

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 25KH1M1F (25X1M1Φ).

Grade :	25KH1M1F (25X1M1Φ)
Classification :	Relaxation-resistant steel
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Chemical composition in % for grade 25KH1M1F (25X1M1Φ)

C	Si	Mn	Ni	S	P	Cr	Mo	V	Cu
0.22 - 0.29	0.17 - 0.37	0.4 - 0.7	max 0.3	max 0.025	max 0.03	1.5 - 1.8	0.6 - 0.8	0.15 - 0.3	max 0.2

Temperature of critical points for grade 25KH1M1F (25X1M1Φ).

$Ac_1 = 770 - 805$, $Ac_3(Ac_m) = 840 - 880$

Mechanical properties under T=20°C for grade 25KH1M1F (25X1M1Φ)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Forging	max thickness 300		650	450	16	50	600	Normalizing and high drawing

Physical properties for grade 25KH1M1F (25X1M1Φ)

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	2.16			7820		233
100	2.14	10.9	40.6	7800		283
200	2.1	12	39.8	7770		349
300	2.05	12.7	39	7740		428
400	1.97	13.65	37.7	7700		519
500	1.86	13.72	36	7670		633
600	1.71	13.82	33.9	7640		746
700		14	31	7600		862
T	E 10 ⁻⁵	α 10 ⁶	λ	ρ	C	R 10 ⁹

Equivalent steels for grade 25KH1M1F (25X1M1Φ)

Warning! Indicated both exact and nearest equivalents.

Germany	France	England	European	Austria
DIN, WNr	AFNOR	BS	EN	ONORM
21CrMoV5-7	20CDV5-07 21CrMoV5-7	21CrMoV5-7	1.7709 21CrMoV5-7	21CrMoV57S BOHLERD230

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	- Termal (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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