

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 20KHF (20XΦ).

Grade :	20KHF (20XΦ)
Classification :	Alloy structural steel
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Chemical composition in % for grade 20KHF (20XΦ)

C	Si	Mn	Ni	S	P	Cr	V	Cu
0.17 - 0.23	max 0.2	0.5 - 0.8	max 0.3	max 0.035	max 0.035	0.8 - 1.1	0.1 - 0.2	max 0.3

Temperature of critical points for grade 20KHF (20XΦ).

$Ac_1 = 768$, $Ac_3(Ac_m) = 840$

Brinell hardness for 20KHF (20XΦ) (hot-rolled, annealing) ,	HB 10 ⁻¹ = 170 MPa
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Technological properties for grade 20KHF (20XΦ)

Flakes :	weakly predisposed
Temper brittleness:	weakly predisposed

Physical properties for grade 20KHF (20XΦ)

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						
100		12				
200		12.5				
300						
400		13				
500		13.7				
T	E 10 ⁻⁵	α 10 ⁶	λ	ρ	C	R 10 ⁹

Equivalent steels for grade 20KHF (20XΦ)

Warning! Indicated both exact and nearest equivalents.

USA	Germany
-	DIN, WNr

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]

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 is annealing

Database of steels and alloys (Marochnik) contains information about chemical composition and properties more than 2500 steels and alloys (stainless steel, alloy steel, carbon 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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