

This page is mainly introduced the 5642 Type 2 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 5642 Type 2, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Datasheet for Steel Grades Specialsteel 5642 Type 2

5642 Type 2 Standard Number:		
ITEM	Standard Number	Descriptions
1	SAE AMS 5642K (2006)	Steel, Corrosion and Heat-Resistant, Bars, Wire, and Forgings 18Cr - 10.5Ni - 0.60Cb Free-Machining, Solution Heat Treated

5642 Type 2 Chemical composition(mass fraction)(wt.%)									
Chemical		Min.(%)				Max.(%)			
C						0.22			
Si						0.40			
Mn						0.75			
P									
S									
Ni						0.75			
Cr						12.50			
Al									
Cu									
Ti									
Fe						remaining			
N									
Mo						1.00			
W						1.00			
V						0.22			
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other

Steel, Corrosion and Heat-Resistant, Bars, Wire, and Forgings 18Cr - 10.5Ni - 0.60Cb Free-

Machining, Solution Heat Treated

5642 Type 2 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 \geq /J
HBS	123-321	-
HRC	30	-

5642 Type 2 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 \geq /J
HBS	235-268	-
HRC	30	-

5642 Type 2 Heat Treatment Regime

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

5642 Type 2 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 Specialsteel the specifications follows: