

Database of Steel and Alloy (Marochnik)

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Characteristics for grade L90 (Л90).

Grade :	L90 (Л90)
Classification :	Copper-zinc alloys pressure treated
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Chemical composition in % for grade L90 (Л90)

Fe	P	Cu	Pb	Zn	Sb	Bi	Impurity
max 0.1	max 0.01	88 - 91	max 0.03	8.8 - 12	max 0.005	max 0.002	all 0.2

Comment: Zn is a basis; the percentage of Zn is given approximately.

Mechanical properties under T=20°C for grade L90 (Л90)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Band, GOST 8036-79			250		38			
Strip, GOST 931-90			230-340		36			
Strip, GOST 931-90			350		3			

Brinell hardness for L90 (Л90) , Sheet GOST 2208-2007	HB 10 ⁻¹ = 60 MPa
Brinell hardness for L90 (Л90) , Sheet GOST 2208-2007	HB 10 ⁻¹ = 110 MPa

Friction coefficient of the material L90 (Л90) .

Friction coefficient with oil :	0.074
Friction coefficient without oil :	0.44

Technological properties of the material L90 (Л90) .

Melting temperature :	1045 °C
Forging temperature :	700 - 850 °C
Annealing temperature :	450 - 600 °C

Physical properties for grade L90 (Л90)

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	1.05		180	8780		45
100		17.1			398	

Equivalent steels for grade L90 (Л90)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	France	England	European	Italy	Poland	Czechia	Austria
-	DIN, WNr	JIS	AFNOR	BS	EN	UNI	PN	CSN	ONORM
C22000	2.0230 CuZn10	C2200	CuZn10 U-Z10	CZ101	CuZn10	P-CuZn10 P-OT90	CuZn10	423201	CuZn10

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]

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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