

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 08KH17T (08X17T).

Grade :	08KH17T (08X17T) (0X17T 3Х1645)
Substitute:	12X17, 08X18T1
Classification :	Corrosion-resistant high-temperature steel
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Chemical composition in % for grade 08KH17T (08X17T)

C	Si	Mn	Ni	S	P	Cr	Ti	Cu
max 0.08	max 0.8	max 0.8	max 0.6	max 0.025	max 0.035	16 - 18	max 0.8	max 0.3

Mechanical properties under T=20°C for grade 08KH17T (08X17T)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Pipe cooling strain, GOST 9941-81			372		17			
Pipe hot strain, GOST 9940-81			372		17			
Sheet thick, GOST 7350-77			440		18			Annealing
Sheet thin, GOST 5582-75			460		20			Annealing 740 - 780°C,

Technological properties for grade 08KH17T (08X17T)

Weldability:	limited weldability.
Temper brittleness:	predisposed

Physical properties for grade 08KH17T (08X17T)

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	2.06		25	7700		600
100		10			462	
200		10				
300		10.5				
400		10.5				
500		11				
T	E 10 ⁻⁵	α 10 ⁶	λ	ρ	C	R 10 ⁹

Equivalent steels for grade 08KH17T (08X17T)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	France	European	Italy	Spain	Poland	Czechia
-	DIN, WNr	JIS	AFNOR	EN	UNI	UNE	PN	CSN

430Ti	1.4510	SUS430LX	Z4CT17	1.4510	X3CrTi17	F.3115	0H17T	17041
439	X3CrTi17		Z8CT17	X3CrTi17	X6CrTi17	X5CrTi17		
S43036	X6CrTi17			X5CrTi17				
S43900	X8CrNb17							
TP430Ti	X8CrTi17							

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 / m²]
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 treeting
limited weldability - welding is possible under heating up to 100-120 grade and subsequent heat treeting
hard weldability - obtaining the quality welding needs the additional operations:heating up to 200-300 grade; the heat treeting ia annealing

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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