

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 KHN80TBYU (XH80TBYU).

Grade :	KHN80TBYU (XH80TBYU) (ЭИ607)
Classification :	High-temperature or heat-resistant alloy
Equivalent grades:	Go here

Chemical composition in % for grade KHN80TBYU (XH80TBYU)

Fe	C	Si	Mn	Ni	S	P	Cr	Nb	Ti	Al
max 3	max 0.08	max 0.8	max 1	72.293 - 81.7	max 0.012	max 0.015	15 - 18	1 - 1.5	1.8 - 2.3	0.5 - 1

Mechanical properties under T=20°C for grade KHN80TBYU (XH80TBYU)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Bar		longitudinal	950	650	18	22	700	

Technological properties for grade KHN80TBYU (XH80TBYU)

Weldability:	hard weldability.
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Physical properties for grade KHN80TBYU (XH80TBYU)

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	2.24			8300		
100	2.21		13.4			1170
200	2.15		15.5			1180
300	2.1	13.1	17.9			1190
400	2.04	14	20.1			1200
500	1.97	14.4	24.3			1220
600	1.88	14.9	26.3			1230
700	1.78	15.6	26.3			1240
800	1.68	16.35	28.9			
T	E 10 ⁻⁵	α 10 ⁶	λ	ρ	C	R 10 ⁹

Equivalent steels for grade KHN80TBYU (XH80TBYU)

Warning! Indicated both exact and nearest equivalents.

USA	Japan
-	JIS
UNS07750	NCF750

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]

Weldability :

without limitations	- welding is done without heating and subsequent heat treating
limited weldability	- welding is possible under heating up to 100-120 grade and subsequent heat treating
hard weldability	- obtaining the quality welding needs the additional operations: heating up to 200-300 grade; the heat treating is annealing

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

[Top](#)

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