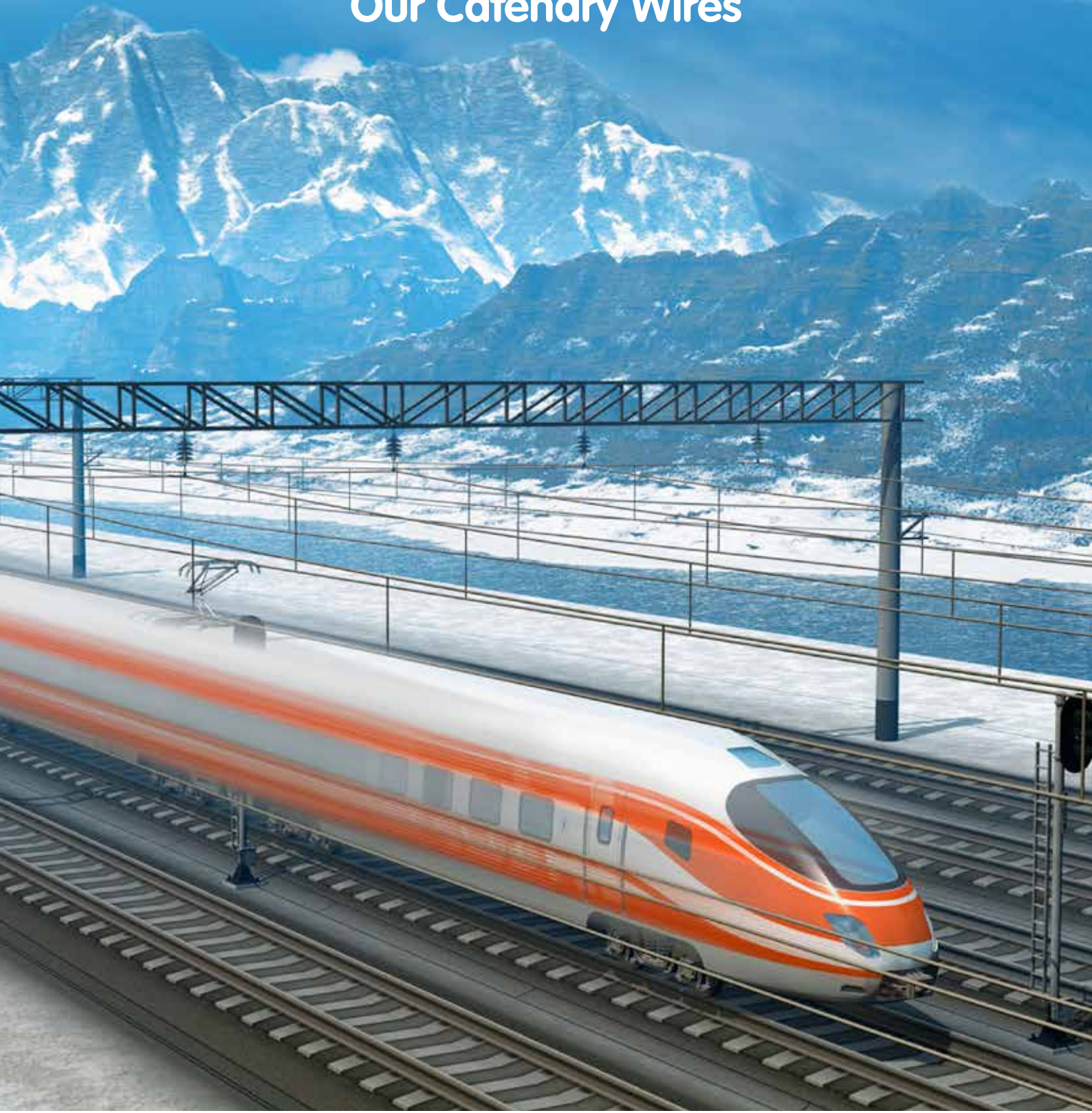


We Bring Right Solutions
by
Our Catenary Wires



sarkuysan

ELEKTROLİTİK BAKIR SANAYİ VE TİCARET A.Ş.

www.sarkuysan.com

Conductors for Overhead Catenary System

Cable conductors made of pure copper Cu-ETP according to DIN 48201 part 1							
Nominal Cross Section (mm ²)	Calculated Cross Section (mm ²)	Number of Wires	Diameter		Weight (kg/km)	Calculated Breaking Load (kN)	Continuous current carrying capacity A*
			Mono Wire (mm)	OD (mm)			
10	10.02	7	1.35	4.10	90	4.02	90
16	15.89	7	1.70	5.10	143	6.37	125
25	24.25	7	2.10	6.30	218	9.72	160
35	34.36	7	2.50	7.50	310	13.77	200
50	49.48	7	3.00	9.00	446	19.84	250
50	48.35	19	1.80	9.00	437	19.38	250
70	65.31	19	2.10	10.50	596	26.38	310
95	93.27	19	2.50	12.50	845	37.39	380
120	116.99	19	2.80	14.00	1060	46.90	440
150	147.11	37	2.25	15.80	1337	58.98	510
185	181.62	37	2.50	17.50	1649	72.81	585

* Standard values applicable up to 60 Hz at a wind velocity of 0.6 m/s and solar effects for an original ambient temperature of 35 °C and a final conductor temperature of 70 °C. The values must be reduced by an average of app. %30 in cases of special locations at still air.

Cable conductors made of Bz II (CuMg) according to DIN 48201 part 2							
Nominal Cross Section (mm ²)	Calculated Cross Section (mm ²)	Number of Wires	Diameter		Weight (kg/km)	Calculated Breaking Load (kN)	Continuous current carrying capacity A*
			Mono Wire (mm)	OD (mm)			
10	10.02	7	1.35	4.10	90	5.88	75
16	15.89	7	1.70	5.10	143	9.33	100
25	24.25	7	2.10	6.30	218	14.24	130
35	34.36	7	2.50	7.50	310	20.17	160
50	49.48	7	3.00	9.00	446	28.58	200
50	48.35	19	1.80	9.00	437	28.39	200
70	65.81	19	2.10	10.50	596	38.64	245
95	93.27	19	2.50	12.50	845	54.76	305
120	116.99	19	2.80	14.00	1060	67.57	350
150	147.11	37	2.25	15.80	1337	86.37	410
185	181.62	37	2.50	17.50	1649	106.63	465

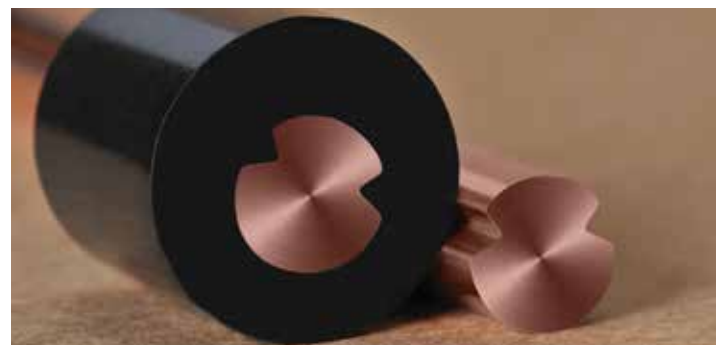
* Valid for up to 60 Hz at a wind velocity of 0.6 m/s and direct sunlight, with an ambient temperature of 35 °C to give a final conductor temperature of 70 °C. For particularly shielded cases in still air the values should be reduced by about %30 on average.



Cu-ETP DIN 43138 Cable Conductors									
Nominal Cross Section (mm ²)	Calculated Cross Section (mm ²)	Number of Wires	Diameter		Weight (kg/km)	Tensile Strength (N/mm ²)	0,6 m/s		1,0 m/s
			Mono Wire (mm)	OD (mm)			Continuous current carrying capacity A*		
16	16.3	49	0.65	5.9	152	<300	135	155	
25	26.1	133	0.50	7.5	246	<300	180	205	
35	37.6	133	0.70	9.0	353	<300	225	255	
50	51.2	133	0.70	10.5	482	<300	280	310	
70	72.7	189	0.70	13.0	685	<300	340	370	
95	99.7	259	0.70	14.7	935	<300	420	460	
120	118.5	336	0.67	16.4	1120	<300	485	535	
150	150.9	392	0.70	18.3	1420	<300	570	625	
185	185.1	525	0.67	20.4	1745	<300	660	720	
210	209.8	595	0.67	21.5	1980	<300	720	780	
240	245.2	367	0.70	23.1	2320	<300	785	850	
300	296.6	637	0.77	25.4	2800	<300	895	970	

* Guidance values valid up to 60 Hz at the specified wind velocity and solar radiation for an initial ambient temperature of 40 °C and a final stranded-conductor temperature of 80 °C.

CuMg (Bz II) DIN 43138 Cable Conductors						
Nominal Cross Section (mm ²)	Calculated Cross Section (mm ²)	Number of Wires	Diameter		Weight (kg/km)	Tensile Strength (N/mm ²)
			Mono Wire (mm)	OD (mm)		
10	9.6	49	0.50	4.50	89	≥589
16	16.3	49	0.65	5.90	152	≥589
16	16.3	84	0.50	6.20	152	≥589
25	26.1	133	0.50	7.50	246	≥589
35	37.6	133	0.60	9.00	353	≥589

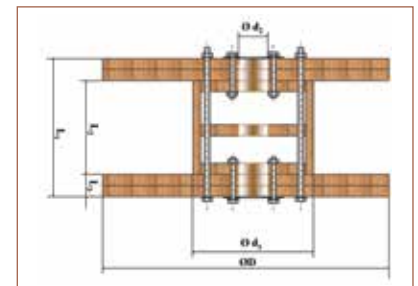


Trolley Wires for Overhead Catenary System

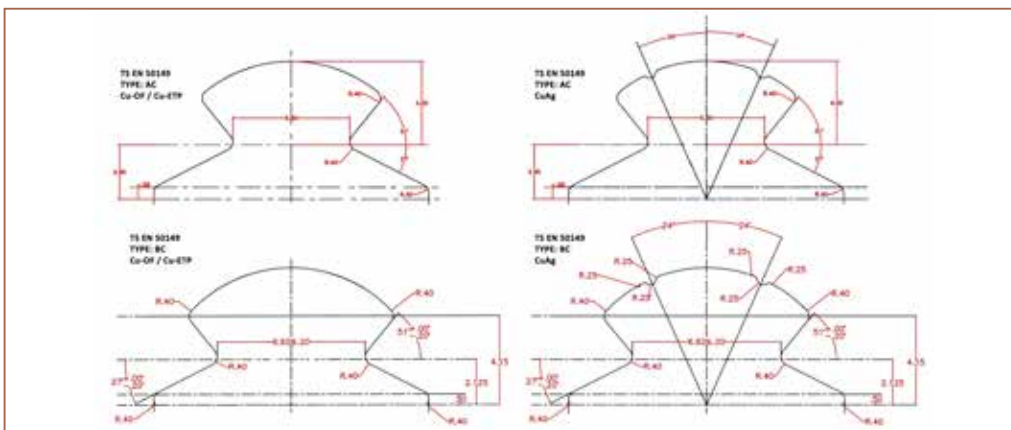
Standard	Nominal Cross Section (mm ²)	Material	Type	Diameter (mm)	Nom. Weight (kg/m)	Nom. Breaking Load (kN)	Tensile Strength (N/mm ²)	Elongation (%)
EN 50149	80	Cu	AC	10.60	0.712	27.5	355	3 - 10
EN 50149	100	Cu	AC	12.00	0.890	34.5	355	3 - 10
EN 50149	100	Cu	BC	12.00	0.890	34.5	355	3 - 10
EN 50149	107	Cu	AC	12.30	0.952	36.3	350	3 - 10
EN 50149	107	Cu	BC	12.24	0.952	36.3	350	3 - 10
EN 50149	120	Cu	AC	13.20	1.068	38.4	330	3 - 10
EN 50149	120	Cu	BC	12.85	1.068	38.4	330	3 - 10
EN 50149	150	Cu	AC	14.80	1.335	45.1	310	3 - 10
EN 50149	150	Cu	BC	14.50	1.335	45.1	310	3 - 10
<hr/>								
EN 50149	107	Cu-Ag 0.1	AC	12.30	0.952	37.4	360	3 - 8
EN 50149	107	Cu-Ag 0.1	BC	12.24	0.952	37.4	360	3 - 8
EN 50149	120	Cu-Ag 0.1	AC	13.20	1.068	41.9	360	3 - 8
EN 50149	120	Cu-Ag 0.1	BC	12.85	1.068	41.9	360	3 - 8
EN 50149	150	Cu-Ag 0.1	AC	14.80	1.335	52.4	360	3 - 8
EN 50149	150	Cu-Ag 0.1	BC	14.50	1.335	52.4	360	3 - 8
<hr/>								
EN 50149	107	Cu-Sn 0.2	AC	12.30	0.952	44.6	440	2 - 8
EN 50149	107	Cu-Sn 0.2	BC	12.24	0.952	44.6	440	2 - 8
EN 50149	120	Cu-Sn 0.2	AC	13.20	1.068	48.9	430	2 - 8
EN 50149	120	Cu-Sn 0.2	BC	12.85	1.068	48.9	430	2 - 8
EN 50149	150	Cu-Sn 0.2	AC	14.80	1.335	61.1	420	2 - 8
EN 50149	150	Cu-Sn 0.2	BC	14.50	1.335	61.1	420	2 - 8

WOODEN SPOOL SPECIFICATIONS

Spool Type	Spool Dimensions (mm)						Net Weight (Kg)	Tare (Kg)
	D	d1	d2	L1	L2	L3		
630	630	280	127	430	380	25	300-450	~28
800	800	460	127	530	470	30	700-800	~30
1250	1250	700	80	580	460	60	1500-2500	~200
1300	1300	810	127	515	355	80	1200-1350	160-189

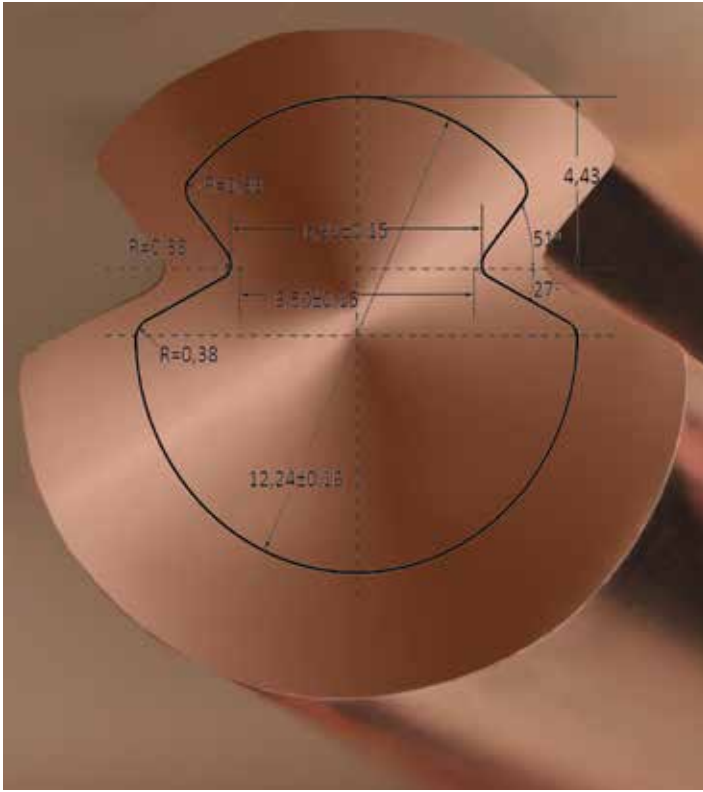


* Please contact with Export Marketing Department for other product sizes or type of packing.



OVERHEAD CATENARY WIRES

- Sarkuysan, the first successful wholly publicly owned corporation of the country with its over 5000 shareholders, has been serving in the electrolytic copper industry with its products, including cable wire, trolley wire, bus bar and tube since 1972.
- Production processes are subject to strict quality control procedures and during the production of each product, including the trolley wires, all the required tests of related standards are meticulously applied. Sarkuysan has ISO 9001, IATF 16949 Quality Management, ISO 14001 Environmental Management and OHSAS 18001 Occupational Health and Safety Management System certification and ISO 50001 Energy Management.



FEATURES:

- Electrolytic copper (99.99% Cu) is used for the production of contact wires and conductors at Sarkuysan. Contact wires (trolley wires) of various dimensions are produced from electrolytic copper and silver bearing copper rods by drawing, rolling and roll-drawing methods.
- Pure copper and silver bearing copper alloy contact wires can be produced according to international standards such as ASTM B47, DIN 43141, UIC 870-0, TS EN 50149 and any other specified standards or customer specifications.
- Silver bearing copper contact wires offer high conductivity and high softening temperatures, which bring great advantages for high speed and high frequency rail systems.
- CuMg alloy, CuAg alloy and pure copper conductors which have high breaking stress, flexibility, strength and mechanical properties are ideal for use all types of catenary constructions.

FIELDS OF APPLICATION:

- Overhead electric railway systems
- Mass transit and high speed systems
- Both AC and DC applications
- Light rail, tram and trolley bus systems
- Overhead traveling cranes

