

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

## Datasheet for Steel Grades Tool Steel And Hard Alloy P9M4K8

### Steel Grades Standard Number:

ITEM	Standard Number	Descriptions
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### Steel Grades Chemical composition(mass fraction)(wt.%)

Chemical			Min.(%)				Max.(%)		
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta
1.00-1.10	0.20-0.50	0.20-0.50	≤0.030	≤0.030	7.50-8.50	2.30-2.70	3.80-4.30	2.30-2.70	
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other
2.30-2.70		≤0.25	7.50-8.50						

### Steel Grades 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	-

### Steel Grades 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	-

### 9248 Heat Treatment Regime

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

### 9248 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	$\Phi 8$ -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 Tool Steel And Hard Alloy the specifications follows:**