

Database of Steel and Alloy (Marochnik)

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Characteristics for grade KH15YU5 (X15Ю5).

Grade :	KH15YU5 (X15Ю5)
Classification :	Precision alloy with higt electric resistance
Equivalent grades:	Is absent

Chemical composition in % for grade KH15YU5 (X15Ю5)

C	Si	Mn	Ni	S	P	Cr	Ce	Ti	Al	Ca	-
max 0.08	max 0.7	max 0.7	max 0.6	max 0.015	max 0.03	13.5 - 15.5	max 0.1	0.2 - 0.6	4.5 - 5.5	max 0.1	Ca, Ce - расчет

Mechanical properties under T=20°C for grade KH15YU5 (X15Ю5)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Wire, GOST 12766.1-90			740		16			
Band, GOST 12766.2-90			736		16			

Brinell hardness for KH15YU5 (X15Ю5) , GOST 12766.1-90	HB 10⁻¹ = 150 - 200 MPa
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Technological properties of the material KH15YU5 (X15Ю5) .

Melting temperature :	1500 °C
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Physical properties for grade KH15YU5 (X15Ю5)

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				7280		1290
100		16			480	

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 than 2500 steels and alloys (stainless steel, alloy steel, carbon steel, structural steel, tool steel, cast iron, aluminum alloy, titanium alloy, copper alloy, nickel alloy, magnesium alloy and others).

Helpful for specialists in grade technology, structural engineer, mechanical engineer, metallurgy and metal trader

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