

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 34KHN1M (34XH1M).

Grade :	34KHN1M (34XH1M)
Substitute:	38X2HM, 34XH3M, 38X2H2MA, 40X2H2MA
Classification :	Alloy structural steel
Equivalent grades:	Go here

Chemical composition in % for grade 34KHN1M (34XH1M)

C	Si	Mn	Ni	S	P	Cr	Mo
0.3 - 0.4	0.17 - 0.37	0.5 - 0.8	1.3 - 1.7	max 0.035	max 0.03	1.3 - 1.7	0.2 - 0.3

Temperature of critical points for grade 34KHN1M (34XH1M).

$Ac_1 = 730$, $Ac_3(Ac_m) = 780$, $Mn = 320$

Mechanical properties under $T=20^{\circ}C$ for grade 34KHN1M (34XH1M)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ/m^2	-
Forging	300 - 500		570	315	12	30	290	Guenching and drawing

Brinell hardness for 34KHN1M (34XH1M) (normalize) ,

HB 10⁻¹ = 187 - 229 MPa

Technological properties for grade 34KHN1M (34XH1M)

Weldability:	limited weldability.
Flakes :	predisposed
Temper brittleness:	weakly predisposed

Equivalent steels for grade 34KHN1M (34XH1M)

Warning! Indicated both exact and nearest equivalents.

Sweden
SS
2541

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 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).
Helpful for specialists in grade technology, structural engineer, mechanical engineer, metallurgy and metal trader

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