

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 83NF (83HΦ).

Grade :	83NF (83HΦ)
Classification :	Magnetically soft precision alloy
Equivalent grades:	Is absent

Chemical composition in % for grade 83NF (83HΦ)

Fe	C	Si	Mn	Ni	S	P	Cr	V
9.57 - 13.2	max 0.01	0.5 - 1	max 0.5	82.5 - 84.2	max 0.01	max 0.01	max 0.5	3.8 - 4.2

Mechanical properties under T=20°C for grade 83NF (83HΦ)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Band, GOST 10160-75			490	145	45			
Band cold-worked , GOST 10160-75			930		2			

Physical properties for grade 83NF (83HΦ)

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	2.2			8700		700
100		12.6				

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 20⁰ - 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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