

This page is mainly introduced the X12Ni5 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of X12Ni5, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Datasheet for Steel Grades Specialsteel X12Ni5

X12Ni5 Standard Number:		
ITEM	Standard Number	Descriptions
1	NF EN 10028-4	Flat products made of steels for pressure purposes - Part 4: Nickel alloy steels with specified low temperature properties
2	NF EN 10216-4	Seamless steel tubes for pressure purposes - Technical delivery conditions - Part 4: Non-alloy and alloy steel tubes with specified low temperature properties
3	NF EN 10222-3	Steel forgings for pressure purposes - Part 3: Nickel steels with specified low temperature properties
4	NF EN 10269	Steels and nickel alloys for fasteners with specified elevated and/or low temperature properties

X12Ni5 Chemical composition (mass fraction) (wt.%)									
Chemical		Min.(%)				Max.(%)			
C						0.15			
Si						0.35			
Mn		0.30				0.80			
P						0.020			
S						0.010			
Cr									
Ni		4.75				5.25			
Mo									
V						0.05			
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other

Steels and nickel alloys for fasteners with specified elevated and/or low temperature properties

X12Ni5 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	-

X12Ni5 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	-

X12Ni5 Heat Treatment Regime

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

X12Ni5 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,	Φ8-1200mm*L	Forging, hot rolling and	Black, Rough Turning,

	Square Bar		cold rolling, Cast	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: