

Database of Steel and Alloy (Marochnik)

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Characteristics for grade LS59-1 (ЛС59-1).

Grade :	LS59-1 (ЛС59-1)
Classification :	Copper-zinc alloys pressure treated
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Chemical composition in % for grade LS59-1 (ЛС59-1)

Fe	P	Cu	Pb	Zn	Sb	Bi	Sn	Impurity	-
max 0.5	max 0.02	57 - 60	0.8 - 1.9	37.05 - 42.2	max 0.01	max 0.003	max 0.3	all 0.75	Si + Sn < 0.5 %

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

Mechanical properties under T=20°C for grade LS59-1 (ЛС59-1)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Pipe, GOST 494-90			390					
Bar, GOST 2060-2006			360		22			
Bar, GOST 31366-2008			490		7			
Bar, GOST 31366-2008			330		25			
Wire, GOST 1066-90			340		25-30			
Wire, GOST 1066-90			440-640		1-8			
Strip, GOST 931-90			460-610		5			
Strip, GOST 931-90			340-470		25			
Strip hotrolled, GOST 931-90			360-490		18			

Brinell hardness for LS59-1 (ЛС59-1) , Sheet GOST 2208-2007	HB 10 ⁻¹ = 100 MPa
Brinell hardness for LS59-1 (ЛС59-1) , Sheet GOST 2208-2007	HB 10 ⁻¹ = 200 MPa
Brinell hardness for LS59-1 (ЛС59-1) , Bar GOST 2060-2006	HB 10 ⁻¹ = 80 MPa
Brinell hardness for LS59-1 (ЛС59-1) , Bar GOST 2060-2006	HB 10 ⁻¹ = 130 MPa

Friction coefficient of the material LS59-1 (ЛС59-1) .

Friction coefficient with oil :	0.0135
Friction coefficient without oil :	0.17

Technological properties of the material LS59-1 (ЛС59-1) .

Melting temperature :	900 °C
Forging temperature :	780 - 820 °C
Annealing temperature :	600 - 650 °C

Physical properties for grade LS59-1 (ЛС59-1)

T	E 10⁻⁵	α 10⁶	λ	ρ	C	R 10⁹
Grade	MPa	1/Grade	Watt/(m·Grade)	kg/m³	J/(kg·Grade)	Ohm·m
20	1.05		104.7	8400		66
100		20.6			376.8	

Equivalent steels for grade LS59-1 (ЛС59-1)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	England	European	Poland	Czechia	Austria	Inter
-	DIN,WNr	JIS	BS	EN	PN	CSN	ONORM	ISO
C37000 C38000	2.0402 CuZn38Pb1.5 CuZn40Pb2	C3710	CZ129	CuZn38Pb1 CW607N	CuZn38Pb1.5	423222	CuZn38Pb1	CuZn39Pb1

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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