816C) | Power plant superheater and reheater tubes | Refinery heater tubes and furnace components | Boiler and pressure vessel components | Heat treatment equipment | Petrochemical cracking furnaces

APPLICABLE STANDARDS

ASTM A312 / ASME SA312 | ASTM A213 / ASME SA213 | ASTM A269 | DIN EN 10216-5

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Stainless Steel 316 / 316L Seamless Pipes & Tubes

UNS S31600 / S31603 | W.Nr 1.4401 / 1.4404 | Austenitic Stainless Steel

SS 316 / 316L (UNS S31600 / S31603) are molybdenum-bearing austenitic stainless steels with 2-3% Mo, providing significantly improved resistance to pitting and crevice corrosion in chloride environments. 316L is the low-carbon variant (C: 0.030% max) preferred for welded fabrication, eliminating the risk of intergranular corrosion.

QUICK REFERENCE

Parameter	Value
Grade	SS 316 / 316L
UNS Designation	S31600 / S31603
Werkstoff Number	1.4401 / 1.4404
EN Designation	X5CrNiMo17-12-2 / X2CrNiMo17-12-2
Size Range	1/4" NPS to 10" NPS (6.35mm to 273.1mm OD)
Wall Thickness	SCH 5S to SCH 160, XXS
Standards	ASTM A312 / ASME SA312, ASTM A213 / ASME SA213, ASTM A269, DIN EN 10216-5

CHEMICAL COMPOSITION (% by weight)

C	Mn	Si	Cr	Ni	Mo	P	S
0.08 / 0.030 max	2.00 max	0.75 max	16.0-18.0	10.0-14.0	2.0-3.0	0.045 max	0.030 max

MECHANICAL PROPERTIES (Min. at Room Temperature)

Property	Value
Tensile Strength	515 / 485 MPa min
Yield Strength	205 / 170 MPa min
Elongation	35% min
Hardness	95 HRB max

PHYSICAL PROPERTIES

Property	Value
Density	7.98 g/cm ³
Melting Range	1375-1400 C
Thermal Conductivity	16.3 W/m-K
Electrical Resistivity	740 nOhm-m
Specific Heat	500 J/kg-K
Coeff. of Thermal Expansion	15.9 um/m-C

CORROSION RESISTANCE

Property	Rating / Value
Pitting Resistance (PREN)	~24
Max Service Temp (Oxidizing)	870 C
Intergranular Corrosion	316: Susceptible if sensitized / 316L: Resistant (low carbon)
Stress Corrosion Cracking	Better than 304 in chlorides
General Corrosion Rate	<0.05 mm/yr in most acids



Property	Rating / Value
Seawater Resistance	Moderate - better than 304

EQUIVALENT INTERNATIONAL GRADES

ASTM	JIS	BS	GOST
TP316 / TP316L	SUS 316 / SUS 316L	316S31 / 316S11	08Kh17N13M2 / 03Kh17N14M2

TYPICAL APPLICATIONS

Marine environments and coastal installations | Chemical processing with chloride exposure | Pharmaceutical manufacturing equipment | Offshore oil & gas piping systems | Pulp and paper industry | Nuclear fuel reprocessing (316L) | Medical implants and surgical instruments

APPLICABLE STANDARDS

ASTM A312 / ASME SA312 | ASTM A213 / ASME SA213 | ASTM A269 | DIN EN 10216-5

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Stainless Steel 316H Seamless Pipes & Tubes

UNS S31609 | W.Nr 1.4919 | Austenitic Stainless Steel

SS 316H (UNS S31609) is the high-carbon version of 316, with carbon controlled to 0.04-0.10%. It combines the molybdenum-enhanced corrosion resistance of 316 with superior creep strength at elevated temperatures (425-816C). This makes it the preferred choice for high-temperature service in corrosive environments where both properties are essential.

QUICK REFERENCE

Parameter	Value
Grade	SS 316H
UNS Designation	S31609
Werkstoff Number	1.4919
EN Designation	X6CrNiMoTi17-12-2
Size Range	1/4" NPS to 10" NPS (6.35mm to 273.1mm OD)
Wall Thickness	SCH 5S to SCH 160, XXS
Standards	ASTM A312 / ASME SA312, ASTM A213 / ASME SA213, ASTM A269, DIN EN 10216-5

CHEMICAL COMPOSITION (% by weight)

C	Mn	Si	Cr	Ni	Mo	P	S
0.04-0.10	2.00 max	0.75 max	16.0-18.0	10.0-14.0	2.0-3.0	0.045 max	0.030 max

MECHANICAL PROPERTIES (Min. at Room Temperature)

Property	Value
Tensile Strength	515 MPa min
Yield Strength	205 MPa min
Elongation	35% min
Hardness	95 HRB max

PHYSICAL PROPERTIES

Property	Value
Density	7.98 g/cm ³
Melting Range	1375-1400 C
Thermal Conductivity	16.3 W/m-K
Electrical Resistivity	740 nOhm-m
Specific Heat	500 J/kg-K
Coeff. of Thermal Expansion	15.9 um/m-C

CORROSION RESISTANCE

Property	Rating / Value
Pitting Resistance (PREN)	~24
Max Service Temp (Oxidizing)	870 C (continuous)
Intergranular Corrosion	Susceptible if sensitized (higher carbon)
Stress Corrosion Cracking	Better than 304H in chlorides
General Corrosion Rate	<0.05 mm/yr in most acids



Property	Rating / Value
Seawater Resistance	Moderate - better than 304

EQUIVALENT INTERNATIONAL GRADES

ASTM	JIS	BS	GOST
TP316H	SUS 316HTB	316S51	08Kh17N13M2T

TYPICAL APPLICATIONS

High-temperature service (425-816C) in corrosive environments | Power plant superheater tubes with chloride exposure | Petrochemical furnace tubes with acid contact | Refinery heater tubes requiring Mo for corrosion | Chemical plant heat exchangers at elevated temps | Boiler tubes in marine/offshore environments

APPLICABLE STANDARDS

ASTM A312 / ASME SA312 | ASTM A213 / ASME SA213 | ASTM A269 | DIN EN 10216-5

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Stainless Steel 321 Seamless Pipes & Tubes

UNS S32100 | W.Nr 1.4541 | Austenitic Stainless Steel

SS 321 (UNS S32100) is a titanium-stabilized austenitic stainless steel designed for continuous service at temperatures between 425C-900C. The titanium addition prevents chromium carbide precipitation, ensuring resistance to intergranular corrosion after high-temperature exposure.

QUICK REFERENCE

Parameter	Value
Grade	SS 321
UNS Designation	S32100
Werkstoff Number	1.4541
EN Designation	X6CrNiTi18-10
Size Range	1/4" NPS to 10" NPS (6.35mm to 273.1mm OD)
Wall Thickness	SCH 5S to SCH 160
Standards	ASTM A312 / ASME SA312, ASTM A213 / ASME SA213, ASTM A269, DIN EN 10216-5

CHEMICAL COMPOSITION (% by weight)

C	Mn	Si	Cr	Ni	Ti	P	S
0.08 max	2.00 max	0.75 max	17.0-19.0	9.0-12.0	5xC min	0.045 max	0.030 max

MECHANICAL PROPERTIES (Min. at Room Temperature)

Property	Value
Tensile Strength	515 MPa min
Yield Strength	205 MPa min
Elongation	35% min
Hardness	95 HRB max

PHYSICAL PROPERTIES

Property	Value
Density	7.92 g/cm3
Melting Range	1400-1425 C
Thermal Conductivity	16.1 W/m-K
Electrical Resistivity	720 nOhm-m
Specific Heat	500 J/kg-K
Coeff. of Thermal Expansion	17.2 um/m-C

CORROSION RESISTANCE

Property	Rating / Value
Pitting Resistance (PREN)	~17.5
Max Service Temp (Oxidizing)	900 C (continuous)
Intergranular Corrosion	Resistant (Ti stabilized)
Stress Corrosion Cracking	Susceptible in chlorides >60C
General Corrosion Rate	<0.1 mm/yr in mild acids
Seawater Resistance	Limited



EQUIVALENT INTERNATIONAL GRADES

ASTM	JIS	BS	GOST
TP321	SUS 321	321S31	08Kh18N10T

TYPICAL APPLICATIONS

High-temperature exhaust systems | Furnace parts and heat treatment equipment | Expansion bellows | Refinery process piping | Aircraft exhaust manifolds | Superheater tubes

APPLICABLE STANDARDS

ASTM A312 / ASME SA312 | ASTM A213 / ASME SA213 | ASTM A269 | DIN EN 10216-5

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Stainless Steel 347 Seamless Pipes & Tubes

UNS S34700 | W.Nr 1.4550 | Austenitic Stainless Steel

SS 347 (UNS S34700) is a niobium (columbium)-stabilized austenitic stainless steel providing superior resistance to intergranular corrosion at elevated temperatures. Preferred over 321 where intermittent heating is involved, as niobium provides more reliable stabilization than titanium.

QUICK REFERENCE

Parameter	Value
Grade	SS 347
UNS Designation	S34700
Werkstoff Number	1.4550
EN Designation	X6CrNiNb18-10
Size Range	1/4" NPS to 10" NPS (6.35mm to 273.1mm OD)
Wall Thickness	SCH 5S to SCH 160
Standards	ASTM A312 / ASME SA312, ASTM A213 / ASME SA213, ASTM A269, DIN EN 10216-5

CHEMICAL COMPOSITION (% by weight)

C	Mn	Si	Cr	Ni	Nb+Ta	P	S
0.08 max	2.00 max	0.75 max	17.0-19.0	9.0-13.0	10xC min	0.045 max	0.030 max

MECHANICAL PROPERTIES (Min. at Room Temperature)

Property	Value
Tensile Strength	515 MPa min
Yield Strength	205 MPa min
Elongation	35% min
Hardness	92 HRB max

PHYSICAL PROPERTIES

Property	Value
Density	7.96 g/cm ³
Melting Range	1400-1425 C
Thermal Conductivity	16.1 W/m-K
Electrical Resistivity	730 nOhm-m
Specific Heat	500 J/kg-K
Coeff. of Thermal Expansion	17.2 um/m-C

CORROSION RESISTANCE

Property	Rating / Value
Pitting Resistance (PREN)	~17.5
Max Service Temp (Oxidizing)	900 C
Intergranular Corrosion	Resistant (Nb stabilized)
Stress Corrosion Cracking	Susceptible in chlorides >60C
General Corrosion Rate	<0.1 mm/yr in mild acids
Seawater Resistance	Limited



EQUIVALENT INTERNATIONAL GRADES

ASTM	JIS	BS	GOST
TP347	SUS 347	347S31	08Kh18N12B

TYPICAL APPLICATIONS

High-temperature process piping | Catalytic cracking units | Fired heaters and furnace tubes | Reformer piping | Ammonia production plants | Thermal cycling applications

APPLICABLE STANDARDS

ASTM A312 / ASME SA312 | ASTM A213 / ASME SA213 | ASTM A269 | DIN EN 10216-5

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Stainless Steel 310S Seamless Pipes & Tubes

UNS S31008 | W.Nr 1.4845 | Austenitic Stainless Steel

SS 310S (UNS S31008) is a high-chromium, high-nickel austenitic stainless steel designed for outstanding high-temperature oxidation resistance. With 25% Cr and 20% Ni, it maintains strength and resists scaling up to 1150C, making it ideal for furnace and heat treatment applications.

QUICK REFERENCE

Parameter	Value
Grade	SS 310S
UNS Designation	S31008
Werkstoff Number	1.4845
EN Designation	X8CrNi25-21
Size Range	1/4" NPS to 10" NPS (6.35mm to 273.1mm OD)
Wall Thickness	SCH 5S to SCH 80S
Standards	ASTM A312 / ASME SA312, ASTM A213 / ASME SA213, DIN EN 10216-5

CHEMICAL COMPOSITION (% by weight)

C	Mn	Si	Cr	Ni	P	S
0.08 max	2.00 max	1.50 max	24.0-26.0	19.0-22.0	0.045 max	0.030 max

MECHANICAL PROPERTIES (Min. at Room Temperature)

Property	Value
Tensile Strength	515 MPa min
Yield Strength	205 MPa min
Elongation	35% min
Hardness	95 HRB max

PHYSICAL PROPERTIES

Property	Value
Density	7.98 g/cm3
Melting Range	1400-1455 C
Thermal Conductivity	14.2 W/m-K
Electrical Resistivity	780 nOhm-m
Specific Heat	500 J/kg-K
Coeff. of Thermal Expansion	15.9 um/m-C

CORROSION RESISTANCE

Property	Rating / Value
Pitting Resistance (PREN)	~25
Max Service Temp (Oxidizing)	1150 C (intermittent 1035 C continuous)
Intergranular Corrosion	Moderate susceptibility
Stress Corrosion Cracking	Good resistance due to high Ni
General Corrosion Rate	Excellent in oxidizing environments
Seawater Resistance	Moderate



EQUIVALENT INTERNATIONAL GRADES

ASTM	JIS	BS
TP310S	SUS 310S	310S16

TYPICAL APPLICATIONS

Furnace components and radiant tubes | Heat treatment baskets and fixtures | Kiln liners and burner nozzles | Thermal processing equipment | Flare tips and stacks | Cement plant equipment

APPLICABLE STANDARDS

ASTM A312 / ASME SA312 | ASTM A213 / ASME SA213 | DIN EN 10216-5

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Stainless Steel 317L Seamless Pipes & Tubes

UNS S31703 | W.Nr 1.4438 | Austenitic Stainless Steel

SS 317L (UNS S31703) contains 3-4% molybdenum, providing significantly better pitting and crevice corrosion resistance than 316L. The low carbon content ensures weldability without sensitization. It bridges the gap between standard austenitic grades and expensive nickel alloys.

QUICK REFERENCE

Parameter	Value
Grade	SS 317L
UNS Designation	S31703
Werkstoff Number	1.4438
EN Designation	X2CrNiMo18-15-4
Size Range	1/4" NPS to 10" NPS (6.35mm to 273.1mm OD)
Wall Thickness	SCH 5S to SCH 80S
Standards	ASTM A312 / ASME SA312, ASTM A213 / ASME SA213, ASTM A269, DIN EN 10216-5

CHEMICAL COMPOSITION (% by weight)

C	Mn	Si	Cr	Ni	Mo	P	S
0.030 max	2.00 max	0.75 max	18.0-20.0	11.0-15.0	3.0-4.0	0.045 max	0.030 max

MECHANICAL PROPERTIES (Min. at Room Temperature)

Property	Value
Tensile Strength	515 MPa min
Yield Strength	205 MPa min
Elongation	35% min
Hardness	95 HRB max

PHYSICAL PROPERTIES

Property	Value
Density	7.98 g/cm ³
Melting Range	1375-1400 C
Thermal Conductivity	14.4 W/m-K
Electrical Resistivity	790 nOhm-m
Specific Heat	500 J/kg-K
Coeff. of Thermal Expansion	16.5 um/m-C

CORROSION RESISTANCE

Property	Rating / Value
Pitting Resistance (PREN)	~29
Max Service Temp (Oxidizing)	870 C
Intergranular Corrosion	Resistant (low carbon)
Stress Corrosion Cracking	Superior to 316L in chlorides
General Corrosion Rate	<0.02 mm/yr in sulfuric acid
Seawater Resistance	Good - superior to 316L



EQUIVALENT INTERNATIONAL GRADES

ASTM	JIS	BS
TP317L	SUS 317L	317S12

TYPICAL APPLICATIONS

Flue gas desulfurization systems | Pulp & paper bleach plants | Phosphoric acid production | Sulfuric acid processing | Chemical reactor vessels | Organic acid handling

APPLICABLE STANDARDS

ASTM A312 / ASME SA312 | ASTM A213 / ASME SA213 | ASTM A269 | DIN EN 10216-5

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Stainless Steel 904L Seamless Pipes & Tubes

UNS N08904 | W.Nr 1.4539 | Austenitic Stainless Steel

SS 904L (UNS N08904) is a high-alloy austenitic stainless steel with elevated nickel (25%), molybdenum (4.5%), and copper content. It provides exceptional corrosion resistance in sulfuric acid, phosphoric acid, and chloride-containing environments, bridging the gap between standard stainless steels and nickel alloys.

QUICK REFERENCE

Parameter	Value
Grade	SS 904L
UNS Designation	N08904
Werkstoff Number	1.4539
EN Designation	X1NiCrMoCu25-20-5
Size Range	1/4" NPS to 10" NPS (6.35mm to 273.1mm OD)
Wall Thickness	SCH 5S to SCH 80S
Standards	ASTM A312 / ASME SA312, ASTM B673 / ASME SB673, ASTM B674 / ASME SB674, DIN EN 10216-5

CHEMICAL COMPOSITION (% by weight)

C	Mn	Si	Cr	Ni	Mo	Cu	P	S
0.020 max	2.00 max	1.00 max	19.0-23.0	23.0-28.0	4.0-5.0	1.0-2.0	0.045 max	0.035 max

MECHANICAL PROPERTIES (Min. at Room Temperature)

Property	Value
Tensile Strength	490 MPa min
Yield Strength	220 MPa min
Elongation	35% min
Hardness	90 HRB max

PHYSICAL PROPERTIES

Property	Value
Density	7.95 g/cm ³
Melting Range	1350-1400 C
Thermal Conductivity	12.2 W/m-K
Electrical Resistivity	950 nOhm-m
Specific Heat	460 J/kg-K
Coeff. of Thermal Expansion	15.8 um/m-C

CORROSION RESISTANCE

Property	Rating / Value
Pitting Resistance (PREN)	~36
Max Service Temp (Oxidizing)	450 C
Intergranular Corrosion	Highly resistant
Stress Corrosion Cracking	Excellent resistance
General Corrosion Rate	<0.01 mm/yr in dilute sulfuric acid



Property	Rating / Value
Seawater Resistance	Excellent

EQUIVALENT INTERNATIONAL GRADES

ASTM	JIS	Trade
N08904	SUS 890L	Uranus B6

TYPICAL APPLICATIONS

Sulfuric acid handling and storage | Phosphoric acid production | Seawater cooling systems | Bleaching equipment in pulp mills | Organic acid processing | Gas scrubbing systems

APPLICABLE STANDARDS

ASTM A312 / ASME SA312 | ASTM B673 / ASME SB673 | ASTM B674 / ASME SB674 | DIN EN 10216-5

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Duplex 2205 (UNS S32205) Seamless Pipes & Tubes

UNS S32205 | W.Nr 1.4462 | Duplex Stainless Steel

Duplex 2205 (UNS S32205) is the world's most widely used duplex stainless steel, with a balanced microstructure of approximately 50% ferrite and 50% austenite. It offers nearly double the yield strength of standard austenitic grades with superior corrosion resistance.

QUICK REFERENCE

Parameter	Value
Grade	Duplex 2205
UNS Designation	S32205
Werkstoff Number	1.4462
EN Designation	X2CrNiMoN22-5-3
Size Range	1/4" NPS to 10" NPS (6.35mm to 273.1mm OD)
Wall Thickness	SCH 5S to SCH 160
Standards	ASTM A789 / ASME SA789, ASTM A790 / ASME SA790, NORSOK MDS D45, DIN EN 10216-5

CHEMICAL COMPOSITION (% by weight)

C	Mn	Si	Cr	Ni	Mo	N	P	S
0.030 max	2.00 max	1.00 max	22.0-23.0	4.5-6.5	3.0-3.5	0.14-0.20	0.030 max	0.020 max

MECHANICAL PROPERTIES (Min. at Room Temperature)

Property	Value
Tensile Strength	655 MPa min
Yield Strength	450 MPa min
Elongation	25% min
Hardness	31 HRC max

PHYSICAL PROPERTIES

Property	Value
Density	7.82 g/cm ³
Melting Range	1350-1400 C
Thermal Conductivity	19 W/m-K
Electrical Resistivity	850 nOhm-m
Specific Heat	480 J/kg-K
Coeff. of Thermal Expansion	13.0 um/m-C

CORROSION RESISTANCE

Property	Rating / Value
Pitting Resistance (PREN)	~35
Max Service Temp (Oxidizing)	315 C (to avoid 475C embrittlement)
Intergranular Corrosion	Highly resistant
Stress Corrosion Cracking	Excellent resistance vs austenitic
General Corrosion Rate	<0.02 mm/yr in most environments
Seawater Resistance	Excellent up to 20C



EQUIVALENT INTERNATIONAL GRADES

ASTM	NORSOK	Trade
S32205/S31803	MDS D45	SAF 2205

TYPICAL APPLICATIONS

Offshore oil & gas platforms | Chemical process vessels and piping | Heat exchangers in aggressive media | Desalination plants | Structural marine applications | Pulp & paper digesters

APPLICABLE STANDARDS

ASTM A789 / ASME SA789 | ASTM A790 / ASME SA790 | NORSOK MDS D45 | DIN EN 10216-5

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Duplex Stainless Steel S31803 Seamless Pipes & Tubes

UNS S31803 | W.Nr 1.4462 | Duplex Stainless Steel

Duplex S31803 is the earlier designation that overlaps with S32205. S31803 has a slightly wider composition range and may have a lower minimum PREN than S32205. Many existing specifications still reference S31803, though S32205 is now the preferred designation for new projects.

QUICK REFERENCE

Parameter	Value
Grade	Duplex S31803
UNS Designation	S31803
Werkstoff Number	1.4462
EN Designation	X2CrNiMoN22-5-3
Size Range	1/4" NPS to 10" NPS (6.35mm to 273.1mm OD)
Wall Thickness	SCH 5S to SCH 160
Standards	ASTM A789 / ASME SA789, ASTM A790 / ASME SA790, NORSOK MDS D45, DIN EN 10216-5

CHEMICAL COMPOSITION (% by weight)

C	Mn	Si	Cr	Ni	Mo	N	P	S
0.030 max	2.00 max	1.00 max	21.0-23.0	4.5-6.5	2.5-3.5	0.08-0.20	0.030 max	0.020 max

MECHANICAL PROPERTIES (Min. at Room Temperature)

Property	Value
Tensile Strength	620 MPa min
Yield Strength	450 MPa min
Elongation	25% min
Hardness	293 HBW max

PHYSICAL PROPERTIES

Property	Value
Density	7.82 g/cm ³
Melting Range	1350-1400 C
Thermal Conductivity	19 W/m-K
Electrical Resistivity	850 nOhm-m
Specific Heat	480 J/kg-K
Coeff. of Thermal Expansion	13.0 um/m-C

CORROSION RESISTANCE

Property	Rating / Value
Pitting Resistance (PREN)	~33
Max Service Temp (Oxidizing)	315 C
Intergranular Corrosion	Highly resistant
Stress Corrosion Cracking	Excellent resistance
General Corrosion Rate	<0.02 mm/yr in most environments
Seawater Resistance	Excellent up to 20C



EQUIVALENT INTERNATIONAL GRADES

ASTM	NORSOK	Trade
S31803	MDS D45	2205/S31803

TYPICAL APPLICATIONS

Process piping in chemical plants | Oil & gas production tubing | Heat exchangers | Pressure vessels | Structural applications | Transport tankers for chemicals

APPLICABLE STANDARDS

ASTM A789 / ASME SA789 | ASTM A790 / ASME SA790 | NORSOK MDS D45 | DIN EN 10216-5

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Lean Duplex 2304 (UNS S32304) Seamless Pipes & Tubes

UNS S32304 | W.Nr 1.4362 | Lean Duplex Stainless Steel

Duplex 2304 (UNS S32304) is a lean duplex stainless steel with minimal molybdenum content. It offers approximately double the yield strength of 304L while maintaining similar corrosion resistance. The lean composition makes it a cost-effective alternative to both 316L and standard duplex 2205.

QUICK REFERENCE

Parameter	Value
Grade	Duplex 2304
UNS Designation	S32304
Werkstoff Number	1.4362
EN Designation	X2CrNiN23-4
Size Range	1/4" NPS to 10" NPS (6.35mm to 273.1mm OD)
Wall Thickness	SCH 5S to SCH 80S
Standards	ASTM A789 / ASME SA789, ASTM A790 / ASME SA790, DIN EN 10216-5

CHEMICAL COMPOSITION (% by weight)

C	Mn	Si	Cr	Ni	Mo	N	Cu	P	S
0.030 max	2.50 max	1.00 max	21.5-24.5	3.0-5.5	0.05-0.60	0.05-0.20	0.05-0.60	0.040 max	0.030 max

MECHANICAL PROPERTIES (Min. at Room Temperature)

Property	Value
Tensile Strength	600 MPa min
Yield Strength	400 MPa min
Elongation	25% min
Hardness	290 HBW max

PHYSICAL PROPERTIES

Property	Value
Density	7.75 g/cm ³
Melting Range	1400-1450 C
Thermal Conductivity	17 W/m-K
Electrical Resistivity	800 nOhm-m
Specific Heat	480 J/kg-K
Coeff. of Thermal Expansion	13.0 um/m-C

CORROSION RESISTANCE

Property	Rating / Value
Pitting Resistance (PREN)	~25
Max Service Temp (Oxidizing)	315 C
Intergranular Corrosion	Resistant
Stress Corrosion Cracking	Good resistance vs austenitic
General Corrosion Rate	Similar to 316L
Seawater Resistance	Moderate



EQUIVALENT INTERNATIONAL GRADES

ASTM	Trade	EN
S32304	SAF 2304	1.4362

TYPICAL APPLICATIONS

Storage tanks and pressure vessels | Water heaters and heat exchangers | Building and construction structural members | Bridge structures | Transport tankers | Biofuel production equipment

APPLICABLE STANDARDS

ASTM A789 / ASME SA789 | ASTM A790 / ASME SA790 | DIN EN 10216-5

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13Cr Martensitic Stainless Steel Seamless Pipes & Tubes

UNS S41000 | W.Nr 1.4006 | Martensitic Stainless Steel (CRA)

13Cr (UNS S41000, API 5CT L80-13Cr) is a martensitic stainless steel engineered specifically for corrosion-resistant oil country tubular goods (OCTG) in sweet-service (CO2-rich) environments. With ~12% chromium, it delivers excellent CO2 corrosion resistance at elevated temperatures while maintaining high strength required for downhole tubing and casing applications.

QUICK REFERENCE

Parameter	Value
Grade	13Cr
UNS Designation	S41000
Werkstoff Number	1.4006
EN Designation	X12Cr13
Size Range	1/4" NPS to 10" NPS (6.35mm to 273.1mm OD)
Wall Thickness	SCH 10 to SCH XXS
Standards	API 5CT L80-13Cr, ASTM A268 TP410, ASTM A213 T410, ASME SA-268

CHEMICAL COMPOSITION (% by weight)

C	Cr	Mn	Si	P	S	Ni	Fe
0.15 max	11.5-13.5	1.0 max	1.0 max	0.040 max	0.030 max	0.75 max	Balance

MECHANICAL PROPERTIES (Min. at Room Temperature)

Property	Value
Tensile Strength	655 MPa min
Yield Strength	520 MPa min
Elongation	16% min
Hardness	23 HRC max

PHYSICAL PROPERTIES

Property	Value
Density	7.75 g/cm ³
Melting Range	1480-1530 C
Thermal Conductivity	24.9 W/m-K
Electrical Resistivity	570 nOhm-m
Specific Heat	460 J/kg-K
Coeff. of Thermal Expansion	10.5 um/m-C

CORROSION RESISTANCE

Property	Rating / Value
Pitting Resistance (PREN)	12-14 (moderate)
Max Service Temp (Oxidizing)	650 C
CO2 Corrosion Resistance	Excellent (primary use case)
H2S Service	Limited - requires specific heat treatment
General Corrosion Rate	Low in mild CO2 environments



EQUIVALENT INTERNATIONAL GRADES

ASTM	API	DIN	JIS
UNS S41000	L80-13Cr / T95-13Cr	1.4006	SUS 410

TYPICAL APPLICATIONS

Oil Country Tubular Goods (OCTG) | Tubing and casing for CO₂-rich wells | Downhole equipment for sweet gas wells | Heat exchangers in moderate environments | Boiler and superheater tubes | Steam turbine blades

APPLICABLE STANDARDS

API 5CT L80-13Cr | ASTM A268 TP410 | ASTM A213 T410 | ASME SA-268

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Super 13Cr / 13CrA Modified Martensitic Stainless Steel Seamless Pipes & Tubes

UNS S41426 | W.Nr 1.4418 | Modified Martensitic Stainless Steel (Super-CRA)

Super 13Cr / 13CrA (API 5CT 13CrA, UNS S41426) is a modified martensitic stainless steel developed for sour-service oil country tubular goods. With added nickel and molybdenum, it extends the applicability of martensitic CRAs to environments containing low levels of H₂S while maintaining the CO₂ resistance and strength of standard 13Cr. It is the preferred grade for modern HPHT gas wells with mild sour content.

QUICK REFERENCE

Parameter	Value
Grade	13CrA (Super 13Cr)
UNS Designation	S41426
Werkstoff Number	1.4418
EN Designation	X4CrNiMo16-5-1
Size Range	1/4" NPS to 10" NPS (6.35mm to 273.1mm OD)
Wall Thickness	SCH 10 to SCH XXS
Standards	API 5CT 13CrA / 13CrS, NACE MR0175 / ISO 15156, ASTM A1082, Manufacturer proprietary grades: KO-13Cr, HP-13Cr, SM-13CrS

CHEMICAL COMPOSITION (% by weight)

C	Cr	Ni	Mo	Cu	Mn	Si	P	S	Fe
0.025 max	12.0-14.0	4.0-5.5	1.0-2.5	0-0.25	0.50 max	0.40 max	0.020 max	0.010 max	Balance

MECHANICAL PROPERTIES (Min. at Room Temperature)

Property	Value
Tensile Strength	758 MPa min
Yield Strength	655 MPa min (95 ksi)
Elongation	15% min
Hardness	25 HRC max (sour service)

PHYSICAL PROPERTIES

Property	Value
Density	7.80 g/cm ³
Melting Range	1470-1520 C
Thermal Conductivity	15.0 W/m-K
Electrical Resistivity	600 nOhm-m
Specific Heat	475 J/kg-K
Coeff. of Thermal Expansion	11.2 um/m-C

CORROSION RESISTANCE

Property	Rating / Value
Pitting Resistance (PREN)	17-21 (good)
Max Service Temp (Oxidizing)	650 C
CO ₂ Corrosion Resistance	Outstanding



Property	Rating / Value
H2S Service	Qualified per NACE MR0175 / ISO 15156
Stress Corrosion Cracking	Significantly improved over 13Cr

EQUIVALENT INTERNATIONAL GRADES

API	ASTM	DIN	Trade
13CrA / 13CrS / Super 13Cr	UNS S41425 / S41426	1.4418	KO-13Cr, HP-13Cr, SM-13CrS

TYPICAL APPLICATIONS

Sour-service OCTG (tubing and casing) | Downhole tubulars for wells with CO₂ + low H₂S | Subsea flowlines for mildly sour service | High-pressure high-temperature (HPHT) gas wells | Enhanced oil recovery (CO₂-EOR) operations

APPLICABLE STANDARDS

API 5CT 13CrA / 13CrS | NACE MR0175 / ISO 15156 | ASTM A1082 | Manufacturer proprietary grades: KO-13Cr, HP-13Cr, SM-13CrS

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Inconel 600 (UNS N06600) Seamless Pipes & Tubes

UNS N06600 | W.Nr 2.4816 | Nickel Alloy

Alloy 600 (Inconel 600, UNS N06600) is a nickel-chromium alloy with good oxidation resistance at high temperatures and resistance to chloride-ion stress corrosion cracking. It is widely used in the nuclear industry, chemical processing, and for components that must resist caustic environments.

QUICK REFERENCE

Parameter	Value
Grade	Alloy 600
UNS Designation	N06600
Werkstoff Number	2.4816
EN Designation	NiCr15Fe
Size Range	1/4" NPS to 10" NPS (6.35mm to 273.1mm OD)
Wall Thickness	SCH 5S to SCH 80S
Standards	ASTM B167 / ASME SB167, ASTM B163 / ASME SB163, ASTM B516 / ASME SB516, DIN 17751

CHEMICAL COMPOSITION (% by weight)

Ni	Cr	Fe	C	Mn	Si	Cu	S
72.0 min	14.0-17.0	6.0-10.0	0.15 max	1.00 max	0.50 max	0.50 max	0.015 max

MECHANICAL PROPERTIES (Min. at Room Temperature)

Property	Value
Tensile Strength	550 MPa min
Yield Strength	240 MPa min
Elongation	30% min
Hardness	90 HRB max

PHYSICAL PROPERTIES

Property	Value
Density	8.47 g/cm ³
Melting Range	1354-1413 C
Thermal Conductivity	14.8 W/m-K
Electrical Resistivity	1030 nOhm-m
Specific Heat	444 J/kg-K
Coeff. of Thermal Expansion	13.3 um/m-C

CORROSION RESISTANCE

Property	Rating / Value
Pitting Resistance (PREN)	N/A (Ni alloy)
Max Service Temp (Oxidizing)	1175 C
Intergranular Corrosion	Good when solution annealed
Stress Corrosion Cracking	Excellent resistance in caustic
General Corrosion Rate	Excellent in alkaline environments
Seawater Resistance	Good



EQUIVALENT INTERNATIONAL GRADES

ASTM	Trade	DIN
N06600	Inconel 600	2.4816

TYPICAL APPLICATIONS

Nuclear reactor components | Chemical and food processing | Furnace components and heat treatment | Caustic evaporators | Aerospace and gas turbine components | Electronic and thermocouple sheathing

APPLICABLE STANDARDS

ASTM B167 / ASME SB167 | ASTM B163 / ASME SB163 | ASTM B516 / ASME SB516 | DIN 17751

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Inconel 601 (UNS N06601) Seamless Pipes & Tubes

UNS N06601 | W.Nr 2.4851 | Nickel Alloy

Alloy 601 (Inconel 601, UNS N06601) is a nickel-chromium alloy with aluminum addition that provides outstanding oxidation resistance to 1250C. The aluminium content forms a tightly adhering oxide scale that resists spalling under thermal cycling conditions.

QUICK REFERENCE

Parameter	Value
Grade	Alloy 601
UNS Designation	N06601
Werkstoff Number	2.4851
EN Designation	NiCr23Fe15Al
Size Range	1/4" NPS to 10" NPS (6.35mm to 273.1mm OD)
Wall Thickness	SCH 5S to SCH 80S
Standards	ASTM B167 / ASME SB167, ASTM B163 / ASME SB163, ASTM B516 / ASME SB516, DIN 17751

CHEMICAL COMPOSITION (% by weight)

Ni	Cr	Fe	Al	C	Mn	Si	Cu	S
58.0-63.0	21.0-25.0	Remainder	1.0-1.7	0.10 max	1.00 max	0.50 max	1.00 max	0.015 max

MECHANICAL PROPERTIES (Min. at Room Temperature)

Property	Value
Tensile Strength	550 MPa min
Yield Strength	205 MPa min
Elongation	30% min
Hardness	90 HRB max

PHYSICAL PROPERTIES

Property	Value
Density	8.11 g/cm ³
Melting Range	1301-1368 C
Thermal Conductivity	11.2 W/m-K
Electrical Resistivity	1190 nOhm-m
Specific Heat	448 J/kg-K
Coeff. of Thermal Expansion	13.75 um/m-C

CORROSION RESISTANCE

Property	Rating / Value
Pitting Resistance (PREN)	N/A (Ni alloy)
Max Service Temp (Oxidizing)	1250 C
Intergranular Corrosion	Good
Stress Corrosion Cracking	Excellent
General Corrosion Rate	Superior in oxidizing atmospheres
Seawater Resistance	Good



EQUIVALENT INTERNATIONAL GRADES

ASTM	Trade	DIN
N06601	Inconel 601	2.4851

TYPICAL APPLICATIONS

Thermal processing equipment | Radiant tubes in furnaces | Combustion chambers and afterburners | Petrochemical cracker tubes | Mesh belts for glass annealing | Catalytic converter substrates

APPLICABLE STANDARDS

ASTM B167 / ASME SB167 | ASTM B163 / ASME SB163 | ASTM B516 / ASME SB516 | DIN 17751

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Inconel 718 (UNS N07718) Seamless Pipes & Tubes

UNS N07718 | W.Nr 2.4668 | Nickel-Chromium Precipitation Hardening Alloy

Alloy 718 (Inconel 718, UNS N07718) is a precipitation-hardenable nickel-chromium alloy containing significant amounts of niobium and molybdenum. It possesses exceptionally high yield, tensile, and creep-rupture properties at temperatures up to 704C. Its unique age-hardening response allows it to be welded and annealed without spontaneous hardening during heating and cooling.

QUICK REFERENCE

Parameter	Value
Grade	Alloy 718
UNS Designation	N07718
Werkstoff Number	2.4668
EN Designation	NiCr19NbMo
Size Range	1/4" NPS to 10" NPS (6.35mm to 273.1mm OD)
Wall Thickness	SCH 5S to SCH 80S
Standards	ASTM B637 / ASME SB637, ASTM B670, AMS 5662 / AMS 5663, API 6A718

CHEMICAL COMPOSITION (% by weight)

Ni	Cr	Nb+Ta	Mo	Ti	Al	Fe	Co	C	Mn	Si
50.0-55.0	17.0-21.0	4.75-5.50	2.80-3.30	0.65-1.15	0.20-0.80	Remainder	1.0 max	0.08 max	0.35 max	0.35 max

MECHANICAL PROPERTIES (Min. at Room Temperature)

Property	Value
Tensile Strength	1241 MPa min (age hardened)
Yield Strength	1034 MPa min (age hardened)
Elongation	12% min
Hardness	36 HRC max (solution annealed)

PHYSICAL PROPERTIES

Property	Value
Density	8.19 g/cm3
Melting Range	1260-1336 C
Thermal Conductivity	11.4 W/m-K
Electrical Resistivity	1250 nOhm-m
Specific Heat	435 J/kg-K
Coeff. of Thermal Expansion	13.0 um/m-C

CORROSION RESISTANCE

Property	Rating / Value
Pitting Resistance (PREN)	N/A (precipitation hardened)
Max Service Temp (Oxidizing)	704 C (age-hardened service)
Intergranular Corrosion	Good when properly heat treated
Stress Corrosion Cracking	Good resistance
General Corrosion Rate	Good in mild environments

Property	Rating / Value
Seawater Resistance	Good

EQUIVALENT INTERNATIONAL GRADES

ASTM	Trade	AMS	API
N07718	Inconel 718	5662/5663	6A718

TYPICAL APPLICATIONS

Gas turbine and jet engine components | Oil & gas downhole tools and wellhead equipment | Cryogenic storage tanks | Nuclear reactor components | Aerospace fasteners and structural parts | High-strength subsea equipment

APPLICABLE STANDARDS

ASTM B637 / ASME SB637 | ASTM B670 | AMS 5662 / AMS 5663 | API 6A718 | DIN 17751

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Inconel 625 (UNS N06625) Seamless Pipes & Tubes

UNS N06625 | W.Nr 2.4856 | Nickel-Chromium-Molybdenum Alloy

Alloy 625 (Inconel 625, UNS N06625) is a nickel-chromium-molybdenum alloy with niobium addition, providing exceptional strength and outstanding corrosion resistance across a wide range of temperatures. With PREN >50, it offers virtually complete immunity to pitting in seawater and the most aggressive chemical environments.

QUICK REFERENCE

Parameter	Value
Grade	Alloy 625
UNS Designation	N06625
Werkstoff Number	2.4856
EN Designation	NiCr22Mo9Nb
Size Range	1/4" NPS to 10" NPS (6.35mm to 273.1mm OD)
Wall Thickness	SCH 5S to SCH 80S
Standards	ASTM B444 / ASME SB444, ASTM B163 / ASME SB163, ASTM B704 / ASME SB704, DIN 17751

CHEMICAL COMPOSITION (% by weight)

Ni	Cr	Mo	Nb+Ta	Fe	C	Mn	Si	Al	Ti
58.0 min	20.0-23.0	8.0-10.0	3.15-4.15	5.0 max	0.10 max	0.50 max	0.50 max	0.40 max	0.40 max

MECHANICAL PROPERTIES (Min. at Room Temperature)

Property	Value
Tensile Strength	827 MPa min
Yield Strength	414 MPa min
Elongation	30% min
Hardness	N/A

PHYSICAL PROPERTIES

Property	Value
Density	8.44 g/cm ³
Melting Range	1290-1350 C
Thermal Conductivity	9.8 W/m-K
Electrical Resistivity	1290 nOhm-m
Specific Heat	410 J/kg-K
Coeff. of Thermal Expansion	12.8 um/m-C

CORROSION RESISTANCE

Property	Rating / Value
Pitting Resistance (PREN)	>50 (exceptional)
Max Service Temp (Oxidizing)	980 C
Intergranular Corrosion	Excellent (Nb stabilized)
Stress Corrosion Cracking	Outstanding
General Corrosion Rate	Virtually nil in most environments



Property	Rating / Value
Seawater Resistance	Outstanding - immune to pitting

EQUIVALENT INTERNATIONAL GRADES

ASTM	Trade	DIN
N06625	Inconel 625	2.4856

TYPICAL APPLICATIONS

Subsea umbilicals and flowlines | Aerospace exhaust systems and turbine components | Chemical reactor vessels | Nuclear waste processing | Flue gas desulfurization | Seawater equipment and marine hardware

APPLICABLE STANDARDS

ASTM B444 / ASME SB444 | ASTM B163 / ASME SB163 | ASTM B704 / ASME SB704 | DIN 17751

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Monel 400 (UNS N04400) Seamless Pipes & Tubes

UNS N04400 | W.Nr 2.4360 | Nickel-Copper Alloy

Monel 400 (UNS N04400) is a nickel-copper alloy with excellent resistance to seawater, hydrofluoric acid, and many reducing acids. The combination of nickel and copper creates a material that is virtually immune to chloride stress corrosion cracking, making it the industry standard for marine and seawater applications.

QUICK REFERENCE

Parameter	Value
Grade	Monel 400
UNS Designation	N04400
Werkstoff Number	2.4360
EN Designation	NiCu30Fe
Size Range	1/4" NPS to 10" NPS (6.35mm to 273.1mm OD)
Wall Thickness	SCH 5S to SCH 80S
Standards	ASTM B165 / ASME SB165, ASTM B163 / ASME SB163, ASTM B730 / ASME SB730, DIN 17751

CHEMICAL COMPOSITION (% by weight)

Ni	Cu	Fe	C	Mn	Si	S
63.0 min	28.0-34.0	2.5 max	0.30 max	2.00 max	0.50 max	0.024 max

MECHANICAL PROPERTIES (Min. at Room Temperature)

Property	Value
Tensile Strength	517 MPa min
Yield Strength	172 MPa min
Elongation	35% min
Hardness	N/A

PHYSICAL PROPERTIES

Property	Value
Density	8.80 g/cm ³
Melting Range	1300-1350 C
Thermal Conductivity	21.8 W/m-K
Electrical Resistivity	510 nOhm-m
Specific Heat	427 J/kg-K
Coeff. of Thermal Expansion	13.9 um/m-C

CORROSION RESISTANCE

Property	Rating / Value
Pitting Resistance (PREN)	N/A (Ni-Cu alloy)
Max Service Temp (Oxidizing)	480 C
Intergranular Corrosion	Resistant
Stress Corrosion Cracking	Excellent in most environments
General Corrosion Rate	Excellent in reducing acids and seawater



Property	Rating / Value
Seawater Resistance	Outstanding - industry standard

EQUIVALENT INTERNATIONAL GRADES

ASTM	Trade	DIN
N04400	Monel 400	2.4360

TYPICAL APPLICATIONS

Seawater piping and valves | Marine heat exchangers | Crude oil distillation columns | Hydrofluoric acid processing | Feedwater heaters | Brine handling and deaeration

APPLICABLE STANDARDS

ASTM B165 / ASME SB165 | ASTM B163 / ASME SB163 | ASTM B730 / ASME SB730 | DIN 17751

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Incoloy 800 (UNS N08800) Seamless Pipes & Tubes

UNS N08800 | W.Nr 1.4876 | Nickel-Iron-Chromium Alloy

Alloy 800 (Incoloy 800, UNS N08800) is a nickel-iron-chromium alloy with excellent strength and good resistance to oxidation and carburization in high-temperature environments. It is widely used in petrochemical and power generation industries for process heating applications.

QUICK REFERENCE

Parameter	Value
Grade	Alloy 800
UNS Designation	N08800
Werkstoff Number	1.4876
EN Designation	X10NiCrAlTi32-20
Size Range	1/4" NPS to 10" NPS (6.35mm to 273.1mm OD)
Wall Thickness	SCH 5S to SCH 80S
Standards	ASTM B407 / ASME SB407, ASTM B163 / ASME SB163, ASTM B514 / ASME SB514, DIN 17751

CHEMICAL COMPOSITION (% by weight)

Ni	Cr	Fe	C	Al	Ti	Mn	Si
30.0-35.0	19.0-23.0	39.5 min	0.10 max	0.15-0.60	0.15-0.60	1.50 max	1.00 max

MECHANICAL PROPERTIES (Min. at Room Temperature)

Property	Value
Tensile Strength	520 MPa min
Yield Strength	205 MPa min
Elongation	30% min
Hardness	N/A

PHYSICAL PROPERTIES

Property	Value
Density	7.94 g/cm ³
Melting Range	1357-1385 C
Thermal Conductivity	11.5 W/m-K
Electrical Resistivity	989 nOhm-m
Specific Heat	460 J/kg-K
Coeff. of Thermal Expansion	14.4 um/m-C

CORROSION RESISTANCE

Property	Rating / Value
Pitting Resistance (PREN)	N/A
Max Service Temp (Oxidizing)	815 C
Intergranular Corrosion	Good
Stress Corrosion Cracking	Good in chlorides
General Corrosion Rate	Excellent in oxidizing and reducing atmospheres
Seawater Resistance	Good



EQUIVALENT INTERNATIONAL GRADES

ASTM	Trade	DIN
N08800	Incoloy 800	1.4876

TYPICAL APPLICATIONS

Petrochemical heater and reformer tubing | Heat exchangers in aggressive media | Industrial furnace components | Nitric acid production | Ethylene cracker tubes | Power plant superheater tubes

APPLICABLE STANDARDS

ASTM B407 / ASME SB407 | ASTM B163 / ASME SB163 | ASTM B514 / ASME SB514 | DIN 17751

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Incoloy 800HT (UNS N08811) Seamless Pipes & Tubes

UNS N08811 | W.Nr 1.4876 | Nickel-Iron-Chromium Alloy

Alloy 800HT (Incoloy 800HT, UNS N08811) is an enhanced version of Alloy 800 with controlled carbon (0.06-0.10%) and higher combined Al+Ti content (0.85-1.20%). These controlled additions provide significantly higher creep-rupture strength, making it the premier choice for high-temperature furnace applications.

QUICK REFERENCE

Parameter	Value
Grade	Alloy 800HT
UNS Designation	N08811
Werkstoff Number	1.4876
EN Designation	X10NiCrAlTi32-20
Size Range	1/4" NPS to 10" NPS (6.35mm to 273.1mm OD)
Wall Thickness	SCH 5S to SCH 80S
Standards	ASTM B407 / ASME SB407, ASTM B163 / ASME SB163, ASTM B514 / ASME SB514, DIN 17751

CHEMICAL COMPOSITION (% by weight)

Ni	Cr	Fe	C	Al	Ti	Al+Ti	Mn	Si
30.0-35.0	19.0-23.0	39.5 min	0.06-0.10	0.25-0.60	0.25-0.60	0.85-1.20	1.50 max	1.00 max

MECHANICAL PROPERTIES (Min. at Room Temperature)

Property	Value
Tensile Strength	520 MPa min
Yield Strength	205 MPa min
Elongation	30% min
Hardness	N/A

PHYSICAL PROPERTIES

Property	Value
Density	7.94 g/cm ³
Melting Range	1357-1385 C
Thermal Conductivity	11.5 W/m-K
Electrical Resistivity	989 nOhm-m
Specific Heat	460 J/kg-K
Coeff. of Thermal Expansion	14.4 um/m-C

CORROSION RESISTANCE

Property	Rating / Value
Pitting Resistance (PREN)	N/A
Max Service Temp (Oxidizing)	900 C (continuous)
Intergranular Corrosion	Good
Stress Corrosion Cracking	Good
General Corrosion Rate	Excellent in carburizing environments



Property	Rating / Value
Seawater Resistance	Good

EQUIVALENT INTERNATIONAL GRADES

ASTM	Trade	DIN
N08811	Incoloy 800HT	1.4876 (H/HT)

TYPICAL APPLICATIONS

Ethylene pyrolysis furnace tubes | Reformer tubes in hydrogen plants | Industrial furnace components | Radiant tubes and muffles | Power plant superheaters | Ammonia reformer tubes

APPLICABLE STANDARDS

ASTM B407 / ASME SB407 | ASTM B163 / ASME SB163 | ASTM B514 / ASME SB514 | DIN 17751

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Incoloy 825 (UNS N08825) Seamless Pipes & Tubes

UNS N08825 | W.Nr 2.4858 | Nickel-Iron-Chromium-Molybdenum Alloy

Alloy 825 (Incoloy 825, UNS N08825) is a nickel-iron-chromium alloy with additions of molybdenum, copper, and titanium. It provides excellent resistance to both reducing and oxidizing acids, stress corrosion cracking, and pitting. It is widely used in oil & gas sour service and acid handling.

QUICK REFERENCE

Parameter	Value
Grade	Alloy 825
UNS Designation	N08825
Werkstoff Number	2.4858
EN Designation	NiCr21Mo
Size Range	1/4" NPS to 10" NPS (6.35mm to 273.1mm OD)
Wall Thickness	SCH 5S to SCH 80S
Standards	ASTM B423 / ASME SB423, ASTM B163 / ASME SB163, ASTM B705 / ASME SB705, DIN 17751

CHEMICAL COMPOSITION (% by weight)

Ni	Cr	Fe	Mo	Cu	Ti	C	Mn	Si
38.0-46.0	19.5-23.5	22.0 min	2.5-3.5	1.5-3.0	0.6-1.2	0.05 max	1.00 max	0.50 max

MECHANICAL PROPERTIES (Min. at Room Temperature)

Property	Value
Tensile Strength	586 MPa min
Yield Strength	241 MPa min
Elongation	30% min
Hardness	N/A

PHYSICAL PROPERTIES

Property	Value
Density	8.14 g/cm ³
Melting Range	1370-1400 C
Thermal Conductivity	11.1 W/m-K
Electrical Resistivity	1130 nOhm-m
Specific Heat	440 J/kg-K
Coeff. of Thermal Expansion	14.0 um/m-C

CORROSION RESISTANCE

Property	Rating / Value
Pitting Resistance (PREN)	~31
Max Service Temp (Oxidizing)	540 C
Intergranular Corrosion	Excellent (Ti stabilized)
Stress Corrosion Cracking	Excellent resistance
General Corrosion Rate	<0.05 mm/yr in sulfuric acid
Seawater Resistance	Excellent



EQUIVALENT INTERNATIONAL GRADES

ASTM	Trade	DIN
N08825	Incoloy 825	2.4858

TYPICAL APPLICATIONS

Sour gas (H₂S) handling in oil & gas | Sulfuric acid pickling systems | Phosphoric acid evaporators | Nuclear fuel reprocessing | Marine and seawater systems | Pollution control equipment

APPLICABLE STANDARDS

ASTM B423 / ASME SB423 | ASTM B163 / ASME SB163 | ASTM B705 / ASME SB705 | DIN 17751

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Hastelloy C-276 (UNS N10276) Seamless Pipes & Tubes

UNS N10276 | W.Nr 2.4819 | Nickel-Molybdenum-Chromium Alloy

Alloy C-276 (Hastelloy C-276, UNS N10276) is considered the most versatile corrosion-resistant alloy available. With 16% molybdenum, 16% chromium, and 4% tungsten in a nickel base, it resists the formation of grain-boundary precipitates in the weld heat-affected zone, making it suitable for most chemical process applications in the as-welded condition.

QUICK REFERENCE

Parameter	Value
Grade	Alloy C-276
UNS Designation	N10276
Werkstoff Number	2.4819
EN Designation	NiMo16Cr15W
Size Range	1/4" NPS to 10" NPS (6.35mm to 273.1mm OD)
Wall Thickness	SCH 5S to SCH 80S
Standards	ASTM B622 / ASME SB622, ASTM B619 / ASME SB619, ASTM B626 / ASME SB626, DIN 17751

CHEMICAL COMPOSITION (% by weight)

Ni	Mo	Cr	W	Fe	Co	C	Mn	Si	V
Remainder	15.0-17.0	14.5-16.5	3.0-4.5	4.0-7.0	2.5 max	0.01 max	1.00 max	0.08 max	0.35 max

MECHANICAL PROPERTIES (Min. at Room Temperature)

Property	Value
Tensile Strength	690 MPa min
Yield Strength	283 MPa min
Elongation	40% min
Hardness	N/A

PHYSICAL PROPERTIES

Property	Value
Density	8.89 g/cm ³
Melting Range	1325-1370 C
Thermal Conductivity	10.2 W/m-K
Electrical Resistivity	1300 nOhm-m
Specific Heat	427 J/kg-K
Coeff. of Thermal Expansion	11.2 um/m-C

CORROSION RESISTANCE

Property	Rating / Value
Pitting Resistance (PREN)	>70 (highest available)
Max Service Temp (Oxidizing)	1093 C
Intergranular Corrosion	Outstanding (low C)
Stress Corrosion Cracking	Virtually immune
General Corrosion Rate	Nil in most acids



Property	Rating / Value
Seawater Resistance	Outstanding

EQUIVALENT INTERNATIONAL GRADES

ASTM	Trade	DIN
N10276	Hastelloy C-276	2.4819

TYPICAL APPLICATIONS

Severe chemical processing environments | Flue gas desulfurization (wet FGD) | Pharmaceutical reactor vessels | Waste treatment and incineration | Nuclear fuel reprocessing | Acetic acid and formic acid production

APPLICABLE STANDARDS

ASTM B622 / ASME SB622 | ASTM B619 / ASME SB619 | ASTM B626 / ASME SB626 | DIN 17751

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Super Duplex 2507 (UNS S32750) Seamless Pipes & Tubes

UNS S32750 | W.Nr 1.4410 | Super Duplex Stainless Steel

Super Duplex 2507 (UNS S32750) is the premier super duplex stainless steel with PREN > 42, providing exceptional resistance to pitting, crevice corrosion, and stress corrosion cracking in the most aggressive chloride environments. Its yield strength of 550 MPa is more than double that of 316L.

QUICK REFERENCE

Parameter	Value
Grade	Super Duplex 2507
UNS Designation	S32750
Werkstoff Number	1.4410
EN Designation	X2CrNiMoN25-7-4
Size Range	1/4" NPS to 10" NPS (6.35mm to 273.1mm OD)
Wall Thickness	SCH 5S to SCH 80S
Standards	ASTM A789 / ASME SA789, ASTM A790 / ASME SA790, NORSOK MDS D56, DIN EN 10216-5

CHEMICAL COMPOSITION (% by weight)

C	Mn	Si	Cr	Ni	Mo	N	P	S
0.030 max	1.20 max	0.80 max	24.0-26.0	6.0-8.0	3.0-5.0	0.24-0.32	0.035 max	0.020 max

MECHANICAL PROPERTIES (Min. at Room Temperature)

Property	Value
Tensile Strength	795 MPa min
Yield Strength	550 MPa min
Elongation	15% min
Hardness	32 HRC max

PHYSICAL PROPERTIES

Property	Value
Density	7.79 g/cm ³
Melting Range	1350-1400 C
Thermal Conductivity	14 W/m-K
Electrical Resistivity	880 nOhm-m
Specific Heat	480 J/kg-K
Coeff. of Thermal Expansion	13.0 um/m-C

CORROSION RESISTANCE

Property	Rating / Value
Pitting Resistance (PREN)	>42 (typ. 42-44)
Max Service Temp (Oxidizing)	315 C
Intergranular Corrosion	Highly resistant
Stress Corrosion Cracking	Outstanding resistance
General Corrosion Rate	<0.01 mm/yr
Seawater Resistance	Excellent up to 35C



EQUIVALENT INTERNATIONAL GRADES

ASTM	NORSOK	Trade
S32750	MDS D56	SAF 2507

TYPICAL APPLICATIONS

Subsea production systems | Seawater piping and fire-fighting systems | Offshore topsides process piping | Desalination high-pressure systems | Geothermal wells | Sour gas handling (H2S)

APPLICABLE STANDARDS

ASTM A789 / ASME SA789 | ASTM A790 / ASME SA790 | NORSOK MDS D56 | DIN EN 10216-5

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Super Duplex Stainless Steel S32760 (Zeron 100) Seamless Pipes & Tubes

UNS S32760 | W.Nr 1.4501 | Super Duplex Stainless Steel

Super Duplex S32760 (Zeron 100) is a tungsten-enhanced super duplex stainless steel with exceptional resistance to pitting, crevice corrosion, and stress corrosion cracking. The addition of tungsten and copper provides superior performance in harsh chloride and sour gas environments.

QUICK REFERENCE

Parameter	Value
Grade	Super Duplex Zeron 100
UNS Designation	S32760
Werkstoff Number	1.4501
EN Designation	X2CrNiMoCuWN25-7-4
Size Range	1/4" NPS to 10" NPS (6.35mm to 273.1mm OD)
Wall Thickness	SCH 5S to SCH 80S
Standards	ASTM A789 / ASME SA789, ASTM A790 / ASME SA790, NORSOK MDS D56, DIN EN 10216-5

CHEMICAL COMPOSITION (% by weight)

C	Mn	Si	Cr	Ni	Mo	W	Cu	N	P	S
0.030 max	1.00 max	1.00 max	24.0-26.0	6.0-8.0	3.0-4.0	0.50-1.00	0.50-1.00	0.20-0.30	0.030 max	0.010 max

MECHANICAL PROPERTIES (Min. at Room Temperature)

Property	Value
Tensile Strength	750 MPa min
Yield Strength	550 MPa min
Elongation	25% min
Hardness	32 HRC max

PHYSICAL PROPERTIES

Property	Value
Density	7.84 g/cm ³
Melting Range	1350-1400 C
Thermal Conductivity	14.2 W/m-K
Electrical Resistivity	860 nOhm-m
Specific Heat	480 J/kg-K
Coeff. of Thermal Expansion	13.0 um/m-C

CORROSION RESISTANCE

Property	Rating / Value
Pitting Resistance (PREN)	>40 (W-enhanced)
Max Service Temp (Oxidizing)	315 C
Intergranular Corrosion	Highly resistant
Stress Corrosion Cracking	Outstanding - sour gas rated



Property	Rating / Value
General Corrosion Rate	<0.01 mm/yr
Seawater Resistance	Excellent - warm seawater capable

EQUIVALENT INTERNATIONAL GRADES

ASTM	Trade	NORSOK
S32760	Zeron 100	MDS D56

TYPICAL APPLICATIONS

Subsea manifolds and production equipment | Sour gas handling systems | Seawater injection systems | Desalination high-pressure membranes | Mining and mineral processing | Flue gas desulfurization

APPLICABLE STANDARDS

ASTM A789 / ASME SA789 | ASTM A790 / ASME SA790 | NORSOK MDS D56 | DIN EN 10216-5

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