

This page is mainly introduced the ASTM A 565 GR 616 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of ASTM A 565 GR 616, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

## Datasheet for Steel Grades Special Steel ASTM A 565 GR 616

### ASTM A 565 GR 616 Standard Number:

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

### ASTM A 565 GR 616 Chemical composition (mass fraction) (wt.%)

Chemical			Min.(%)				Max.(%)		
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta
0.20-0.25	0.20-0.60	1.0	0.040	0.030	11.0-13.5	0.50-1.0	0.75-1.25	0.17-0.30	
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other
0.75-1.25		0.50							Fe:Balance;

**ASTM A 565 GR 616** is a hardenable stainless steel designed for use at temperatures of up to 1200°F (649°C). **ASTM A 565 GR 616** has good resistance to scaling and oxidation. Through heat treatment, high mechanical properties can be developed. **ASTM A 565 GR 616** is used in applications such as compressors or steam turbines and also in aircraft parts, valves, high temperature bolting etc.

### ASTM A 565 GR 616 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	-

### ASTM A 565 GR 616 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	-

### ASTM A 565 GR 616 Heat Treatment Regime

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

### ASTM A 565 GR 616 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 Steel the specifications follows:**