

Database of Steel and Alloy (Marochnik)

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Characteristics for grade R6M5K5 (P6M5K5).

Grade :	R6M5K5 (P6M5K5)
Classification :	High speed tool steel
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Chemical composition in % for grade R6M5K5 (P6M5K5)

C	Si	Mn	Ni	S	P	Cr	Mo	W	V	Co	Cu
0.86 - 0.94	0.2 - 0.5	0.2 - 0.5	max 0.6	max 0.03	max 0.03	3.8 - 4.3	4.8 - 5.3	5.7 - 6.7	1.7 - 2.1	4.7 - 5.2	max 0.25

Temperature of critical points for grade R6M5K5 (P6M5K5).

 $A_{c1} = 840$, $A_{c3}(A_{cm}) = 875$, $A_{r3}(A_{rcm}) = 805$, $A_{r1} = 765$

Mechanical properties under T=20°C for grade R6M5K5 (P6M5K5)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
			850	510	12	14	180	As-delivered state

Brinell hardness for R6M5K5 (P6M5K5) (annealing) , GOST 19265-73

HB 10⁻¹ = 269 MPa

Physical properties for grade R6M5K5 (P6M5K5)

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	2.2			8200		458
100			27			
200			28			
300			29			
400			30			
500			32			
600			36			
700			34			
800						
900			29			
T	E 10 ⁻⁵	α 10 ⁶	λ	ρ	C	R 10 ⁹

Equivalent steels for grade R6M5K5 (P6M5K5)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	France	England	European	Italy	Spain	China	Sweden	Bulgaria	Hungary	Poland	Czechia	Austria	South Korea
-	DIN, WNr	JIS	AFNOR	BS	EN	UNI	UNE	GB	SS	BDS	MSZ	PN	CSN	ONORM	KS
T11341	1.3243 HS6-5-2-5 S6-5-2-5 S6-5-2-5S	SKH55	06-05-05-04-02 HS6-5-2-5 HS6-5-2-5HC HS6-5-2HC Z85WDKCV	3243 BM35	1.3243 HS6-5-2-5	HS6-5-2-5 EM35 F.5613 HS6-5-2-5	6-5-2-5	W6Mo5Cr4V2Co5	2723 2733	HS6-5-2-5 R6M5K5	R8	SK5M	19852	BOHLERS705 S705	SKH55

Z85WDKCV06																			
Z90WDKCV																			

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 - Termal (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

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