

This page is mainly introduced the AISI 501 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of AISI 501, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Datasheet for Steel Grades Specialsteel AISI 501

AISI 501 Standard Number:		
ITEM	Standard Number	Descriptions
1	A 194/A 194M (2014)	Carbon and Alloy Steel Nuts for Bolts for High Pressure or High Temperature Service, or Both
2	A 314 (2013)	Stainless Steel Billets and Bars for Forging

AISI 501 Chemical composition (mass fraction) (wt.%)									
Chemical				Min.(%)			Max.(%)		
C							0.15		
Mn				0.30			0.60		
Si							0.50		
P							0.030		
S							0.50		
Cr				4.00			6.00		
Mo				0.45			0.65		
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other

Material designation:	501
Standard:	AISI
Country:	USA
Steel Group:	Structural and constructional steels
Subgroup:	A 194/A 194M (2014) Carbon and Alloy Steel Nuts for Bolts for High Pressure or High Temperature Service, or Both

Material designation:	501
Comment:	Ferritic steel

AISI 501 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	-

AISI 501 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	-

AISI 501 Heat Treatment Regime

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

AISI 501 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
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We can produce Specialsteel the specifications follows: