

Database of Steel and Alloy (Marochnik)

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Characteristics for grade MNMts40-1.5 (МНМц40-1.5).

Grade :	MNMts40-1.5 (МНМц40-1.5) (Константан)
Classification :	Copper-nickel alloys
Equivalent grades:	Is absent

Chemical composition in % for grade MNMts40-1.5 (МНМц40-1.5)

Ni+Co	Fe	C	Si	Mn	S	P	Cu	As	Pb	Mg	Sb	Bi	Impurity
39 - 41	max 0.5	max 0.1	max 0.1	1 - 2	max 0.02	max 0.005	56.1 - 60	max 0.01	max 0.005	max 0.05	max 0.002	max 0.002	all 0.9

Comment: Cu is a basis; the percentage of Cu is given approximately.

Mechanical properties under T=20°C for grade MNMts40-1.5 (МНМц40-1.5)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ/m ²	-
Wire, GOST 5307 - 77	Ø 0.02 - 5		640					
Wire, GOST 5307 - 77	Ø 0.1 - 5		440-640		15-20			
Band, GOST 5189-75			640					
Band, GOST 5189-75			390-590					

Brinell hardness for MNMts40-1.5 (МНМц40-1.5), soft	HB 10 ⁻¹ = 75 - 90 MPa
Brinell hardness for MNMts40-1.5 (МНМц40-1.5), hard	HB 10 ⁻¹ = 155 MPa

Technological properties of the material MNMts40-1.5 (МНМц40-1.5).

Melting temperature :	1260 °C
Forging temperature :	1000 - 1150 °C
Annealing temperature :	800 - 850 °C

Physical properties for grade MNMts40-1.5 (МНМц40-1.5)

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	1.66		21	8900		480
100		14.4				

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 / m ²]
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/m ³]
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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