

This page is mainly introduced the 304L Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 304L, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Datasheet for Steel Grades Specialsteel 304L

304L Standard Number:		
ITEM	Standard Number	Descriptions
1	SAE AMS 5511H (2003)	Steel, Corrosion-Resistant, Sheet, Strip, and Plate 19Cr - 9.5Ni (304L) Solution Heat Treated
2	SAE AMS 5569B (2011)	Steel, Corrosion and Heat Resistant, Seamless and Welded Hydraulic Tubing 19Cr - 9.5Ni - 0.03C max Cold Drawn, 1/8 Hard Temper
3	SAE AMS 5584A (2006)	Steel, Corrosion and Heat Resistant, Seamless and Welded Hydraulic Tubing 17Cr - 12Ni - 1.5Mo - 0.03C max Cold Drawn, 1/8 Hard Temper
4	SAE AMS 5647J (2011)	Steel, Corrosion-Resistant, Bars, Wire, Forgings, Tubing, And Rings 19Cr - 9.5Ni Solution Heat Treated
5	SAE AMS-QQ-S-763B (1998)	Steel, Corrosion Resistant, Bars, Wire, Shapes, and Forgings
6	SAE J 2515 (1999)	High temperature materials for exhaust manifolds
7	SAE J 405 (1998)	Chemical compositions of SAE wrought stainless steels
8	SAE J 467 (1968)	Special Purpose Alloys ("Superalloys")

304L Chemical composition(mass fraction)(wt.%)									
Chemical		Min.(%)				Max.(%)			
C						0.030			
Si						1.00			
Mn						2.00			
P						0.045			
S						0.03			
Cr		18.0				20.0			
Ni		8.00				10.0			
N						0.10			
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other

Steel, Corrosion-Resistant, Sheet, Strip, and Plate 19Cr - 9.5Ni (304L) Solution Heat Treated

304L Physical Properties

Tensile strength	115-234	σ_b /MPa
Yield Strength	23	$\sigma_{0.2} \geq$ /MPa
Elongation	65	$\delta_5 \geq$ (%)
ψ	-	$\psi \geq$ (%)
Akv	-	Akv \geq /J
HBS	123-321	-
HRC	30	-

304L Mechanical Properties

Tensile strength	231-231	σ_b /MPa
Yield Strength	154	$\sigma_{0.2} \geq$ /MPa
Elongation	56	$\delta_5 \geq$ (%)
ψ	-	$\psi \geq$ (%)
Akv	-	Akv \geq /J
HBS	235-268	-
HRC	30	-

304L Heat Treatment Regime

Annealing	Quenching	Tempering	Normalizing	Q & T
√	√	√	√	√

304L Range of products

Product type	Products	Dimension	Processes	Deliver Status
Plates / Sheets	Plates / Sheets	0.08-200mm(T)*W*L	Forging, hot rolling and cold rolling	Annealed, Solution and Aging, Q+T, ACID-WASHED, Shot Blasting
Steel Bar	Round Bar, Flat Bar, Square Bar	Φ8-1200mm*L	Forging, hot rolling and cold rolling, Cast	Black, Rough Turning, Shot Blasting,
Coil / Strip	Steel Coil /Steel Strip	0.03-16.0x1200mm	Cold-Rolled & Hot-Rolled	Annealed, Solution and Aging, Q+T, ACID-

				WASHED, Shot Blasting
Pipes / Tubes	Seamless Pipes/Tubes, Welded Pipes/Tubes	OD:6-219mm x WT:0.5-20.0mm	Hot extrusion, Cold Drawn, Welded	Annealed, Solution and Aging, Q+T, ACID- WASHED

We can produce Specialsteel the specifications follows: