

This page is mainly introduced the Alloy 59 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of Alloy 59, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

## Datasheet for Steel Grades Superalloys Alloy 59

Alloy 59 Standard Number:		
ITEM	Standard Number	Descriptions
1	DIN EN 17744	The chemically stable and high-temperature resistant nickel and cobalt alloy 2.4605 (alloy 59) is mainly used in the chemical industry, flue gas desulphurating plants, paper industry.

Alloy 59 Chemical composition (mass fraction) (wt.%)									
Chemical				Min.(%)			Max.(%)		
C							0.01		
Si							0.10		
Mn							0.50		
P							0.025		
S							0.015		
Cr				22.00			24.00		
Ni							Bal		
Al				0.10			0.40		
Co							0.30		
Cu							0.50		
Fe							1.50		
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other

The chemically stable and high-temperature resistant nickel and cobalt Alloy 59 is mainly used in the chemical industry, flue gas desulphurating plants, paper industry.

Our product range in Alloy 59 are tubes and pipes, fittings and flanges,

accessories.

### Alloy 59 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	-

### Alloy 59 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	-

### Alloy 59 Heat Treatment Regime

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

### Alloy 59 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
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**We can produce Superalloys the specifications follows:**