

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 33NK (33HK).

Grade :	33NK (33HK) (33HK-BI)
Classification :	Precision alloy with specified temperature coefficient of linear expansion
Equivalent grades:	Is absent

Chemical composition in % for grade 33NK (33HK)

Fe	C	Si	Mn	Ni	S	P	Co
48.22 - 51	max 0.05	max 0.3	max 0.4	32.5 - 33.5	max 0.015	max 0.015	16.5 - 17.5

Mechanical properties under T=20°C for grade 33NK (33HK)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Band cold-worked , GOST 14080-78			930					

Technological properties of the material 33NK (33HK) .

Melting temperature :	1450 °C
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Physical properties for grade 33NK (33HK)

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	1.42			8200		420

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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