

Database of Steel and Alloy (Marochnik)

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Characteristics for grade R9F5 (P9Φ5).

Grade :	R9F5 (P9Φ5)
Classification :	High speed tool steel
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Chemical composition in % for grade R9F5 (P9Φ5)

C	Si	Mn	Ni	S	P	Cr	Mo	W	V
1.4 - 1.5	max 0.5	max 0.4	max 0.4	max 0.03	max 0.03	3.8 - 4.4	max 1	9 - 10.5	4.3 - 5.1

Temperature of critical points for grade R9F5 (P9Φ5).

$Ac_1 = 820$, $Ac_3(Ac_m) = 850$, $Ar_1 = 730$

Brinell hardness for R9F5 (P9Φ5) (annealing) ,

HB 10 ⁻¹ = 269 MPa

Physical properties for grade R9F5 (P9Φ5)

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				8200		

Equivalent steels for grade R9F5 (P9Φ5)

Warning! Indicated both exact and nearest equivalents.

Germany	France	Poland	Czechia
DIN, WNr	AFNOR	PN	CSN
1.3302 S12-1-4	Z130WV13-4	SW12	19810

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

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