

F44 / 6Mo - Super Austenitic - UNS S31254

254SMO material data sheet specification

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MATERIAL DESCRIPTION 6Mo super austenitic steel combines moderate tensile strength and high ductility. With a typical PREN of 42 – 45, the resistance to pitting corrosion and crevice corrosion is high.

APPLICABLE SPECIFICATIONS

NACE MR-0175/ISO 15156

ASTM A182/182M, F44 Forged fittings.

ASME SA182/182M ASME SA182/182M F44 Flanges

ASTM A276/276M UNS S3124 Round bar

ASTM A479/479M,

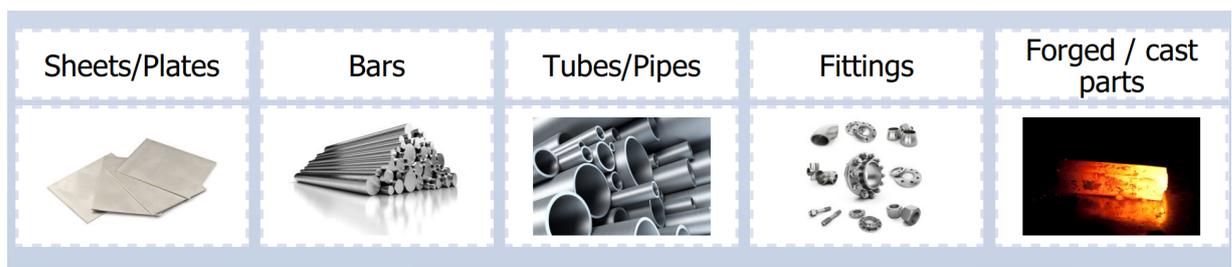
Chemical Composition of UNS S31254

Element	Specification	Unit
C	≤ 0.02	%
Si	0.70	\leq %
Mn	1.00	\leq %
P	0.03	\leq %
S	0.01	\leq %
Cr	19.5 – 20.5	%
Mo	6.00 – 7.00	%
Ni	17.5 – 18.5	%
N	0.18 – 0.25	%
Cu	0.50 – 1.00	%

Mechanical Property of UNS S31254

Property	Specification	Unit
Hardness HB $30 \leq \text{HB}$	250	–
0.2% Yield strength $R_p \geq$	300	N/mm^2
Tensile strength R_m	650 – 850	N/mm^2
Elongation $A_5 \geq$	35	%
Modulus of elasticity	200	kN/mm^2
Density	8	g/cm^3
Specific heat capacity	500	$J/kg \cdot K$
Thermal conductivity	13	$W/m \cdot K$
Electrical resistivity	0.85	$\Omega \cdot mm^2/m$

Production type



Equivalent grade of UNS S31254

Material No.	EN Designation	UNS	Alloy
1.4547	X1CrNiMoCuN20 - 18 - 7	S31254	254 SMO

Production Types of UNS S31254 (254 SMO)

1. Flat Products

- Plates
 - Sheets
 - Coils / Strips
 - Production Standard: ASTM A240 / EN 10088-2
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2. Long Products

- Round Bars
 - Hex Bars
 - Flat Bars
 - Angles
 - Production Standard: ASTM A276 / ASTM A479
 - Supplied in hot-rolled, peeled, or cold-drawn condition
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3. Pipes & Tubes

- Seamless Pipes and Tubes
 - Standard: ASTM A312 / ASTM A269 / A213
 - Hot extruded or cold drawn
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4. Fittings

- **Elbows, Tees, Reducers, Caps**
 - Production Standard: ASTM A403 (Wrought Austenitic Stainless Steel Fittings)
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5. Flanges

- **Weld Neck, Slip-on, Blind, Threaded**
 - Standard: ASTM A182 (Forged), ASME B16.5 / B16.47
 - Forged or machined from plate or billet
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6. Fasteners

- **Bolts, Nuts, Studs, Washers**
- Standards: ASTM A193
- Production includes forging, machining, threading, heat treatment