

This page is mainly introduced the 302S31 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 302S31, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Datasheet for Steel Grades Specialsteel 302S31

302S31 Standard Number:

ITEM	Standard Number	Descriptions
1	BS 1554	Specification for stainless and heat-resisting steel round wire
2	BS 6258	Specification for hollow steel bars for machining
3	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

302S31 Chemical composition(mass fraction)(wt.%)

Chemical		Min.(%)		Max.(%)					
C				0.12					
Si				1.00					
Mn				1.00					
P				0.045					
S				0.030					
Cr		17.00		19.00					
Mo									
Ni		8.00		10.00					
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. General

inspection and testing procedures and specific requirements for carbon, carbon manganese,

alloy and stainless steels

302S31 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	-

302S31 Mechanical Properties

Tensile strength	231-231	σ_b /MPa

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

302S31 Heat Treatment Regime

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

302S31 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	$\Phi 8$ -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: