

Database of Steel and Alloy (Marochnik)

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Characteristics for grade KHN35VT (XH35BT).

Grade :	KHN35VT (XH35BT) (ЭИ612)
Classification :	High-temperature or heat-resistant alloy
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Chemical composition in % for grade KHN35VT (XH35BT)

Fe	C	Si	Mn	Ni	S	P	Cr	W	Ti
38.23 - 47.1	max 0.12	max 0.6	1 - 2	34 - 38	max 0.02	max 0.03	14 - 16	2.8 - 3.5	1.1 - 1.5

Mechanical properties under T=20°C for grade KHN35VT (XH35BT)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Bar		longitudinal	850	500	18	40	600	

Brinell hardness for KHN35VT (XH35BT) ,	HB 10 ⁻¹ = 217 - 255 MPa
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Technological properties for grade KHN35VT (XH35BT)

Weldability:	hard weldability.
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Physical properties for grade KHN35VT (XH35BT)

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	14.8	13.4			1020
200	1.94	15.1	15.4			1050
300	1.9	15.5	17.1			1100
400	1.83	15.9	18.8			1120
500	1.8	16.1	20.5			1150
600	1.77	16.6	22.2			1160
700	1.73	16.9	23.8			1170
800	1.69	17.7	25.9			
T	E 10 ⁻⁵	α 10 ⁶	λ	ρ	C	R 10 ⁹

Equivalent steels for grade KHN35VT (XH35BT)

Warning! Indicated both exact and nearest equivalents.

Czechia

CSN

17335

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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