

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 80NKHS (80HXC).

Grade :	80NKHS (80HXC)
Classification :	Magnetically soft precision alloy
Equivalent grades:	Is absent

Chemical composition in % for grade 80NKHS (80HXC)

Fe	C	Si	Mn	Ni	S	P	Cr	Ti	Al	Cu
12.33 - 16.7	max 0.03	1.1 - 1.5	0.6 - 1.1	79 - 81.5	max 0.02	max 0.02	2.6 - 3	max 0.15	max 0.15	max 0.2

Mechanical properties under T=20°C for grade 80NKHS (80HXC)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Band cold-worked , GOST 10160-75			930	885	4	15		
Band, GOST 10160-75			540	145	40			

Brinell hardness for 80NKHS (80HXC) , Band GOST 10160-75	HB 10⁻¹ = 240 MPa
Brinell hardness for 80NKHS (80HXC) , Band GOST 10160-75	HB 10⁻¹ = 130 MPa

Physical properties for grade 80NKHS (80HXC)

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				8500		620
100		12.9				

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 / m²]
- 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 - Thermal (heat) condition coefficient , [Watt/(m·Grade)]
 ρ - Density , [kg/m³]
C - Specific heat (range 20° - T), [J/(kg·Grade)]
R - Electrical resistance , [Ohm·m]

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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