

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 44NKHTYU (44HXTIO).

Grade :	44NKHTYU (44HXTIO)
Classification :	Precision alloy for elastic elements
Equivalent grades:	Is absent

Chemical composition in % for grade 44NKHTYU (44HXTIO)

Fe	C	Si	Mn	Ni	S	P	Cr	Ti	Al
44.11 - 48.3	max 0.05	0.3 - 0.6	0.3 - 0.6	43.5 - 45.5	max 0.02	max 0.02	5 - 5.6	2.2 - 2.7	0.4 - 0.8

Mechanical properties under T=20°C for grade 44NKHTYU (44HXTIO)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Bar, GOST 14119-85			980	635	15	25	690	Hardening and ageing
Wire cold-worked , GOST 14118-85			1080					
Wire, GOST 14118-85			980					
Band cold-worked , GOST 14117-85			800					

Brinell hardness for 44NKHTYU (44HXTIO) ,

HB 10⁻¹ = 300 - 320 MPa

Physical properties for grade 44NKHTYU (44HXTIO)

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	1.79	8				

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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