

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 08KH16N13M2B (08X16H13M25).

Grade :	08KH16N13M2B (08X16H13M25) (1X16H13M25 ЭИ680)
Classification :	High alloy high-temperature steel
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Chemical composition in % for grade 08KH16N13M2B (08X16H13M25)

C	Si	Mn	Ni	S	P	Cr	Mo	Nb
0.06 - 0.12	max 0.8	max 1	12.5 - 14.5	max 0.02	max 0.035	15 - 17	2 - 2.5	0.9 - 1.3

Mechanical properties under T=20°C for grade 08KH16N13M2B (08X16H13M25)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Sheet		dihedral	550	230	25		800	Guenching 1000 - 1080°C, water,
Bar, GOST 5949-75		longitudinal	550	215	40	50	1180	Guenching 1100 - 1130°C, air,

Brinell hardness for 08KH16N13M2B (08X16H13M25) (annealing), Bar GOST 5949-75	HB 10 ⁻¹ = 143 - 179 MPa
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Physical properties for grade 08KH16N13M2B (08X16H13M25)

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	2.06			7960		
100	2		15.2			
200	1.91		17.1			
300	1.83		18.4			
400	1.74	17.1	20.1			
500	1.67	17.4	21.7			
600	1.58	17.8	23			
700		18.2	24.7			
800		18.6				
T	E 10 ⁻⁵	α 10 ⁶	λ	ρ	C	R 10 ⁹

Equivalent steels for grade 08KH16N13M2B (08X16H13M25)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	France	England	European	Italy	Spain	Bulgaria	Hungary	Austria
-	DIN, WNr	AFNOR	BS	EN	UNI	UNE	BDS	MSZ	ONORM
316cd J92971 S31640	1.4580 X1CrNiMoNb17-12-2 X6CrNiMoNb17-12-2	Z6CNDNB17-12 Z6CNDNB17-13	318S17 X6CrNiMoNb17-12-2	1.4580 X6CrNiMoNb17-12-2 X6CrNiMoNb17-2-2	X6CrNiMoNb17-12	F.3536 X6CrNiMoNb17-12-2	X6CrNiMoNb17-12-2	AoX12CrNiMoNb18-10 X6CrNiMoNb17-12-2	X6CrNiMoNb17-12-2KKW X6CrNiMoNb17-12-2S

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 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

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