

This page is mainly introduced the 316S51 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 316S51, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Datasheet for Steel Grades Specialsteel 316S51

316S51 Standard Number:		
ITEM	Standard Number	Descriptions
1	BS 1501-3	Steels for pressure purposes. Specification for corrosion- and heat-resisting steels: plates, sheet and strip
2	BS 1502	Specification for steels for fired and unfired pressure vessels: sections and bars
3	BS 1503	Specification for steel forgings for pressure purposes
4	BS 1506	Specification for carbon, low alloy and stainless steel bars and billets for bolting material to be used in pressure retaining applications
5	BS 3059-2	Steel boiler and superheater tubes. Specification for carbon, alloy and austenitic stainless steel tubes with specified elevated temperature properties
6	BS 3605-1	Austenitic stainless steel pipes and tubes for pressure purposes. Specification for seamless tubes

316S51 Chemical composition(mass fraction)(wt.%)									
Chemical		Min.(%)			Max.(%)				
C		0.04			0.10				
Si					1.00				
Mn					2.00				
P					0.04				
S					0.03				
Cr		16.50			18.50				
Mo		2.00			2.50				
Ni		10.50			13.50				
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other

Austenitic stainless steel pipes and tubes for pressure purposes. Specification for seamless tubes

316S51 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	-

316S51 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	-

316S51 Heat Treatment Regime

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

316S51 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,	Φ8-1200mm*L	Forging, hot rolling and	Black, Rough Turning,

	Square Bar		cold rolling, Cast	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: