

Database of Steel and Alloy (Marochnik)

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Characteristics for grade TSam10-5 (Цам10-5).

Grade :	TSam10-5 (Цам10-5)
Classification :	Zinc antifriction alloys
Equivalent grades:	Is absent

Chemical composition in % for grade TSam10-5 (Цам10-5)

Fe	Si	Al	Cu	Pb	Mg	Zn	Sn	Cd	Impurity
max 0.15	max 0.1	9 - 12	4 - 5.5	max 0.03	0.03 - 0.06	81.8 - 86.62	max 0.01	max 0.02	all 0.35

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

Mechanical properties under T=20°C for grade TSam10-5 (Цам10-5)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
, GOST 21437-95			343		4			

Brinell hardness for TSam10-5 (Цам10-5) , GOST 21437-95	HB 10 ⁻¹ = 90 MPa
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Limiting operating condition of the material TSam10-5 (Цам10-5)

Load	Speed	Load * Speed	Temperature
MPa	m/s	MPa * m/s	Grade
19.6	8		80

Technological properties of the material TSam10-5 (Цам10-5).

Melting temperature :	378 - 395 °C
Linear shrinkage :	1 %

Physical properties for grade TSam10-5 (Цам10-5)

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	0.9		100.8	6300		
100		27				

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

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