

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

Datasheet for Steel Grades Special Steel Waspaloy

Waspaloy Standard Number:		
ITEM	Standard Number	Descriptions
1	SAE AMS 5704J (2008)	Nickel Alloy, Corrosion and Heat-Resistant, Forgings 57Ni - 19.5Cr - 13.5Co - 4.3Mo - 3.0Ti - 1.4Al - 0.05Zr - 0.006B Consumable Electrode or Vacuum Induction Melted 1825 to 1900°F (996 to 1038°C) Solution, Stabilization, and Precipitation Heat Treated

Waspaloy Chemical composition (mass fraction) (wt.%)									
Chemical		Min.(%)			Max.(%)				
C					0.07				
Si					0.10				
Mn					0.10				
Cr					19.75				
Ni					remaining				
Mo					4.45				
Co					14.00				
W									
Al					1.40				
Cu									
Ti					3.00				
Fe					0.75				
B					0.005				
Zr					0.04				
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other

Nickel Alloy, Corrosion and Heat-Resistant, Forgings 57Ni - 19.5Cr - 13.5Co - 4.3Mo - 3.0Ti - 1.4Al

- 0.05Zr - 0.006B Consumable Electrode or Vacuum Induction Melted 1825 to 1900°F (996 to

1038°C) Solution, Stabilization, and Precipitation Heat Treated

Waspaloy Physical Properties

Waspaloy 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	-

Waspaloy Mechanical Properties

Waspaloy Mechanical Properties		
Tensile strength	231-231	σ_b /MPa

Yield Strength	154	$\sigma_{0.2} \geq / \text{MPa}$
Elongation	56	$\delta_5 \geq (\%)$
ψ	-	$\psi \geq (\%)$
Akv	-	$Akv \geq / \text{J}$
HBS	235-268	-
HRC	30	-

Waspaloy Heat Treatment Regime

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

Waspaloy 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 Specialsteel the specifications follows: