

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 12KH2MV8FB (12X2MB8ΦБ).

Grade :	12KH2MV8FB (12X2MB8ΦБ) (ЭП503)
Classification :	High alloy high-temperature steel
Equivalent grades:	Is absent

Chemical composition in % for grade 12KH2MV8FB (12X2MB8ΦБ)

C	Si	Mn	Ni	S	P	Cr	Mo	W	V	Nb
0.07 - 0.12	0.4 - 0.7	0.4 - 0.7	max 0.5	max 0.025	max 0.025	2.1 - 2.6	0.5 - 0.7	7 - 8.5	0.2 - 0.35	0.8 - 1.2

Mechanical properties under T=20°C for grade 12KH2MV8FB (12X2MB8ΦБ)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Pipe	Ø 32 x 6	longitudinal	910	750	16	47	900	

Physical properties for grade 12KH2MV8FB (12X2MB8ΦБ)

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			24.3	8010		410
100	2.17	10.25				
200	2.09	11.6				
300	2.04	11.6				
400	1.88	11.6				
500	1.72	13.85				
600	1.57	12.7				
700	1.42	14.95				
800	1.32	10.5				
900	1.24	13.85				
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 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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