

Database of Steel and Alloy (Marochnik)

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Characteristics for grade KH20N80-N (X20H80-H).

Grade :	KH20N80-N (X20H80-H)
Classification :	Precision alloy with higt electric resistance
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Chemical composition in % for grade KH20N80-N (X20H80-H)

Fe	C	Si	Mn	Ni	S	P	Cr	Ti	Al	Zr
max 1	max 0.06	1 - 1.5	max 0.6	72.905 - 78.8	max 0.015	max 0.02	20 - 23	max 0.2	max 0.2	0.2 - 0.5

Mechanical properties under T=20°C for grade KH20N80-N (X20H80-H)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Band, GOST 12766.2-90			834		20			

Brinell hardness for KH20N80-N (X20H80-H) , GOST 12766.1-90	HB 10⁻¹ = 140 - 150 MPa
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Technological properties for grade KH20N80-N (X20H80-H)

Weldability:	hard weldability.
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Technological properties of the material KH20N80-N (X20H80-H).

Melting temperature :	1400 °C
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Physical properties for grade KH20N80-N (X20H80-H)

T	E 10 ⁻⁵	α 10 ⁶	λ	ρ	C	R 10 ⁹
Grade	MPa	1/Grade	Watt/(m·Grade)	kg/m ³	J/(kg·Grade)	Ohm·m
20	2.17			8400		1110
100		18			440	

Equivalent steels for grade KH20N80-N (X20H80-H)

Warning! Indicated both exact and nearest equivalents.

USA	Germany
-	DIN, WNr
Nichrome	NiCr80-20

Specification :
Mechanical properties :

σ_B	- Tensile strength , [MPa]
σ_T	- Yield stress , [MPa]
δ_5	- Specific elongation at fracture , [%]
ψ	- Reduction of area , [%]
KCU	- Impact strength , [kJ / m ²]
HB	- Brinell hardness , [MPa]

Physical properties :

T	- Test temperature , [Grade]
E	- Young modulus , [MPa]
α	- Coefficient of linear expansion (range 20° - T) , [1/Grade]
λ	- Termal (heat) condition coefficient , [Watt/(m·Grade)]
ρ	- Density , [kg/m ³]
C	- Specific heat (range 20° - T), [J/(kg·Grade)]
R	- Electrical resistance , [Ohm·m]

Weldability :

without limitations	- welding is done without heating and subsequent heat treeting
limited weldability	- welding is possible under heating up to 100-120 grade and subsequent heat treeting
hard weldability	- obtaining the quality welding needs the additional operations:heating up to 200-300 grade; the heat treeting ia annealing

Database of steels and alloys (Marochnik) contains information about chemical composition and properties more then 2500 steels and alloys (stainless steel, alloy steel, carbone steel, structural steel, tool steel, cast iron, aluminum alloy, titanium alloy, copper alloy, nickel alloy, magnesium alloy and others).
Helpfull for specialists in grade technology, structural engineer, mechanical engineer, metallurgy and metal trader

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