

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 20KHN2M (20XH2M).

Grade :	20KHN2M (20XH2M) (20XHM)
Substitute:	20ХГР, 15ХР, 20ХРР, 20ХГРР
Classification :	Alloy structural steel
Equivalent grades:	Go here

Chemical composition in % for grade 20KHN2M (20XH2M)

C	Si	Mn	Ni	S	P	Cr	Mo	Cu
0.15 - 0.22	0.17 - 0.37	0.4 - 0.7	1.6 - 2	max 0.035	max 0.035	0.4 - 0.6	0.2 - 0.3	max 0.3

Temperature of critical points for grade 20KHN2M (20XH2M).

$A_{c1} = 720$, $A_{c3}(A_{cm}) = 825$

Mechanical properties under T=20°C for grade 20KHN2M (20XH2M)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Bar, GOST 4543-71	Ø 15		880	685	11	50	780	Guenching and drawing

Brinell hardness for 20KHN2M (20XH2M) , Rolled stock GOST 4543-71

HB 10 ⁻¹ = -1 MPa

Technological properties for grade 20KHN2M (20XH2M)

Weldability:	limited weldability.
Flakes :	predisposed
Temper brittleness:	not predisposed

Equivalent steels for grade 20KHN2M (20XH2M)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan
-	DIN, WNr	JIS
4320 4320H G43200 H43200	17CrNiMo6	SNCM415 SNCM420 SNCM420H

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 in 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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