

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 12KH12MVFBP (12X12MBΦBP).

Grade :	12KH12MVFBP (12X12MBΦBP)(ЭП752)
Classification :	High alloy high-temperature steel
Equivalent grades:	Is absent

Chemical composition in % for grade 12KH12MVFBP (12X12MBΦBP)

C	Si	Mn	Ni	S	P	Cr	Mo	W	V	Nb	B
0.1 - 0.15	max 0.5	0.5 - 1	0.5 - 1	max 0.025	max 0.025	11 - 13	0.7 - 1	0.55 - 0.85	0.15 - 0.3	0.15 - 0.3	max 0.08

Mechanical properties under T=20°C for grade 12KH12MVFBP (12X12MBΦBP)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Pipe		longitudinal	820	640	17			Normalizing 1000 - 1050°C, Cooling air, Drawing 750 - 780°C, 3h, Cooling air,
Blank for pipe		longitudinal	880	740	20	64	1300	Normalizing 1000 - 1050°C, Cooling air, Drawing 750 - 780°C, 3h, Cooling air,

Physical properties for grade 12KH12MVFBP (12X12MBΦBP)

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	2.28		27.6	7850		
100		11.15	21.8			
200	2.15	11.13	24			
300	2.09	11.42	25.1			
400	1.95	11.8	26.3			
500	1.88	12	27.2			
600	1.73	12.15	28			
700	1.55	12.15	28.9			
800		12.65				
900		11.6				
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 / 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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