

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 30L (30Л).

Grade :	30L (30Л)
Substitute:	25Л, 35Л
Classification :	Non-alloy casting steel
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Chemical composition in % for grade 30L (30Л)

C	Si	Mn	S	P
0.27 - 0.35	0.2 - 0.52	0.45 - 0.9	max 0.06	max 0.06

Temperature of critical points for grade 30L (30Л).

$A_{c1} = 735$, $A_{c3}(A_{cm}) = 813$, $A_{r3}(A_{rcm}) = 796$, $A_{r1} = 677$

Mechanical properties under T=20°C for grade 30L (30Л)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Casting, GOST 977-88	to 100		471	255	17	30	343	Normalizing 880 - 900°C, Drawing 610 - 630°C,
Casting, GOST 977-88			491	294	17	30	343	

Brinell hardness for 30L (30Л) ,

HB 10 ⁻¹ = 131 - 217 MPa

Technological properties for grade 30L (30Л)

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

Technological properties of the material 30L (30Л) .

Linear shrinkage :	2.2 - 2.3 %
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Heat treatment of the material 30L (30Л)

Normalizing 880 - 900 ° C, Tempering 610 - 630 ° C

Physical properties for grade 30L (30Л)

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				7810		
100		12.6	76		470	
200		13.9	65		483	
300						
400		15	44		525	
500		15.6	38			
600					571	
T	E 10 ⁻⁵	α 10 ⁶	λ	ρ	C	R 10 ⁹

Equivalent steels for grade 30L (30Л)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	France	England	Italy	Sweden	Poland	Czechia	Austria
-	DIN, WNr	JIS	AFNOR	BS	UNI	SS	PN	CSN	ONORM
Gr.N2 Gr.LCB Gr.WCB J03002 J03003	1.0551 GS52	SC450 SC480	E26-52-M	161Gr400A	FeG49-1	1505	LII500	422650	GS52

Specification :
Mechanical properties :

- σ_B** - Tensile strength , [MPa]
σ_T - Yield stress , [MPa]
δ₅ - 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 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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