

Database of Steel and Alloy (Marochnik)

splat.kharkov.com/en

[Home](#) [European steel grades](#) [Steel and Alloy](#) [Search](#) [Equivalent grades](#) [Grading](#) [GOST Standard](#) [Contacts](#)

YOU HERE: [Steel and Alloy](#) -> [Structural steel](#)

Characteristics for grade 38KHMA (38XMA).

Grade :	38KHMA (38XMA)
Classification :	Alloy structural steel
Equivalent grades:	Go here

Chemical composition in % for grade 38KHMA (38XMA)

C	Si	Mn	Ni	S	P	Cr	Mo	Cu
0.35 - 0.42	0.17 - 0.37	0.35 - 0.65	max 0.3	max 0.025	max 0.025	0.9 - 1.3	0.2 - 0.3	max 0.3

Temperature of critical points for grade 38KHMA (38XMA).

$Ac_1 = 758$, $Ac_3(Ac_m) = 805$, $Ar_3(Arc_m) = 725$, $Ar_1 = 650$

Mechanical properties under T=20°C for grade 38KHMA (38XMA)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Bar	Ø 25		980	885	11	45	690	Guenching 850°C, oil, Drawing 600°C, air,

Physical properties for grade 38KHMA (38XMA)

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	2.11		33			257
100	2.01	12.4	35		496	280
200	1.94	13.1	38		508	310
300	1.84	13.7	39		525	380
400	1.74	14.2	36		538	470
500	1.69	14.5	34		567	580
600	1.66	14.6	33		600	720
700	1.41	14.7	31		672	870
800	1.29	11.2	27		697	1060
T	E 10 ⁻⁵	α 10 ⁶	λ	ρ	C	R 10 ⁹

Equivalent steels for grade 38KHMA (38XMA)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	France	England	Spain
-	DIN, WNr	AFNOR	BS	UNE
4140	1.7223	42CD4TS	708M40	42CrMo4
4142	41CrMo4			

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

[Top](#)© 2003 - 2013 All rights reserved. [About program.](#)

The entire risk as to use of the Database of Steel and Alloy (Marochnik) content is assumed by you the user

