

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 5KHGM (5XГМ).

Grade :	5KHGM (5XГМ)
Substitute:	5XHM, 5XHB, 6XBC, 5XHC, 5XHCB, 5XГCBΦЮ
Classification :	Die tool steel
Equivalent grades:	Go here

Chemical composition in % for grade 5KHGM (5XГМ)

C	Si	Mn	Ni	S	P	Cr	Mo	Cu
0.5 - 0.6	0.25 - 0.6	1.2 - 1.6	max 0.35	max 0.03	max 0.03	0.6 - 0.9	0.15 - 0.3	max 0.3

Temperature of critical points for grade 5KHGM (5XГМ).

$Ac_1 = 700$, $Ac_3(Ac_m) = 800$, $Ar_3(Arc_m) = 700$, $Mn = 220$

Mechanical properties under T=20°C for grade 5KHGM (5XГМ)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
			1570	1450	9	26	360	Guenching 850°C, oil, Drawing 450°C, 2h,

Brinell hardness for 5KHGM (5XГМ) (annealing) ,

HB 10⁻¹ = 241 MPa

Technological properties for grade 5KHGM (5XГМ)

Weldability:	is not used.
Flakes :	predisposed
Temper brittleness:	predisposed

Equivalent steels for grade 5KHGM (5XГМ)

Warning! Indicated both exact and nearest equivalents.

Germany
DIN,WNr
40CrMnMo7
55NiCrMoV6
57NiCrMoV7-7
X38CrMoV5-1

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]

Weldability :

without limitations	- welding is done without heating and subsequent heat treating
limited weldability	- welding is possible under heating up to 100-120 grade and subsequent heat treating
hard weldability	- obtaining the quality welding needs the additional operations: heating up to 200-300 grade; the heat treating ia annealing

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

