

Database of Steel and Alloy (Marochnik)

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[Home](#) [European steel grades](#) [Steel and Alloy](#) [Search](#) [Equivalent grades](#) [Grading](#) [GOST Standard](#) [Contacts](#)

YOU HERE: [Steel and Alloy](#) -> [High-temperature or heat-resistant steel and alloy](#)

Characteristics for grade 10KH15N35V3TYU (10X15H35B3TIO).

Grade :	10KH15N35V3TYU (10X15H35B3TIO)
Classification :	High-temperature or heat-resistant alloy
Equivalent grades:	Is absent

Chemical composition in % for grade 10KH15N35V3TYU (10X15H35B3TIO)

Fe	C	Si	Mn	Ni	S	P	Cr	W	Ti	Al	B
36.83 - 45.6	max 0.1	max 0.5	1 - 2	34 - 38	max 0.03	max 0.03	14 - 16	3 - 4	0.7 - 1	1.7 - 1.5	max 0.01

Mechanical properties under T=20°C for grade 10KH15N35V3TYU (10X15H35B3TIO)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Bars	70	longitudinal	670	430	28	49	1200	

Brinell hardness for 10KH15N35V3TYU (10X15H35B3TIO) ,	HB 10 ⁻¹ = 217 MPa
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Physical properties for grade 10KH15N35V3TYU (10X15H35B3TIO)

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	2.02			8160		
100	1.99	13.8	13.4			
200	1.94	14.1	16.7			
300	1.9	15.1	19.4			
400	1.83	15.2	22.6			
500	1.77	15.7	25.5			
600	1.69	16.2	28.5			
700	1.61	16.5				
800	1.53					
T	E 10 ⁻⁵	α 10 ⁶	λ	ρ	C	R 10 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 $20^{\circ} - T$) , [1/Grade]

λ - Thermal (heat) condition coefficient , [Watt/(m·Grade)]

ρ - Density , [kg/m³]

C - Specific heat (range $20^{\circ} - T$), [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

[Top](#)

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