This page is mainly introduced the 316S31 Datasheet, including chemical information,mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 316S31,such as it is commonly used in bars, sheet,plates, steel coils, steel pipes,forged and other materials application.

Datasheet for Steel Grades Specialsteel 316S31

316S31 Standard Number:		
ITEM	Standard Number	Descriptions
1	BS 1449-2	Steel plate, sheet and strip. Specification for stainless and heat-resisting steel plate, sheet and strip
2	BS 1501-3	Steels for pressure purposes. Specification for corrosion- and heat-resisting steels: plates, sheet and strip
3	BS 1502	Specification for steels for fired and unfired pressure vessels: sections and bars
4	BS 1503	Specification for steel forgings for pressure purposes
5	BS 1506	Specification for carbon, low alloy and stainless steel bars and billets for bolting material to be used in pressure retaining applications
6	BS 3605-1	Austenitic stainless steel pipes and tubes for pressure purposes. Specification for seamless tubes
7	BS 3605-2	Austenitic stainless steel pipes and tubes for pressure purposes. Specification for longitudinally welded tubes
8	BS 3606	Specification for steel tubes for heat exchangers
9	BS 6258	Specification for hollow steel bars for machining
10	BS 970-1	Specification for wrought steels for mechanical and allied engineering purposes. General inspection and testing procedures and specific requirements for carbon, carbon manganese, alloy and stainless steels
11	BS 970-3	Specification for wrought steels for mechanical and allied engineering purposes. Bright bars for general engineering purposes

316S31 Chemical composition(mass fraction)(wt.%)		
Chemical	Min.(%)	Max.(%)
C		0.07
Si		1.00
Mn		2.00
P		0.045
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

Specification for wrought steels for mechanical and allied engineering purposes. Bright bars for general engineering purposes

316S31 Physical Properties

Tensile strength	115-234	σb/MPa
Yield Strength	23	σ 0.2 ≥/MPa
Elongation	65	δ5≥ (%)
ψ	-	ψ≥ (%)
Akv	-	Akv≥/J
HBS	123-321	-
HRC	30	-

316S31 Mechanical Properties

Tensile strength	231-231	σb/MPa
Yield Strength	154	σ 0.2 ≥/MPa
Elongation	56	δ5≥(%)
ψ	-	ψ≥(%)
Akv	-	Akv≥/J

HBS	235-268	-
HRC	30	-

316S31 Heat Treatment Regime

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

316S31 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: