

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 03KH17N14M3 (03X17H14M3).

Grade :	03KH17N14M3 (03X17H14M3) (000X17H13M2)
Classification :	Cryogenic structural steel
Equivalent grades:	Go here

Chemical composition in % for grade 03KH17N14M3 (03X17H14M3)

C	Si	Mn	Ni	S	P	Cr	Mo
max 0.03	max 0.4	1 - 2	13 - 15	max 0.02	max 0.035	16 - 18	2.5 - 3.1

Mechanical properties under T=20°C for grade 03KH17N14M3 (03X17H14M3)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Bar, GOST 5949-75	Ø 60		490	196	40			Guenching 1070 - 1100°C, Cooling water,
Forging, GOST 25054-81			470	176	35-40	45-55		
Sheet thick, GOST 7350-77			490	196	40			Guenching 1080 - 1100°C, Cooling water,
Sheet thin, GOST 5582-75			490	196	40			Guenching 1030 - 1070°C, air,

Brinell hardness for 03KH17N14M3 (03X17H14M3) , Forging GOST 25054-81

HB 10 ⁻¹ = 179 MPa

Technological properties for grade 03KH17N14M3 (03X17H14M3)

Weldability:	without limitations.
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Physical properties for grade 03KH17N14M3 (03X17H14M3)

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				8000		

Equivalent steels for grade 03KH17N14M3 (03X17H14M3)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	France	England	European	Italy	Spain	China	Sweden	Bulgaria	Hungary	Romania	Czechia	Finland
-	DIN, WNr	JIS	AFNOR	BS	EN	UNI	UNE	GB	SS	BDS	MSZ	STAS	CSN	SFS
316	1.4404	SCS16	X2CrNiMo18-14-3	316L	1.4432	316LM1	F.3533	00Cr17Ni14Mo2	2343	X2CrNiMo18-14-3	KO38LC	2MoNiCr175	17350	X2CrNiMo1713-3
316L	1.4435	SUS316L	X2CrNiMo18-15-4	316S11	1.4435	X2CrNiMo17-13	X2CrNiMo17132	00Cr17Ni14Mo3	2353		X2CrNiMo18-14-3			
S31600	1.4436		X2CrNiMo18-12-2	316S13		X2CrNiMo17-13								
S31603	X2CrNiMo17-12-2		Z2CND17-12	316S14		X2CrNiMo17-13KG								
S31673	X2CrNiMo17-12-3		Z3CND17-11-02	316S31		X2CrNiMo18-14-3								
S31683	X2CrNiMo17-12-3		Z3CND17-12-03	316S33										
	X2CrNiMo18-12		Z3CND17-12-03	LW22										
	X2CrNiMo18-14-3		Z3CND18-14-03	LWCF22										
	X3CrNiMo17-13-3		Z3CND18-14-08	X2CrNiMo17-12-3										
			Z3CND19-15-04	X2CrNiMo18-14-3										
			Z6CND18-12-03											

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]

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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