

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 08KH15N24V4TR (08X15H24B4TP).

Grade :	08KH15N24V4TR (08X15H24B4TP) (X15H24B4T ЭП164)
Classification :	High alloy high-temperature steel
Equivalent grades:	Is absent

Chemical composition in % for grade 08KH15N24V4TR (08X15H24B4TP)

Fe	C	Si	Mn	Ni	S	P	Cr	Ce	W	Ti	B
50.435 - 58.1	max 0.08	max 0.6	0.5 - 1	22 - 25	max 0.02	max 0.035	14 - 16	max 0.025	4 - 5	1.4 - 1.8	max 0.005

Mechanical properties under T=20°C for grade 08KH15N24V4TR (08X15H24B4TP)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Bar		longitudinal	750	450	18	35	800	Guenching 1130 - 1150°C, 2h, Cooling air, Ageing 730 - 750°C, 16h, Cooling air,
Bar		longitudinal	750	500	20	30	1200	Drawing 700°C, 16h, Cooling air,

Technological properties for grade 08KH15N24V4TR (08X15H24B4TP)

Weldability:	hard weldability.
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Physical properties for grade 08KH15N24V4TR (08X15H24B4TP)

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	2.23		12.2	8230		
100	2.15	14.5				
200	2.09	15.5				
300	2	16.3				
400	1.91	16.8				
500	1.82	17.2				
600		17.4				
650	1.69	17.5				
700	1.65	17.8				
750	1.61	17.9				
800	1.56					
T	E 10 ⁻⁵	α 10 ⁶	λ	ρ	C	R 10 ⁹

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/m ³]
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 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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