

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 10KH7MVFBP (10X7MBΦБP).

Grade :	10KH7MVFBP (10X7MBΦБP)(ЭП505)
Classification :	High alloy high-temperature steel
Equivalent grades:	Is absent

Chemical composition in % for grade 10KH7MVFBP (10X7MBΦБP)

C	Ni	S	P	Cr	Mo	V	Nb	B
0.07 - 0.12	0.5 - 1	max 0.025	max 0.025	6 - 8	0.7 - 1	0.3 - 0.5	0.15 - 0.4	max 0.005

Temperature of critical points for grade 10KH7MVFBP (10X7MBΦБP).

$Ac_1 = 860$, $Ac_3(Ac_m) = 905$, $Ar_3(Arc_m) = 435$, $Ar_1 = 350$

Mechanical properties under T=20°C for grade 10KH7MVFBP (10X7MBΦБP)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Pipe		longitudinal	690	580	20	65	1000	Normalizing 980 - 100°C, Cooling air, Drawing 700 - 730°C, 3h, Cooling air,
Blank for pipe		longitudinal	690	610	18	59	530	Annealing 800 - 830°C, Cooling oven, 30 °C/h,

Physical properties for grade 10KH7MVFBP (10X7MBΦБP)

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	2.46		25.5	7850		510
100	2.396	10.25				
200	2.39	11.6				
300	2.195	12.4				
400	2.006	12.75				
500	1.92	13.25				
600	1.85	13.6				
700	1.685	13.4				
800	1.445					
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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