

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 50N (50H).

Grade :	50N (50H) (50НП)
Classification :	Magnetically soft precision alloy
Equivalent grades:	Is absent

Chemical composition in % for grade 50N (50H)

Fe	C	Si	Mn	Ni	S	P	Cu
48.33 - 50.55	max 0.03	0.15 - 0.3	0.3 - 0.6	49 - 50.5	max 0.02	max 0.02	max 0.2

Mechanical properties under T=20°C for grade 50N (50H)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Band, GOST 10160-75			440	145	35	60		
Band cold-worked , GOST 10160-75			780	685	3	15		

Brinell hardness for 50N (50H) , Band GOST 10160-75	HB 10 ⁻¹ = 130 MPa
Brinell hardness for 50N (50H) , Band GOST 10160-75	HB 10 ⁻¹ = 170 MPa

Physical properties for grade 50N (50H)

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	1.6			8200		450
100		8.9				

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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