

This page is mainly introduced the **AISI A10 Datasheet**, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of **AISI A10**, 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 AISI A10

AISI A10 Standard Number:		
ITEM	Standard Number	Descriptions

AISI A10 Chemical composition (mass fraction) (wt.%)									
Chemical				Min.(%)			Max.(%)		
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other

Category	Steel
Class	Tool steel
Type	Air-hardening medium-alloy cold work steel
Designations	United States: ASTM A681 , FED QQ-T-570

Composition

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Element	Weight %
C	1.25-1.50
Mn	1.60-2.10
Si	1.00-1.50
Ni	1.55-2.05
Mo	1.25-1.75
Cu	0.25
P	0.03
S	0.03

Mechanical Properties

Properties		Conditions	
		T (°C)	Treatment
Density ($\times 1000 \text{ kg/m}^3$)	7.7-8.03	25	
Poisson's Ratio	0.27-0.30	25	
Elastic Modulus (GPa)	190-210	25	

AISI A10 Physical Properties		
Tensile strength	115-234	σ_b /MPa
Yield Strength	23	$\sigma_{0.2} \geq$ /MPa
Elongation	65	$\delta_5 \geq$ (%)
ψ	-	$\psi \geq$ (%)

Akv	-	Akv ≥ J
HBS	123-321	-
HRC	30	-

AISI A10 Mechanical Properties		
Tensile strength	231-231	σ_b /MPa
Yield Strength	154	$\sigma_{0.2} \geq$ /MPa
Elongation	56	$\delta_5 \geq$ (%)
ψ	-	$\psi \geq$ (%)
Akv	-	Akv ≥ J
HBS	235-268	-
HRC	30	-

AISI A10 Heat Treatment Regime				
Annealing	Quenching	Tempering	Normalizing	Q & T
√	√	√	√	√

AISI A10 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 Tool Steel the specifications follows: