

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 13KH11N2V2MF (13X11H2B2MΦ).

Grade :	13KH11N2V2MF (13X11H2B2MΦ) (1X12H2BMΦ ЭИ961)
Classification :	High alloy high-temperature steel
Equivalent grades:	Is absent

Chemical composition in % for grade 13KH11N2V2MF (13X11H2B2MΦ)

C	Si	Mn	Ni	S	P	Cr	Mo	W	V
0.1 - 0.16	max 0.6	max 0.6	1.5 - 1.8	max 0.03	max 0.03	10.5 - 12	0.35 - 0.5	1.6 - 2	0.18 - 0.3

Mechanical properties under T=20°C for grade 13KH11N2V2MF (13X11H2B2MΦ)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Bar, GOST 5949-75			880-1080	735-930	13-15	55	880	Guenching and drawing
Blank			950	850	10	50	600	Guenching 1000°C, oil, Drawing 580 - 670°C,

Brinell hardness for 13KH11N2V2MF (13X11H2B2MΦ) , Bar GOST 5949-75

HB 10⁻¹ = 269 MPa

Physical properties for grade 13KH11N2V2MF (13X11H2B2MΦ)

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		20.9	7800		
100	1.98	11	22.3			
200	1.87	11.7	24			
300	1.75	12.2	25			
400	1.65	13.3	27.2			
450	1.57					
500	1.45	13	28			
550	1.25					
600	1.09	13.3	28.5			
700			28.9			
800			31.4			
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]

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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