

Database of Steel and Alloy (Marochnik)

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[Home](#) [European steel grades](#) [Steel and Alloy](#) [Search](#) [Equivalent grades](#) [Grading](#) [GOST Standard](#) [Contacts](#)

YOU HERE: [Steel and Alloy](#) -> [Latten \(copper-zinc alloy\)](#)

Characteristics for grade L59 (Л59).

Grade :	L59 (Л59)
Classification :	Copper-zinc alloys pressure treated
Equivalent grades:	Is absent

Chemical composition in % for grade L59 (Л59)

Fe	P	Cu	As	Pb	Zn	Sb	Bi	Sn	Impurity
39.48 - 43	max 0.01	57 - 60	max 0.01	max 0.5	39.1 - 43	max 0.01	max 0.003	max 0.2	all 0.9

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

Mechanical properties under T=20°C for grade L59 (Л59)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
soft			390		44	62		
hard			500		10	40		

Brinell hardness for L59 (Л59) , hard	HB 10 ⁻¹ = 163 MPa
Brinell hardness for L59 (Л59) , casted	HB 10 ⁻¹ = 77 MPa

Friction coefficient of the material L59 (Л59) .

Friction coefficient with oil :	0.012
Friction coefficient without oil :	0.45

Technological properties of the material L59 (Л59) .

Forging temperature :	730 - 820 °C
Casting temperature :	1030 - 1080 °C
Linear shrinkage :	1.97 %

Physical properties for grade L59 (Л59)

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		21	126	8400		

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]

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

[Top](#)

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