

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](#) -> [Tool steel](#)

Characteristics for grade KH12M (X12M).

Grade :	KH12M (X12M)
Classification :	Die tool steel
Equivalent grades:	Go here

Chemical composition in % for grade KH12M (X12M)

C	Si	Mn	S	P	Cr	Mo	V
1.45 - 1.65	0.15 - 0.35	0.15 - 0.4	max 0.03	max 0.03	11 - 12.5	0.4 - 0.6	0.15 - 0.3

Temperature of critical points for grade KH12M (X12M).

$Ac_1 = 830$, $Ac_3(Ac_m) = 855$, $Ar_1 = 750$, $Mn = 230$

Brinell hardness for KH12M (X12M) (annealing) ,	HB 10 ⁻¹ = 255 MPa
---	-------------------------------

Physical properties for grade KH12M (X12M)

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				7700		580
100		10.9				

Equivalent steels for grade KH12M (X12M)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan
-	DIN,WNr	JIS
D2	X165CrMoV12	SKD11

Specification :

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

