

This page is mainly introduced the **W9Mo3Cr4V Datasheet**, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of **W9Mo3Cr4V**, 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 W9Mo3Cr4V

W9Mo3Cr4V Standard Number:

ITEM	Standard Number	Descriptions
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W9Mo3Cr4V Chemical composition (mass fraction) (wt.%)

Chemical			Min.(%)				Max.(%)			
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta	
0.77~0.87	0.20~0.40	0.20~0.40	≤0.030	≤0.030	3.80~4.40		2.70~3.30	1.30~1.70		
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other	
8.50~9.50										

[The performance characteristics of high-speed tool steel with purpose](#)

- (1) use of steel DianZhaLu smelting, the silicon content not specified limit.
- (2) in order to improve steel cutting machining, the buyer's request, can be provisions for sulfur  $\omega$  (S) 0.60% ~ 0.15%.
- (3) of residual elements in steel (mass fraction) : 0.30% or Ni; Cu 0.25% or less.
- (4) is the high tungsten molybdenum content allowed  $\omega$  (Mo) more than 1.00%. Steel tungsten molybdenum and the relationship is: when molybdenum content more than  $\omega$  (Mo) 0.30%, tungsten content reduced correspondingly, in molybdenum content more than  $\omega$  (Mo) 0.30% of the part, each  $\omega$  (Mo) 1% can replace  $\omega$  (W) 2%, if meet this kind of case, in this GangHao add after "Mo".

(5) [W6Mo5Cr4V2](#) steel according to both the supply and the demand agreement, adjust the content of vanadium  $\omega$  (V) 1.60% ~ 2.20%.

W9Mo3Cr4V 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	-

W9Mo3Cr4V 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	-

W9Mo3Cr4V Heat Treatment Regime				
Annealing	Quenching	Tempering	Normalizing	Q & T
√	√	√	√	√

W9Mo3Cr4V 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

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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 Tool Steel And Hard Alloy the specifications follows:**