

This page is mainly introduced the AISI 201 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of AISI 201, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Datasheet for Steel Grades Stainless Steel AISI 201

AISI 201 Standard Number:

ITEM	Standard Number	Descriptions
------	-----------------	--------------

AISI 201 Chemical composition (mass fraction) (wt.%)

Chemical			Min.(%)				Max.(%)			
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta	
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other	

AISI Type 201

Category	Steel
Class	Stainless steel
Type	Austenitic standard
Common Names	Chromium-Manganese-Nickel steel
Designations	United States: ASME SA412 , ASTM A276 , ASTM A276 , ASTM A412 , ASTM A429 , ASTM A666 , FED QQ-S-766 , SAE 30201 , SAE J405 (30201) , UNS S20100

Composition	
Element	Weight %
C	0.15
Mn	5.5-7.5
Si	1.00
Cr	16.0-18.0
Ni	3.5-5.5
P	0.06
S	0.03
N	0.25

Mechanical Properties			
Properties		Conditions	
		T (°C)	Treatment
Density ($\times 1000$ kg/m ³)	7.8	25	
Poisson's Ratio	0.27-0.30	25	
Elastic Modulus (GPa)	197	25	
Tensile Strength (Mpa)	515	25	annealed (sheet, strip) more
Yield Strength (Mpa)	275		
Elongation (%)	40		

Reduction in Area (%)	45		
------------------------------	----	--	--

Thermal Properties			
Properties		Conditions	
		T (°C)	Treatment
Thermal Expansion ($10^{-6}/^{\circ}\text{C}$)	15.7	0-100 more	
Thermal Conductivity (W/m-K)	16.2	100 more	
Specific Heat (J/kg-K)	500	0-100	

Electric Properties			
Properties		Conditions	
		T (°C)	Treatment
Electric Resistivity (10^{-9}W-m)	690	25	

AISI 201 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 201 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 201 Heat Treatment Regime				
Annealing	Quenching	Tempering	Normalizing	Q & T
√	√	√	√	√

AISI 201 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 Stainless Steel the specifications follows:

