

Database of Steel and Alloy (Marochnik)

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Characteristics for grade NP4 (НП4).

Grade :	NP4 (НП4)
Classification :	Semis nickel
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Chemical composition in % for grade NP4 (НП4)

Ni+Co	Fe	C	Si	Mn	S	Cu	Mg	Impurity
min 99	max 0.3	max 0.1	max 0.15	max 0.2	max 0.015	max 0.15	max 0.1	all 1

Mechanical properties under T=20°C for grade NP4 (НП4)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Sheet hotrolled, GOST 6235-91			370		15			
Sheet, GOST 6235-91			370		35			
Sheet, GOST 6235-91			540		2			
Band, GOST 2170-73			390		35			
Band, GOST 2170-73			540		3			
annealed			400-500	220	35-40			

Brinell hardness for NP4 (НП4) , casted	HB 10 ⁻¹ = 60 - 70 MPa
Brinell hardness for NP4 (НП4) , annealed	HB 10 ⁻¹ = 70 - 90 MPa

Technological properties of the material NP4 (НП4) .

Melting temperature :	1455 °C
Forging temperature :	1140 - 1250 °C
Annealing temperature :	700 - 800 °C
Casting temperature :	1550 - 1650 °C
Linear shrinkage :	1 %

Physical properties for grade NP4 (НП4)

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	2.25		59.6	8900		
100		13.7				

Equivalent steels for grade NP4 (НП4)

Warning! Indicated both exact and nearest equivalents.

Germany
DIN,WNr
2.4068 LC-Ni99

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 - Termal (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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