

This page is mainly introduced the W1-C Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of W1-C, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

## Datasheet for Steel Grades Tool Die Steels W1-C

### W1-C Standard Number:

ITEM	Standard Number	Descriptions
1	ASTM A686-1999	Carbon tool steel

### W1-C Chemical composition (mass fraction) (wt.%)

Chemical	Min.(%)	Max.(%)
C	0.70	1.50
Si	0.10	0.40
Mn	0.10	0.40
P		0.030
S		0.030
Cr		0.30
V		0.10
Mo		0.10
Cu		0.20
W		0.15

  

C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other

## W1-C

### W1-C 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	-

W1-C 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	-

W1-C Heat Treatment Regime				
Annealing	Quenching	Tempering	Normalizing	Q & T
√	√	√	√	√

W1-C 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 Die Steels the specifications follows:**