

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 42NKHTYUA (42HXTIOA).

Grade :	42NKHTYUA (42HXTIOA)
Classification :	Precision alloy for elastic elements
Equivalent grades:	Is absent

Chemical composition in % for grade 42NKHTYUA (42HXTIOA)

Fe	C	Si	Mn	Ni	S	P	Cr	Ti	Al
45.61 - 49.9	max 0.05	0.4 - 0.7	0.3 - 0.6	41.5 - 43.5	max 0.02	max 0.02	5 - 5.6	2.3 - 2.9	0.6 - 1

Mechanical properties under T=20°C for grade 42NKHTYUA (42HXTIOA)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
			1300-1400		5			Guenching 910°C, Ageing 700°C,
Wire, GOST 10994-74			1080-1375					

Physical properties for grade 42NKHTYUA (42HXTIOA)

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	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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