

This page is mainly introduced the Austenitic 31 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of Austenitic 31, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

## Datasheet for Steel Grades Special Alloy Austenitic 31

### Austenitic 31 Standard Number:

ITEM	Standard Number	Descriptions
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### Austenitic 31 Chemical composition (mass fraction) (wt.%)

Chemical			Min.(%)				Max.(%)		
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta
0.35-0.45	1.50-2.50	Max 0.60	Max 0.040	Max 0.030	14.0-16.0	13.0-15.0			
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other
2.00-3.00									

CNS standard heat resistant steel bars (CNS 9608-1998)

### Austenitic 31 Physical Properties

Tensile strength	115-234	$\sigma_b$ /MPa
Yield Strength	23	$\sigma_{0.2} \geq$ /MPa
Elongation	65	$\delta_5 \geq$ (%)
$\psi$	-	$\psi \geq$ (%)
Akv	-	$Akv \geq$ /J
HBS	123-321	-
HRC	30	-

### Austenitic 31 Mechanical Properties

Tensile strength	231-231	$\sigma_b$ /MPa
Yield Strength	154	$\sigma_{0.2} \geq$ /MPa

Elongation	56	$\delta 5 \geq (\%)$
$\psi$	-	$\psi \geq (\%)$
Akv	-	$Akv \geq J$
HBS	235-268	-
HRC	30	-

### Austenitic 31 Heat Treatment Regime

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

### Austenitic 31 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 Special Alloy the specifications follows:**