

Database of Steel and Alloy (Marochnik)

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Characteristics for grade KHN70VMTYUF (XH70BMTЮФ).

Grade :	KHN70VMTYUF (XH70BMTЮФ) (ЭИ826 XH70BMTЮФ-ВД ЭИ826-ВД)
Classification :	High-temperature or heat-resistant alloy
Equivalent grades:	Is absent

Chemical composition in % for grade KHN70VMTYUF (XH70BMTЮФ)

Fe	C	Si	Mn	Ni	S	P	Cr	Ce	Mo	W	V	Ti	Al	B
max 5	max 0.12	max 0.6	max 0.5	60.621 - 75.2	max 0.009	max 0.015	13 - 16	max 0.02	2.5 - 4	5 - 7	0.2 - 1	1.7 - 2.2	2.4 - 2.9	max 0.015

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

Mechanical properties under T=20°C for grade KHN70VMTYUF (XH70BMTЮФ)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Bar, GOST 23705-79		longitudinal	1030	705	10	12	196	

Brinell hardness for KHN70VMTYUF (XH70BMTЮФ) (quenching), GOST 23705	HB 10 ⁻¹ = 299 - 341 MPa
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Technological properties for grade KHN70VMTYUF (XH70BMTЮФ)

Weldability:	hard weldability.
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Physical properties for grade KHN70VMTYUF (XH70BMTЮФ)

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		8.8	8470		
100		10.4	10.5			
200		11.7	12.6			
300		12.4	14.2			
400		12.9	16.3			
500	1.7	13.2	18.4			
600	1.65	13.6	20.5			
700	1.55	14	22.6			
800	1.45	14.5	25.1			
900	1.3	15	28			
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 / 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

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