

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 7KH3 (7X3).

Grade :	7KH3 (7X3)
Substitute:	8X3
Classification :	Die tool steel
Equivalent grades:	Go here

Chemical composition in % for grade 7KH3 (7X3)

C	Si	Mn	Ni	S	P	Cr	Mo	W	V	Ti	Cu
0.65 - 0.75	0.1 - 0.4	0.15 - 0.45	max 0.4	max 0.03	max 0.03	3.2 - 3.8	max 0.2	max 0.2	max 0.15	max 0.03	max 0.3

Temperature of critical points for grade 7KH3 (7X3).

$Ac_1 = 770$, $Ac_3(Ac_m) = 730$, $Mn = 400$

Mechanical properties under T=20°C for grade 7KH3 (7X3)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
			1320	1240	10	36	370	Guenching 870°C, oil, Drawing 500°C, 2h,

Brinell hardness for 7KH3 (7X3) (annealing), GOST 5950-2000

HB 10 ⁻¹ = 229 MPa

Technological properties for grade 7KH3 (7X3)

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

Equivalent steels for grade 7KH3 (7X3)

Warning! Indicated both exact and nearest equivalents.

Germany
DIN,WNr
55NiCrMoV6 57NiCrMoV7-7 X38CrMoV5-1 X40CrMoV5-1

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

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