

This page is mainly introduced the ALLOY 301 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of ALLOY 301, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Datasheet for Steel Grades Superalloys ALLOY 301

ALLOY 301 Standard Number:

ITEM	Standard Number	Descriptions
1	UNS N03301	Round bar and wire.

ALLOY 301 Chemical composition (mass fraction) (wt.%)

Chemical			Min.(%)				Max.(%)		
Ni			93.0						
Cu							0.25		
Si							1.00		
Mn							0.50		
Fe							0.60		
S							0.01		
Ti			0.25				1.00		
C							0.30		
Al			4.00				4.75		
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other

An age-hardened alloy that combines the excellent corrosion resistance characteristics of Nickel 200 with the added advantages of greater strength and hardness. The alloy is used for springs requiring high electrical conductivity, parts of equipment requiring good thermal conductivity and magnetostrictive units, which are operated under stress conditions in which the fatigue strength of Nickel 200 is

inadequate.

ALLOY 301 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	-

ALLOY 301 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	-

ALLOY 301 Heat Treatment Regime				
Annealing	Quenching	Tempering	Normalizing	Q & T
√	√	√	√	√

ALLOY 301 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 Superalloys the specifications follows: