

<b>Edition from</b>	<b>06.11.2020</b>	<b>Alloy data sheet</b>	<b>No. 185</b>
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<b>Alloy</b>	<b>ISO</b>	<b>EN</b>	<b>ASTM</b>
<b>C42</b>	<b>CuTeP</b>	<b>CW118C</b>	<b>C14500</b>

Others:

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**Main characteristics** Free machining tellurium copper deoxidised with phosphorous and with high electrical conductivity. High capacity of galvanic plating.

**Chemical Composition**

Cu	Te	P
Remainder	0,4 – 0,7 %	0,005 – 0,012 %

Impurities  
Max. Others  
0,10 %

**Product portfolio** Hot extruded and cold drawn products

Section type	Round, square, hexagonal, flat
Rod	Available
Wire	Available
Profile	On demand

**Examples of use** Male contacts of connectors and other electronic applications.

<b>Mechanical properties</b>	Form	Temper	Dimension Ø, SW	UTS N/mm <sup>2</sup>	YS N/mm <sup>2</sup>	A %	Hardness HV
	Rod Wire (max. 6,35 mm)	½ hard hard	2,0 – 16,0	> 290 > 360	> 240 > 330	> 15 > 8	100 115

*Other tempers on demand*

**Physical properties**

Density	kg/dm <sup>3</sup>	8,9
Melting range	°C	1050 – 1080
Linear expansion coefficient (20-200°C)		0,000017
Specific heat	J/kg K	380
Thermal conductivity at 20°C (68° F)	W/m · K	360
Electrical conductivity at 20° C (68° F)	% IACS	> 90
Elasticity modulus – shear modulus	kN/mm <sup>2</sup>	120 – 41

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<b>Workability</b>	Cold working, maximum section reduction	%	good, 70
	Hot working, temperature range	°C	good, 750 – 850
	Machining, compared with CuZn39Pb3 (100 %)	%	very good, 85
	Annealing temperature	°C	450 - 600
	Stress relieving	°C	225 - 275
	Soft soldering		very good
	Hard soldering		good
	Autogenous welding		not recommended
	Arc welding		poor
	Resistance welding		not recommended

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<b>Symbols</b>	Ø	= round rod diameter (mm)
	SW	= width across flats (hexagonal or square rods) (mm)
	UTS	= ultimate tensile strength
	YS	= yield stress at 0,2 %
	A	= tensile elongation

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