This page is mainly introduced the K465 cast superalloy Datasheet, including chemical information,mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of K465 cast superalloy,such as it is commonly used in bars, sheet,plates, steel coils, steel pipes,forged and other materials application.

Datasheet for Steel Grades Superalloys K465 cast superalloy

K465 cast superalloy Standard Number:		
ITEM	Standard Number	Descriptions
1	Q/6S 1966 K465	Alloy ingot specification
2	Q/KJ.J02.33	Mother alloy ingot casting high temperature alloy

K465 cast superalloy Chemical composition(mass fraction)(wt.%)		
Chemical	Min.(%)	Max.(%)
C	0.13	0.20
Cr	8.00	9.00
Ni		Bal
Co	9.00	10.50
W	9.50	11.00
Mo	1.20	2.40
Al	5.10	6.00
Ti	2.00	2.90
Fe		1.0
Nb	0.80	1.20
Zr		0.04
B		0.035
Ce		0.02
Y		0.01
Si		0.40
P		0.015
S		0.01
Pb		0.0005
Bi		0.0005

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

K465 alloy has been used for gas turbine blade made of various types of aircraft engine, turbine vane and turbine nozzle. A whole model of turbine blade made of K465 alloy. The turbine blade has been through the long-term test.

K465 cast superalloy Physical Properties

Tensile strength	115-234	σb/MPa
Yield Strength	23	σ 0.2 ≥/MPa
Elongation	65	δ5≥ (%)
ψ	-	ψ≥ (%)
Akv	-	Akv≥/J
HBS	123-321	-
HRC	30	-

K465 cast superalloy Mechanical Properties

Tensile strength	231-231	σb/MPa
Yield Strength	154	σ 0.2 ≥/MPa
Elongation	56	δ5≥(%)
ψ	-	ψ≥(%)
Akv	-	Akv≥/J
HBS	235-268	-
HRC	30	-

K465 cast superalloy Heat Treatment Regime

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

K465 cast superalloy 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 Superalloys the specifications follows: