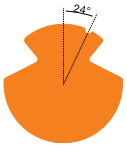
Contact wire made of CuSn0.2 according to EN 50149



Values for CuSn0.2 alloy (normal conductivity)

technical data		nominal cross section				
		80	100	107	120	150
min. tensile strength R_m [2]	N/mm²	460	450	430	420	420
min. breaking load [1] F_m	kN	35.7	43.7	44.6	48.9	61.1
Percentage Elongation after fracture A_{200}	%	2 – 8	2 – 8	2 – 8	2 – 8	2 – 8
Modulus of elasticity *E*	kN/mm²	120	120	120	120	120
Half-hard point	°C	≥ 330	≥ 330	≥ 330	≥ 330	≥ 330
Electrical conductivity χ at 20 °C	m/(Ohm*mm²)	≥ 41.8	≥ 41.8	≥ 41.8	≥ 41.8	≥ 41.8
Electrical conductivity χ at 20 °C	% IACS	≥ 72	≥ 72	≥ 72	≥ 72	≥ 72
Specific electrical resistance ρ_{el} at 20 °C	10^{-8}Ohm*m	≤ 2.395	≤ 2.395	≤ 2.395	≤ 2.395	≤ 2.395
Electrical resistance R	Ohm/km	≤ 0.309	≤ 0.247	≤ 0.231	≤ 0.206	≤ 0.165
Temperature coefficient α_{el} of electrical resistance	10^{-3}/K	3.2	3.2	3.2	3.2	3.2
Linear coefficient of thermal expansion α	10^{-5}/K	1.7	1.7	1.7	1.7	1.7
Specific mass ρ	10^3 kg/m³	8.92	8.92	8.92	8.92	8.92

[1] calculation based on the minimum cross section
[2] different tensile strengths on request

Values for CuSn0.2 alloy (high conductivity)

technical data		nominal cross section				
		80	100	107	120	150
min. tensile strength R_m [2]	N/mm²	460	450	430	420	420
min. breaking load [1] F_m	kN	35.7	43.7	44.6	48.9	61.1
Percentage Elongation after fracture A_{200}	%	2 – 8	2 – 8	2 – 8	2 – 8	2 – 8
Modulus of elasticity *E*	kN/mm²	120	120	120	120	120
Half-hard point	°C	≥ 330	≥ 330	≥ 330	≥ 330	≥ 330
Electrical conductivity χ at 20 °C	m/(Ohm*mm²)	≥ 46.4	≥ 46.4	≥ 46.4	≥ 46.4	≥ 46.4
Electrical conductivity χ at 20 °C	% IACS	≥ 80	≥ 80	≥ 80	≥ 80	≥ 80
Specific electrical resistance ρ_{el} at 20 °C	10^{-8}Ohm*m	≤ 2.155	≤ 2.155	≤ 2.155	≤ 2.155	≤ 2.155
Electrical resistance R	Ohm/km	≤ 0.278	≤ 0.222	≤ 0.208	≤ 0.185	≤ 0.148
Temperature coefficient α_{el} of electrical resistance	10^{-3}/K	3.2	3.2	3.2	3.2	3.2
Linear coefficient of thermal expansion α	10^{-5}/K	1.7	1.7	1.7	1.7	1.7
Specific mass ρ	10^3 kg/m³	8.92	8.92	8.92	8.92	8.92

[1] calculation based on the minimum cross section
[2] different tensile strengths on request