RAILWAY

CUNEXT
CHALLENGING
THE FUTURE

Cunext
GROUP

CUNEXT ON RAILWAY

Cunext Group began its operations in 1917, focusing on the transformation of copper cathodes and aluminium ingots into wire rod, drawn wires, single and multi-stranded wires, nuggets, and taped conductors and cables, as well as overhead line conductors, busbars, components, and subassemblies for electrical connections.

Cunext Group's production plants are strategically located, including its copper processing facility in Córdoba (Andalusia), and its aluminium processing facilities in Vitoria (Basque Country) and Bergamo (Italy).

COMMITMENT TO SUSTAINABLE DEVELOPMENT

Environmental

Cunext promotes best environmental practices, advancing the circular economy and targeting carbon neutrality by 2030. Nowadays, continued developing photovoltaic plants to support green energy and self-consumption at its facilities.

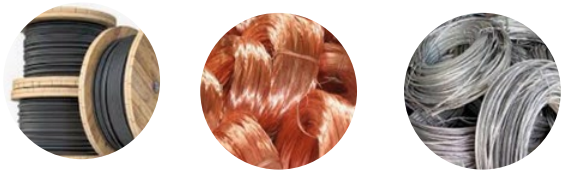
Good Governance

The Group applies national and international corporate governance standards, ensuring ethical, transparent, and responsible operations. It remains focused on sustainable and green financing, reinforcing its ESG-driven transformation of the metallurgical sector.

Social

Cunext is committed to being a socially responsible company, fostering professional development, job creation, and community engagement. Initiatives include flexitime policies to support work-life balance and strengthen local ties.

Customer



Copper / Aluminium Scrap

Cunext GROUP

NISTICS

0 Emissions Trucks

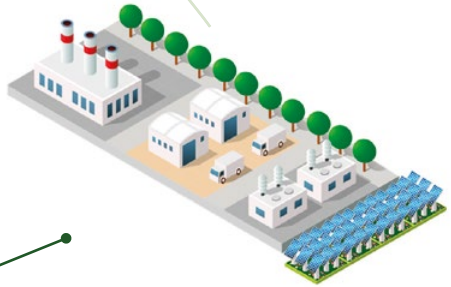
Contained in Rod delivered

Customer

Reciclability and Circularity

TOLLING SERVICE - RECYCLED UNITS

0 Emissions Trucks



Solar energy self-consumption

Customer Scrap Raw Materials

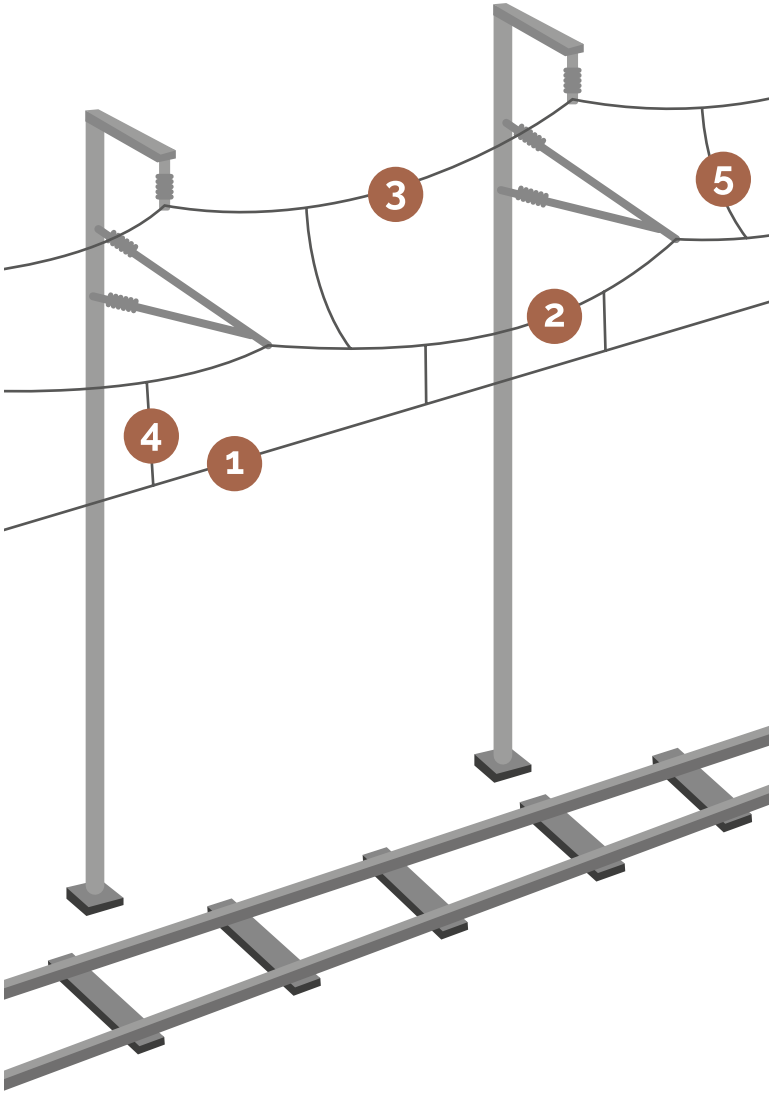
Eco-packaging

Cunext GROUP

RAILWAY SOLUTIONS

Cunext Group, in the way to continuous development, has created an entire cable product range for overhead line electrification, adapting at any speed from local transport to high speed line.

Our modern technology, together with a wide experience at cable and alloy manufacturing, makes us the best partner for railway companies offering best product quality and service.



1 Contact Wire

RIGID CABLES

2 Messenger Wire

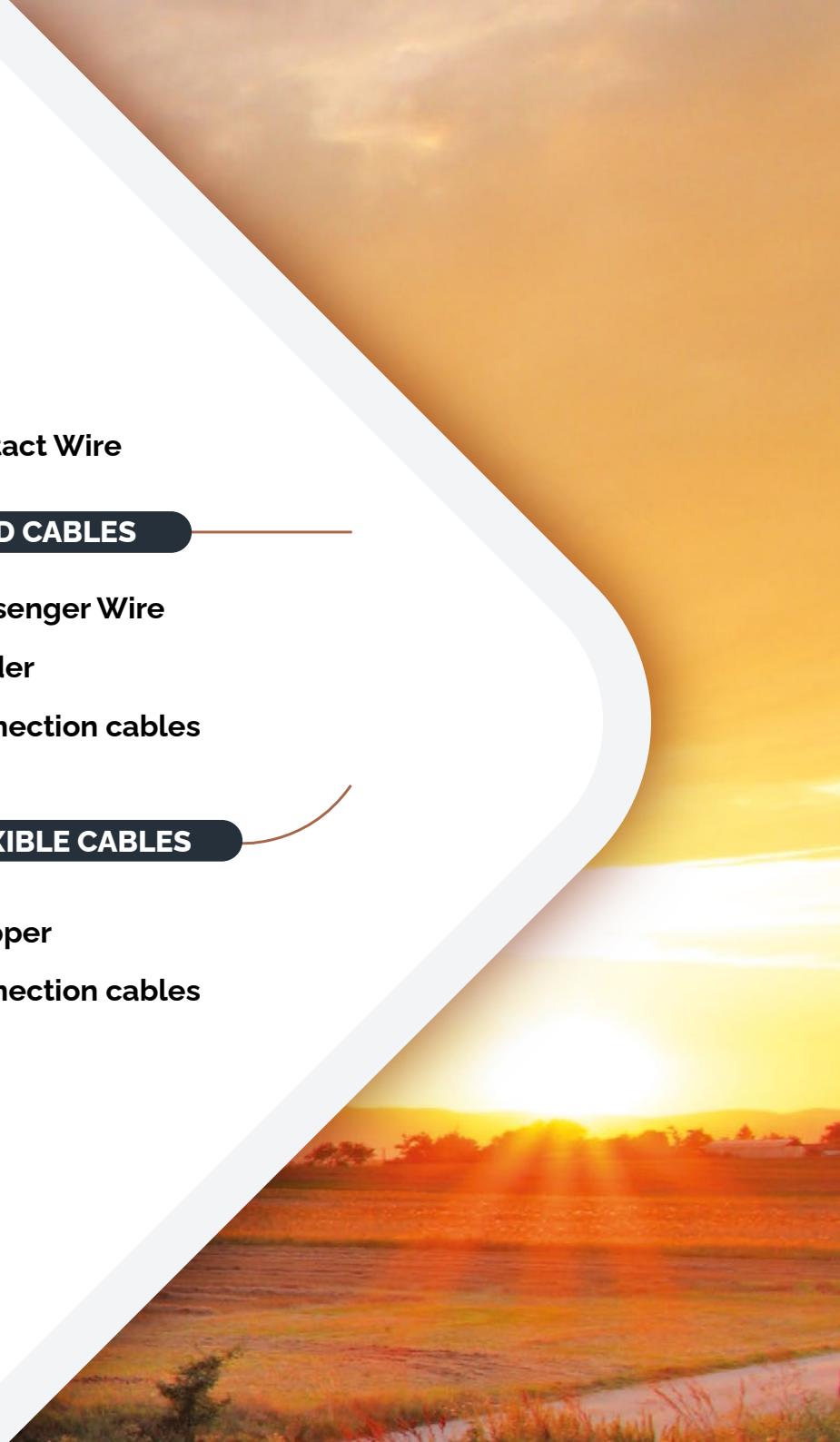
3 Feeder

5 Connection cables

FLEXIBLE CABLES

4 Dropper

5 Connection cables



CONTACT WIRE

Contact wire has the function of transmitting energy from the catenary to the train's pantograph.

We produce different dimensions, grooves, and alloys.

TECHNICAL SPECIFICATIONS

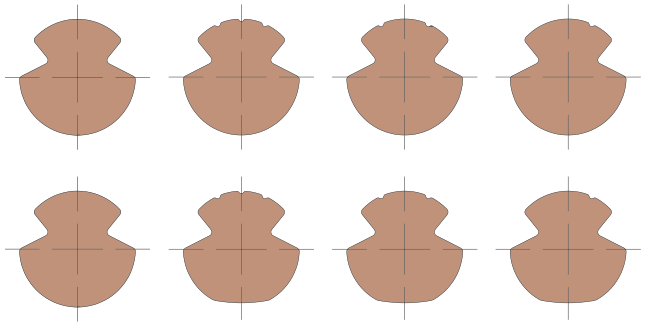
Standard

ASTM B-9 | ASTM B47 | EN 50149 | JIS E2101 | UIC 870
and according to customer specifications

Range

- Cu-ETP (CW004A)
- CuAg 0.1 (CW013A)
- CuSn 0.2 (CW129C)
- CuMg 0.2 / 0.5 (CW127C) / (CW128C)

Identification grooves



Cu-ETP
no grooves

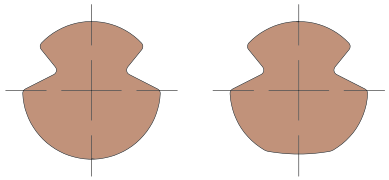
CuMg
3 grooves

CuAg
2 grooves

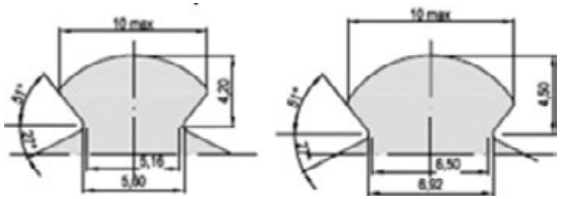
CuSn
1 grooves

Sections

- Circular: 80, 100, 107, 120, 150 mm^2
- Oval: 100, 107, 120, 150 mm^2



Attachment grooves



Type A groove

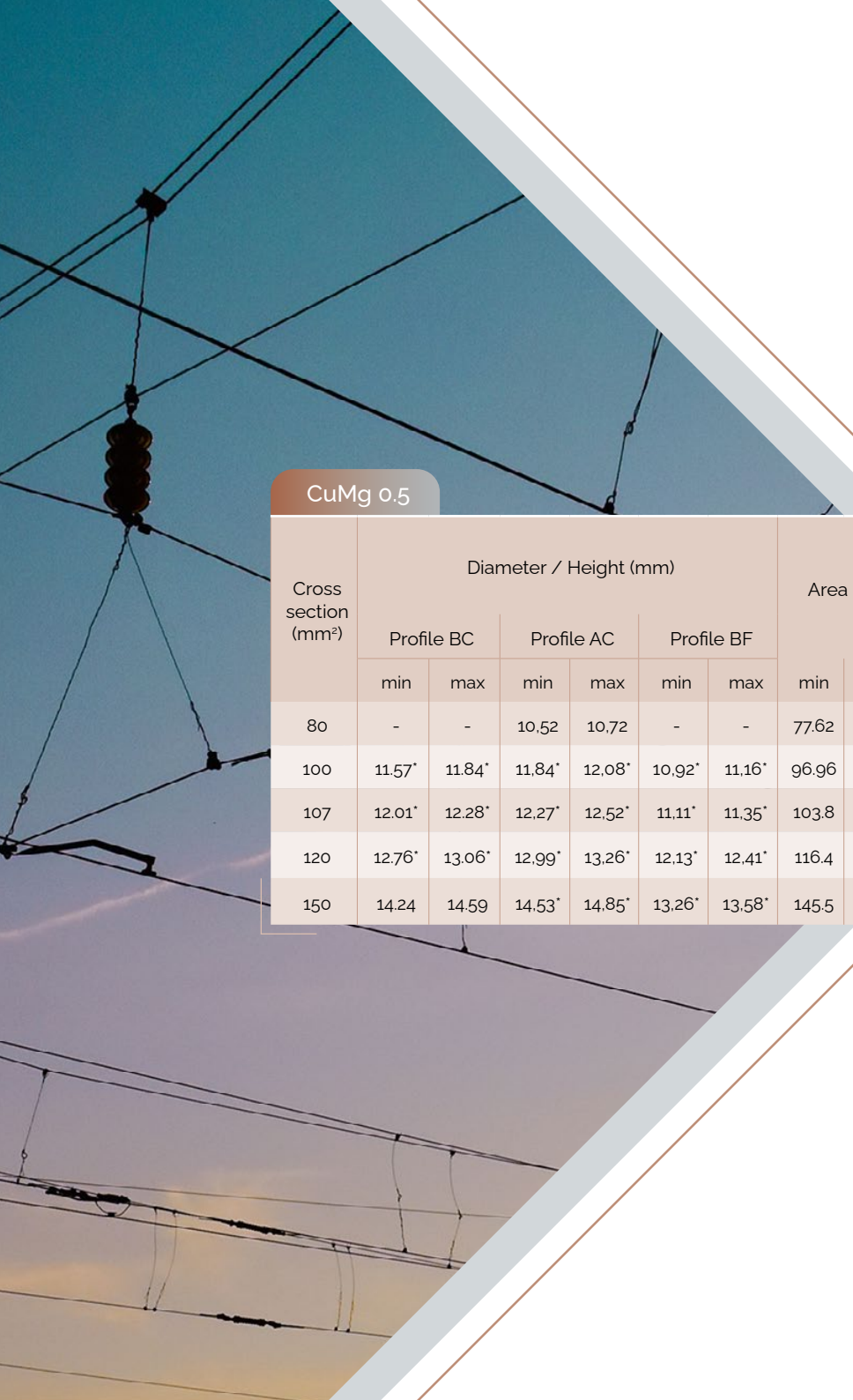
Type B groove

Cu-OF

Cross section (mm²)	Diameter / Height (mm)						Section mm²		Mass (kg/km)		Electrical resistance (Ω/km)	Resistivity (Ω·m·10-8)	Tensile strength (N/mm²)	Tensile strength (N/mm²) high resistance	Breaking load (kN)	Breaking load (kN) high resistance	Elongation (%)	Elongation (%) high resistance
	Profile BC		Profile AC		Profile BF													
	min	max	min	max	min	max	min	max	min	max	max	max	min	min	min	min		
80	-	-	10,52*	10,72*	-	-	77.62	82.45	690	733	0.229	1.777	355	375	27.5	29.1	3 – 10	3 – 8
100	11.57*	11.84*	11,84	12,08*	10,92*	11,16	96.96	103.04	862	916	0.183	1.777	355	375	34.5	36.4	3 – 10	3 – 8
107	12.01	12.28	12,27	12,52	11,11	11,35	103.8	110.2	923	980	0.171	1.777	350	360	36.3	37.4	3 – 10	3 – 8
120	12.76	13.06	12,99*	13,26*	12,13*	12,41*	116.4	123.6	1035	1099	0.153	1.777	330	360	38.4	41.9	3 – 10	3 – 8
150	14.24	14.59	14,53	14,85	13,26	13,58	145.5	154.5	1293	1374	0.122	1.777	310	360	45.1	52.4	3 – 10	3 – 8

CuAg 0.1

Cross section (mm²)	Diameter / Height (mm)						Area mm²		Mass (kg/km)		Electrical resistance (Ω/km)	Resistivity (Ω·m·10-8)	Tensile strength (N/mm²)	Tensile strength (N/mm²) high resistance	Breaking load (kN)	Breaking load (kN) high resistance	Elongation (%)	Elongation (%) high resistance
	Profile BC		Profile AC		Profile BF													
	min	max	min	max	min	max	min	max	min	max	max	max	min	min	min	min		
80	-	-	10,52*	10,72*	-	-	77.62	82.45	690	733	0.229	1.777	365	375	28.3	29.1	3 – 10	3 – 8
100	11.57*	11.84*	11,84*	12,08*	10,92*	11,16*	96.96	103.04	862	916	0.183	1.777	360	375	34.9	36.4	3 – 10	3 – 8
107	12.01	12.28	12,27*	12,52*	11,11*	11,35*	103.8	110.2	923	980	0.171	1.777	350	360	36.3	37.4	3 – 10	3 – 8
120	12.76	13.06	12,99	13,26	12,13*	12,41*	116.4	123.6	1035	1099	0.153	1.777	350	360	40.7	41.9	3 – 10	3 – 8
150	14.24	14.59	14,53*	14,85*	13,26	13,58	145.5	154.5	1293	1374	0.122	1.777	350	360	50.9	52.4	3 – 10	3 – 8



CuMg 0.5

Cross section (mm²)	Diameter / Height (mm)						Area mm²		Mass (kg/km)		Electrical resistance (Ω/km)	Resistivity (Ω·m·10-⁸)	Tensile strength (N/mm²)	Breaking load (kN)	Breaking load (kN) high resistance	Elongation (%)
	Profile BC		Profile AC		Profile BF											
	min	max	min	max	min	max	min	max	min	max	max	max	min	min	min	
80	-	-	10,52	10,72	-	-	77.62	82.45	690	733	0.385	2.778	520	40.4	3 – 10	3 – 10
100	11.57*	11.84*	11,84*	12,08*	10,92*	11,16*	96.96	103.04	862	916	0.286	2.778	510	49.5	3 – 10	3 – 10
107	12.01*	12.28*	12,27*	12,52*	11,11*	11,35*	103.8	110.2	923	980	0.268	2.778	500	51.9	3 – 10	3 – 10
120	12.76*	13.06*	12,99*	13,26*	12,13*	12,41*	116.4	123.6	1035	1099	0.239	2.778	490	57	3 – 10	3 – 10
150	14.24	14.59	14,53*	14,85*	13,26*	13,58*	145.5	154.5	1293	1374	0.191	2.778	470	68.4	3 – 10	3 – 10

PACKAGING

Cunext supplies its products on **metallic or wooden reels**, appropriately strapped and protected to ensure **safe transport and storage**. Packaging is adapted to the type of product and weight, with available formats ranging from 100 kg to 1,250 kg, depending on customer needs.

The company promotes **sustainable logistics** through a return system for metallic reels, contributing to **waste reduction and circular economy** practices.

1400 mm wooden reel

	Dimensions (mm)									
	A	B	C	D	E	F	G	H	I	J
1400	67	620	960	1400	750	82	65	518	250	250

For Cu-ETP & CuAg contact wire
Maximum weight: 2400 kg/reel

1800 mm wooden reel

	Dimensions (mm)								
	A	B	C	D	E	F	G	H	I
1800	70	560	1500	1800	700	82	70	800	600

For CuMg & CuSn contact wire
Maximum weight: 2500 kg/reel

1650 mm wooden reel

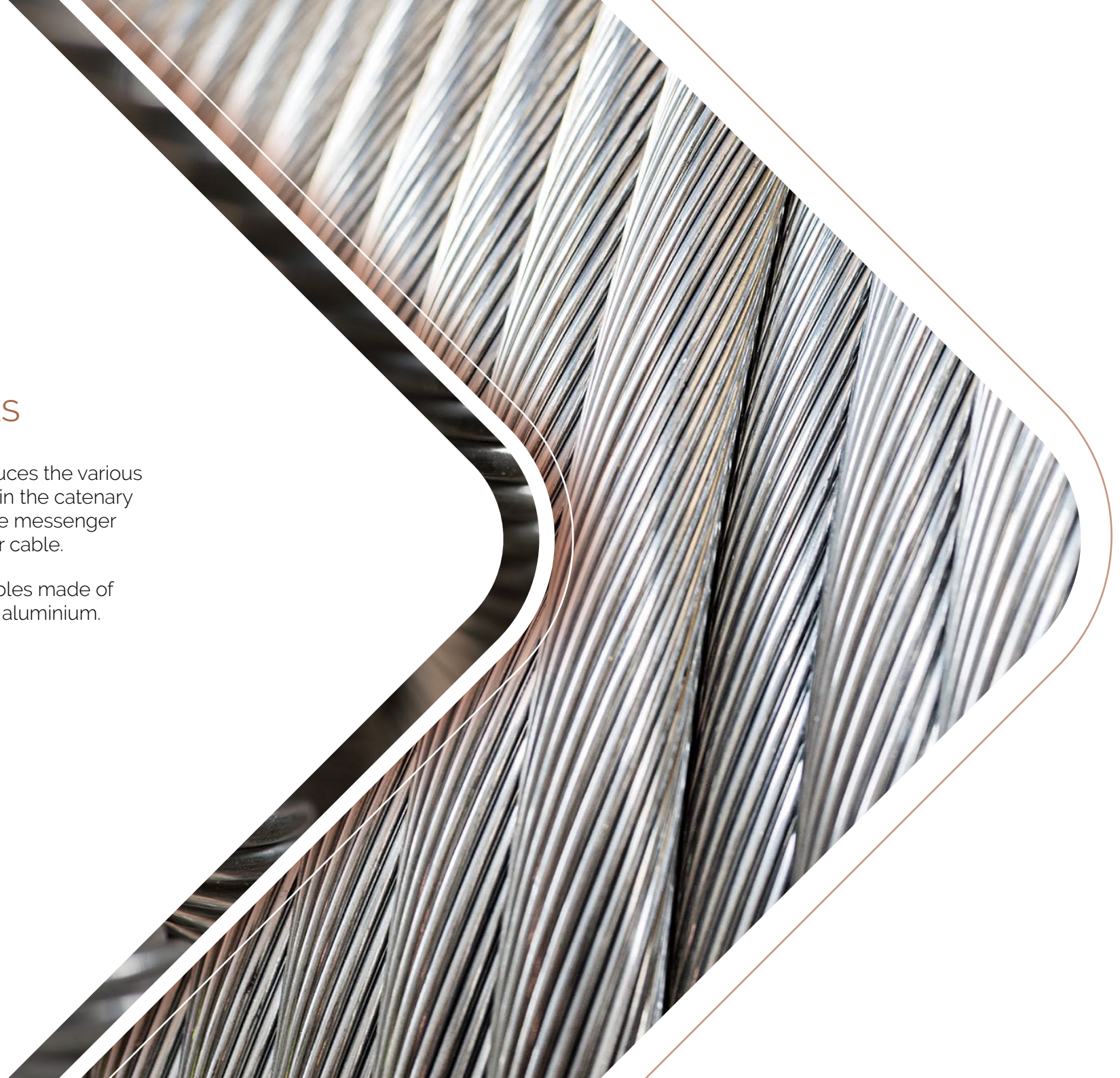
	Dimensions (mm)								
	A	B	C	D	E	F	G	H	I
1650	50	630	970	1650	750	82	60	225	17

For Cu-ETP contact wire and all its alloys
Maximum weight: 3000 kg/reel

RIGID CABLES

Cunext Group produces the various railway cables used in the catenary system, including the messenger cable and the feeder cable.

We manufacture cables made of copper, bronze, and aluminium.



Rigid Cu cables in accordance with standard DIN 48201-1

Denomination	Cross section (mm²)	Composition (units x mm)	Nominal diameter (mm)	Nominal mass (kg/km)	Breaking load (kN)
10	10.02	7 x 1.35	4.1	90	4.02
16	15.89	7 x 1.70	5.1	143	6.37
25	24.25	7 x 2.10	6.3	218	9.72
35	34.36	7 x 2.50	7.5	310	13.77
50	49.48	7 x 3.00	9.0	446	19.84
50	48.35	19 x 1.80	6.0	437	19.38
70	65.81	19 x 2.10	10.5	596	26.38
95	93.27	19 x 2.50	12.5	845	37.39
120	116.99	19 x 2.80	14.0	1060	46.90
150	147.11	37 x 2.25	15.8	1337	58.98
185	181.62	37 x 2.50	17.5	1649	72.81
240	242.54	61 x 2.25	20.3	2209	97.23
300	299.43	61 x 2.50	22.5	2725	120.04
400	400.14	61 x 2.89	26.0	3640	160.42
500	499.83	61 x 3.23	29.1	4545	200.38

Rigid Cu cables in accordance with ADIF ET03.364.158.0

Denomination	Cross section (mm²)	Composition (units x mm)	Nominal diameter (mm)	Nominal mass (kg/km)	Breaking load (kN)
50	50.0	19 x 1.83	9.15	455.4	1915
95	94.8	19 x 2.52	12.60	863.5	3427
150	147.1	37 x 2.25	15.75	1344.5	5450
153	153.0	37 x 2.30	16.10	1398.3	5695
185	184.5	37 x 2.52	17.64	1686.5	6526
225	224.6	37 x 2.78	19.46	2052.5	7942
240	236.0	37 x 2.85	19.95	2157.1	8347
300	304.2	61 x 2.52	22.68	2791.3	10392

Rigid Cu cables in accordance with standard NF C 34-110-3

Denomination	Cross section (mm²)	Composition (units x mm)	Nominal diameter (mm)	Nominal mass (kg/km)	Electrical resistance (Ω/km)	Breaking load (kN)	Current carrying capacity (A)*
5.5	5.5	7 x 1.00	3.0	482	3.34	231	79
10.8	10.8	7 x 1.40	4.2	942	1.70	434	121
12.4	12.4	7 x 1.54	4.5	108	1.47	499	132
14.1	14.1	7 x 1.60	4.8	123	1.30	552	143
17.8	17.8	7 x 1.80	5.4	156	1.03	699	166
22	22	7 x 2.00	6.0	193	0.83	862	190
24.2	24.2	7 x 2.10	6.3	212	0.76	924	201
25.2	25.2	7 x 2.14	6.4	221	0.73	960	206
27.6	27.6	7 x 2.24	6.7	242	0.67	1052	217
34.4	34.4	7 x 2.50	7.5	301	0.53	1310	251
29.2	29.2	19 x 1.40	7.0	258	0.63	1130	227
38	38.2	19 x 1.60	8.0	337	0.486	1436	267
48	48.3	19 x 1.80	9.0	426	0.384	1817	309
60	59.7	19 x 2.00	10.0	526	0.311	2244	353
75	74.9	19 x 2.24	11.2	660	0.248	2736	407
93	93.3	19 x 2.50	12.5	822	0.199	3408	468
100	100.88	19 x 2.60	13.0	-	-	-	-
116	116.2	37 x 2.00	14.0	1028	0.161	4274	536
146	145.8	37 x 2.24	15.7	1290	0.128	5212	619
182	181.6	37 x 2.50	17.5	1606	0.103	6493	710
200	199.5	37 x 2.62	18.3	1764	0.0935	6722	753
228	227.8	37 x 2.80	19.6	2015	0.0819	7677	820
262	261.5	37 x 3.00	21.0	3213	0.0713	8813	894
288	288.3	37 x 3.15	22.0	2550	0.0647	9452	950
240	240.4	61 x 2.24	20.2	2130	0.0779	8307	847
299	299.4	61 x 2.50	22.5	2653	0.0625	10347	973
376	375.6	61 x 2.80	25.2	3328	0.0498	12226	1122
522	521.7	61 x 3.30	29.7	4622	0.0359	16519	1380
631	631.3	61 x 3.63	32.7	5593	0.0297	19376	1556

RAILWAY SOLUTIONS

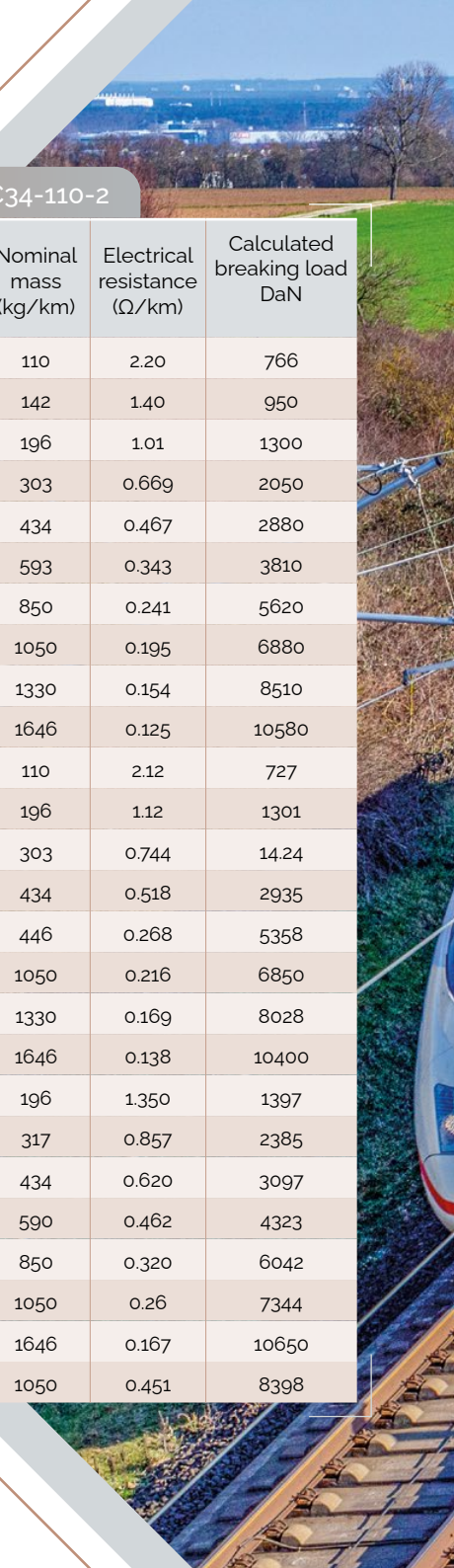
RIGID CABLES

Bzll rigid cables in accordance with standard DIN 48201-2

Denomination	Cross section (mm²)	Composition (units x mm)	Nominal diameter (mm)	Nominal mass (kg/km)	Breaking load BZ I (kN)	Breaking load BZ II (kN)	Breaking load BZ III (kN)
10	10.02	7 x 1.35	4.1	90	4.95	5.88	6.72
16	15.89	7 x 1.70	5.1	143	7.85	9.33	10.66
25	24.25	7 x 2.10	6.3	218	11.98	14.24	16.26
35	34.36	7 x 2.50	7.5	310	16.97	20.17	23.05
50	49.48	7 x 3.00	9.0	446	23.97	28.58	32.76
50	48.35	19 x 1.80	6.0	437	23.88	28.39	32.43
70	65.81	19 x 2.10	10.5	596	32.51	38.64	44.14
95	93.27	19 x 2.50	12.5	845	46.08	54.76	62.56
120	116.99	19 x 2.80	14.0	1060	56.68	67.57	77.46
150	147.11	37 x 2.25	15.8	1337	72.67	86.37	98.67
185	181.62	37 x 2.50	17.5	1649	89.72	106.63	121.81
240	242.54	61 x 2.25	20.3	2209	119.81	142.40	162.67
300	299.43	61 x 2.50	22.5	2725	147.92	175.80	200.83
400	400.14	61 x 2.89	26.0	3640	193.87	231.12	264.95
500	499.83	61 x 3.23	29.1	4545	242.17	288.70	330.96

Bz rigid cables in accordance with standard NF C34-110-2

Conductivity (%IACS)	Denomination	Composition (units x mm)	Nominal diameter (mm)	Nominal mass (kg/km)	Electrical resistance (Ω/km)	Calculated breaking load DaN
80%	12	7 x 0.65 / 42 x 0.54	5	110	2.20	766
80%	16	7 x 1.70	5.10	142	1.40	950
80%	22	7 x 2.00	6.00	196	1.01	1300
80%	35	19 x 1.50	7.50	303	0.669	2050
80%	50	19 x 1.80	9.00	434	0.467	2880
80%	70	19 x 2.10	10.5	593	0.343	3810
80%	93	37 x 1.80	12.6	850	0.241	5620
80%	116	37 x 2.00	14.0	1050	0.195	6880
80%	148	37 x 2.25	15.7	1330	0.154	8510
80%	182	37 x 2.50	17.5	1646	0.125	10580
72%	12	7 x 0.65 / 42 x 0.54	5	110	2.12	727
72%	22	7 x 2.00	6.0	196	1.12	1301
72%	34	19 x 1.50	7.5	303	0.744	14.24
72%	48	19 x 1.80	9.0	434	0.518	2935
72%	93	19 x 2.50	12.5	446	0.268	5358
72%	116	37 x 2.00	14.0	1050	0.216	6850
72%	148	19 x 3.15	15.8	1330	0.169	8028
72%	182	37 x 2.50	17.5	1646	0.138	10400
60%	22	7 x 2.00	6.0	196	1.350	1397
60%	35	37 x 1.10	7.7	317	0.857	2385
60%	48	37 x 2.50	9.0	434	0.620	3097
60%	65	37 x 1.50	10.5	590	0.462	4323
60%	93	37 x 1.80	12.6	850	0.320	6042
60%	116	37 x 2.00	14.0	1050	0.26	7344
60%	182	37 x 2.50	17.5	1646	0.167	10650
37%	116	37 x 2.00	14.0	1050	0.451	8398



PACKAGING

1250 mm wooden reel

	Dimensions (mm)									
	A	B	C	D	E	F	G	H	I	J
1250	67	620	630	1250	750	82	65	65	160	160

Maximum weight: 2000 kg/reel

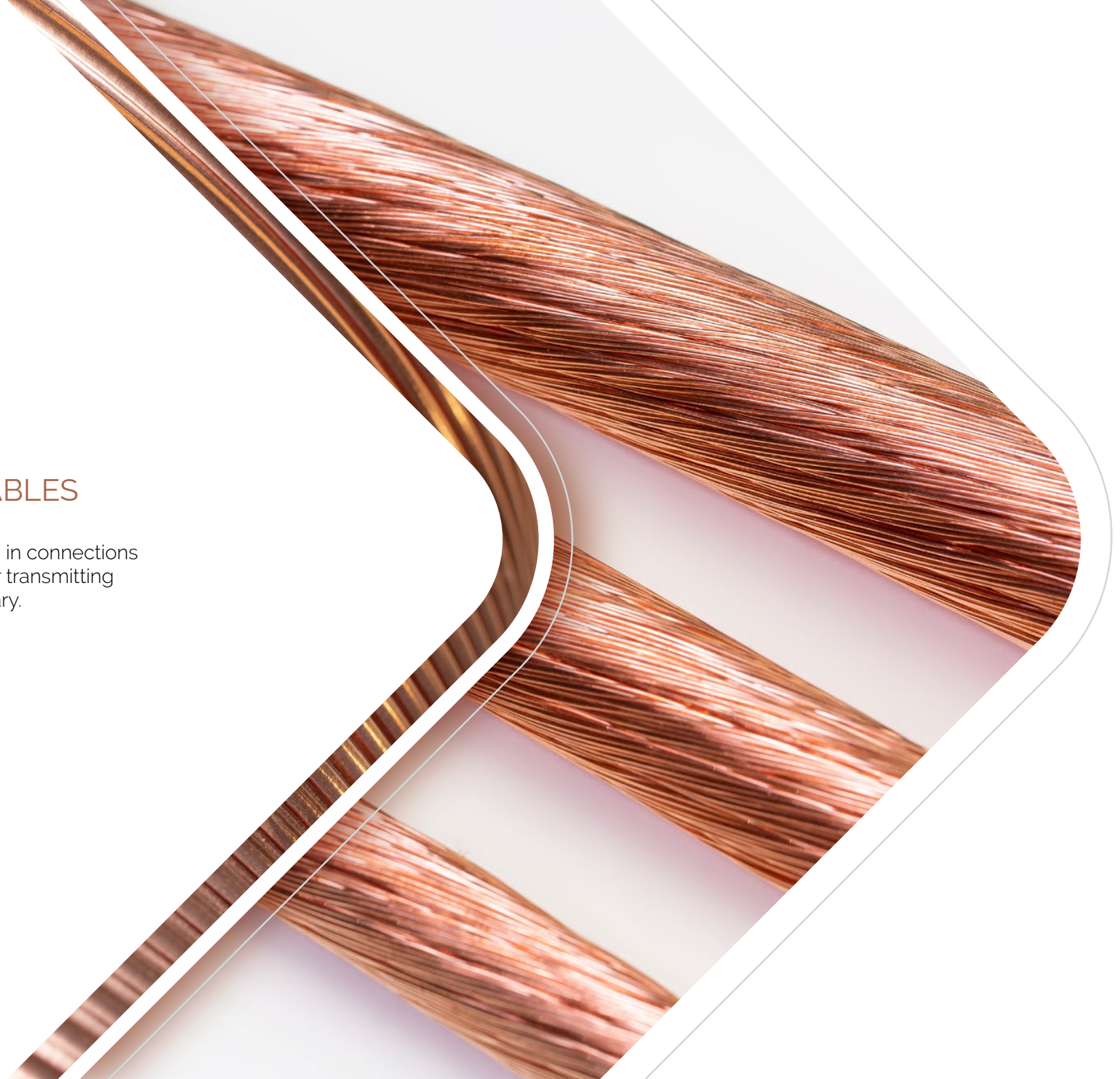
1650 mm wooden reel

	Dimensions (mm)								
	A	B	C	D	E	F	G	H	I
1650	50	630	970	1650	750	82	60	225	17

Maximum weight: 3000 kg/reel

FLEXIBLE CABLES

Flexible cables used in connections and key locations for transmitting energy to the catenary.



Flexible Cu cables in accordance with standard DIN 43138

Denomination (mm²)	Cross section (mm²)	Composition (units x mm)	Nominal diameter (mm)	Nominal mass (kg/km)	Tensile stress (N/mm²)
16	16.3	49 x 0.65	5.9	152	< 300
25	26.1	133 x 0.50	7.5	246	< 300
35	37.6	133 x 0.60	9.0	353	< 300
50	51.2	133 x 0.70	10.5	482	< 300
70	72.7	189 x 0.70	13.0	685	< 300
95	99.7	259 x 0.70	14.7	935	< 300
120	118.5	336 x 0.67	16.4	1120	< 300
150	150.9	392 x 0.70	18.3	1420	< 300
185	185.1	525 x 0.67	20.4	1745	< 300
210	209.8	595 x 0.67	21.5	1980	< 300
240	245.2	637 x 0.70	23.1	2320	< 300
300	296.6	637 x 0.77	25.4	2800	< 300

Flexible Cu cables in accordance with standard NF F55-681

Denomination	Cross section (mm²)	Composition (units x mm)	Nominal diameter (mm)	Nominal mass (kg/km)	Electrical resistance (Ω/km)
26	26	19 x 7 x 0.50	7.50	237	0.735
50	50	37 x 7 x 0.50	10.50	452	0.378
75	75	37 x 7 x 0.61	12.70	665	0.263
95	95	37 x 7 x 0.68	14.30	870	0.204
104.5	104.5	19 x 7 x 1.00	15.00	970	0.184
147	147	37 x 7 x 0.85	17.90	1323	0.131
164	164	37 x 7 x 0.90	18.35	1537	0.122
95	89.54	19 x 24 x 0.50	13.10	816	0.210
120	111.92	37 x 30 x 0.50	14.80	1020	0.165
150	141.76	37 x 38 x 0.50	16.40	1292	0.134
240	232.47	37 x 32 x 0.50	20.50	2125	0.084

1250 mm wooden reel

	Dimensions (mm)									
	A	B	C	D	E	F	G	H	I	J
1250	67	620	630	1250	750	82	65	65	160	160

Maximum weight: 2000 kg/reel

PACKAGING

DROPPER

Droppers are cables designed to connect the catenary cables to the contact wire.

We manufacture them in copper or bronce.

Bzll dropper in accordance with standard DIN 43138

Conductivity (% IACS)	Denomination (mm^2)	Cross section (mm^2)	Composition (units x mm)	Nominal diameter (mm)	Nominal mass (kg/km)	Braking load (N)
62	10	9.6	49 x 0.50	4.6	89	116
62	16	16.3	84 x 0.50	6.2	152	116
62	25	26.1	133 x 0.50	7.5	346	116
62	35	37.6	133 x 0.60	9.0	353	167

Cu dropper in accordance with ADIF ET 03.364.158.0

Denomination (mm^2)	Cross section (mm^2)	Composition (units x mm)	Nominal diameter (mm)	Nominal mass (kg/km)	Electrical resistance (Ω/km))	Braking load (Kg)
25	25	8 x 64 x 0,25	49 x 0.50	4.6	89	116

800 mm wooden reel

	Dimensions (mm)									
	A	B	C	D	E	F	G	H	I	J
800	800	66	400	400	800	532	82	40	40	150

Maximum weight: 500 kg/reel

1250 mm wooden reel

	Dimensions (mm)									
	A	B	C	D	E	F	G	H	I	J
1250	67	620	630	1250	750	82	65	65	160	160

Maximum weight: 2000 kg/reel

PACKAGING

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