



OVERHEAD CONDUCTORS

Copper & Aluminium / Bare Stranded Conductors



About Our Overhead Conductors

Universal Metals (Pvt.) Ltd manufactures a comprehensive range of bare stranded overhead conductors used in transmission and distribution network applications. Our conductors are also used for un-insulated hook ups, jumpers, grounding conductors and other applications requiring high conductivity and flexibility.

Our overhead conductor range covers three principal types: Soft-Drawn Copper (SDC), Hard-Drawn Copper (HDC), and All Aluminium Conductors (AAC). All conductors are manufactured to comply with ASTM, IEC, BS, BS EN and DIN standards, with alternative designs available to meet customer-specified requirements.

Applications

Our overhead conductors serve a wide range of power transmission and distribution applications:

- Overhead transmission lines
- Distribution networks
- Hookups and jumpers
- Grounding conductors
- Urban distribution
- Industrial wiring
- Substation connections
- Rural electrification

Scope

Overhead conductors are classified by the types of materials used for conductors, types of reinforcing cores used, and whether it is bare or insulated. This catalogue covers the design, construction and technical data for bare soft or hard drawn copper conductors and all aluminium conductors.

The conductor designs detailed in this catalogue are in accordance with the relevant DIN, IEC, ASTM, BS and BS EN standards. However, UMPL can also supply a range of alternative designs to meet customer-specified requirements.

Conductor choice will be based on the whole range of factors including transmission voltages, installation specifications, environmental conditions in the project terrain, and the performance characteristics of appropriate conductor types.

Definitions

1. **Wire** -- Filament of drawn metal having constant circular cross-section.
2. **Conductor** -- Material intended to be used for carrying electric current consisting of multiple uninsulated wires twisted together.
3. **Concentric-lay-stranded conductor** -- A conductor composed of a central core surrounded by one or more adjacent layers of wires laid helically in opposite directions.
4. **Direction of lay** -- The direction of twist of a layer of wires as it moves away from the viewer. A right-hand lay is in clockwise direction and a left-hand lay is in anti-clockwise direction.
5. **Lay length** -- The axial length of one complete turn of the helix formed by an individual wire in a stranded conductor.
6. **Lay ratio** -- The ratio of the lay length to the external diameter of the corresponding layer of wires in the stranded conductor.
7. **Rated tensile strength** -- Estimate of the conductor breaking load calculated using the specified tensile properties of the component wires.

Metals used for overhead conductors. Data per IEC and relevant national standards.

Electrical Properties

Metal	Rel. Conductivity (% IACS)	Resistivity ($\Omega \cdot \text{mm}^2/\text{m}$)	Temp. Coeff. (per $^{\circ}\text{C}$)
Annealed copper	100	0.017241	0.00393
Hard drawn copper	97.0	0.017770	0.00393
Hard drawn aluminium	61.0	0.028264	0.00403
Aluminium alloy – Type A	52.5	0.032840	0.00360
Aluminium alloy – Type B	53.0	0.032530	0.00360
Alumoweld – 20SA – A	20.3	0.084800	0.00360
Galvanized steel	--	--	--

Physical Properties

Metal	Density (kg/m^3)	Linear Exp. ($\times 10^{-6}$ per $^{\circ}\text{C}$)	Modulus of Elasticity (MPa)
Annealed copper	8 890	17.0	98 100
Hard drawn copper	8 890	17.0	122 600
Hard drawn aluminium	2 703	23.0	68 000
Aluminium alloy – Type A	2 703	23.0	68 000
Aluminium alloy – Type B	2 703	23.0	68 000
Alumoweld – 20SA – A	6 590	13.0	162 000
Galvanized steel	7 780	11.5	207 000

1 MPa = 1 N/mm². Density at 20 $^{\circ}\text{C}$. Values are typical and may vary with composition and temper.

Construction

Bare stranded soft-drawn (annealed) copper conductor is a concentric-lay-stranded conductor consisting of annealed copper wires available in both single layer and multi-layer constructions.

Application

Bare stranded soft-drawn (annealed) copper conductor is suitable for uninsulated hook up, jumpers and grounding conductors in electrical construction, where high conductivity and flexibility are required.

Applicable Standards

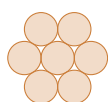
Bare stranded soft-drawn (annealed) copper conductor can be supplied to meet various International Standards:

- IEC 60228
- BS EN 60228

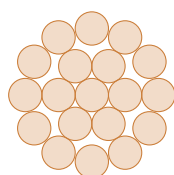
Technical Data

Composition (No. of Wires)	Coeff. of Linear Expansion (per °C × 10 ⁻⁶)
7	17.0
19	17.0
37	17.0
61	17.0

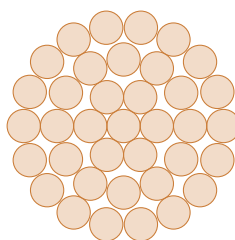
Wire Configurations



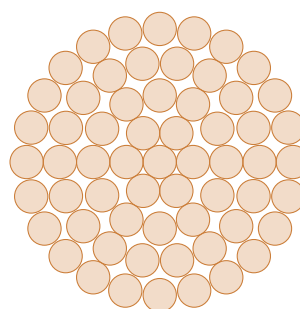
7 Wires



19 Wires



37 Wires



61 Wires

Bare Stranded Soft-Drawn Copper Conductors. IEC 60228 / BS EN 60228 Standards.

CSA (mm ²)	Construction No. × Ø (mm)	Dia. (mm)	Weight (kg/km)	DC Resistance (Ω/km)
1.5	7 × 0.52	1.56	13.5	12.1000
2.5	7 × 0.67	2.01	22.4	7.41000
4	7 × 0.85	2.55	36.0	4.61000
6	7 × 1.04	3.12	54.0	3.08000
10	7 × 1.34	4.02	90.0	1.83000
16	7 × 1.68	5.04	141.0	1.15000
25	7 × 2.14	6.42	228.0	0.72700
35	7 × 2.52	7.56	317.0	0.52400
50	19 × 1.78	8.90	429.0	0.38700
70	19 × 2.14	10.70	619.0	0.26800
95	19 × 2.50	12.50	845.0	0.19300
120	37 × 2.05	14.35	1109.0	0.15300
150	37 × 2.25	15.75	1336.0	0.12400
185	37 × 2.50	17.50	1649.0	0.09910
240	61 × 2.25	20.25	2206.0	0.07540
300	61 × 2.50	22.50	2724.0	0.06010
400	61 × 2.90	26.10	3665.0	0.04700
500	61 × 3.23	29.00	4546.0	0.03660

Data is approximate and subject to manufacturing tolerance. DC resistance is maximum value at 20 °C.

Construction

Bare stranded hard-drawn copper conductor is a concentric-lay-stranded conductor consisting of hard-drawn copper wires available in both single layer and multi-layer constructions.

Application

Bare stranded hard-drawn copper conductor is suitable for overhead transmission and distribution networks applications, where the highest electrical conductivity per unit area and good strength-to-weight ratio are required.

Applicable Standards

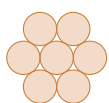
Bare stranded hard-drawn copper conductor can be supplied to meet various International Standards:

- BS 7884
- DIN 48201/1

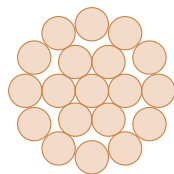
Technical Data

Composition (No. of Wires)	Modulus of Elasticity (MPa)	Coeff. of Linear Exp. (per °C × 10 ⁻⁶)
7	112 800	17.0
19	104 900	17.0
37	104 900	17.0
61	100 000	17.0

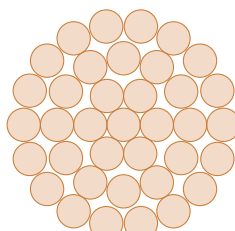
Wire Configurations



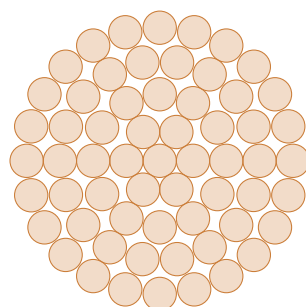
7 Wires



19 Wires



37 Wires



61 Wires

Bare Stranded Hard-Drawn Copper Conductors. BS 7884 Standard.

CSA (mm ²)	Constr. No.×Ø	Dia. (mm)	Weight (kg/km)	DC Resist. (Ω/km)	Breaking Load (N)
10	7×1.35	4.05	89.8	1.82900	3752
14	7×1.60	4.80	126.2	1.30300	5267
16	3×2.65	5.70	148.3	1.10600	6194
16	7×1.70	5.10	142.4	1.15400	5946
25	7×2.10	6.30	217.3	0.75630	9073
32	3×3.75	8.06	296.9	0.55200	12 400
32	7×2.46	7.38	298.2	0.54970	12 442
35	7×2.50	7.50	308.0	0.53370	12 860
50	7×3.00	9.00	443.5	0.37060	18 520
50	19×1.80	9.00	435.8	0.38190	17 700
70	7×3.55	10.65	621.1	0.26460	25 930
70	19×2.10	10.50	593.2	0.28060	24 090
95	19×2.50	12.50	840.7	0.19800	34 140
100	7×4.30	12.90	911.2	0.18100	36 540
120	19×2.80	14.00	1055.0	0.15780	42 830
125	19×2.90	14.50	1131.0	0.14710	45 940
150	19×3.20	16.00	1377.0	0.12080	55 940
150	37×2.25	15.75	1334.0	0.12640	53 880
185	19×3.55	17.75	1695.0	0.09815	68 860
185	37×2.50	17.50	1647.0	0.10240	66 490

Data is approximate and subject to manufacturing tolerance. DC resistance is maximum value at 20 °C.

Bare Stranded Hard-Drawn Copper Conductors. DIN 48201/1 Standard.

CSA (mm ²)	Constr. No.×Ø	Dia. (mm)	Weight (kg/km)	DC Resist. (Ω/km)	Amp. (A)*	Breaking (kN)
10	7×1.35	4.1	90	1.80600	90	4.02
16	7×1.70	5.1	143	1.13850	125	6.37
25	7×2.10	6.3	218	0.74610	160	9.72
35	7×2.50	7.5	310	0.52640	200	13.77
50	7×3.00	9.0	446	0.37590	250	19.84
50	19×1.80	9.0	437	0.38880	250	19.38
70	19×2.10	10.5	594	0.27620	310	26.38
95	19×2.50	12.5	845	0.19490	380	37.39
120	37×2.00	14.0	1060	0.15540	425	46.90
150	37×2.25	15.8	1337	0.12380	510	58.93
185	37×2.50	17.5	1640	0.10030	585	72.76
240	61×2.25	20.3	2209	0.07530	700	97.23
300	61×2.50	22.5	2725	0.06100	800	120.04
400	61×2.89	26.0	3640	0.04560	960	160.42
500	61×3.23	29.1	4545	0.03650	1110	200.38

* Ampacity values applicable up to 60 Hz at 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. Reduce values by approximately 30% in case of special locations at still air.

Construction

All Aluminium Conductors (AAC) is a concentric-lay-stranded conductor consisting of hard drawn aluminium wires available in both single layer and multi-layer constructions.

Application

All Aluminium Conductors (AAC) can be used as a bare overhead conductor for distribution lines. Because of its low strength-to-weight ratio, AAC has limited use in transmission lines. AAC is extensively used in urban areas where spans are usually short but high conductivity is required.

Applicable Standards

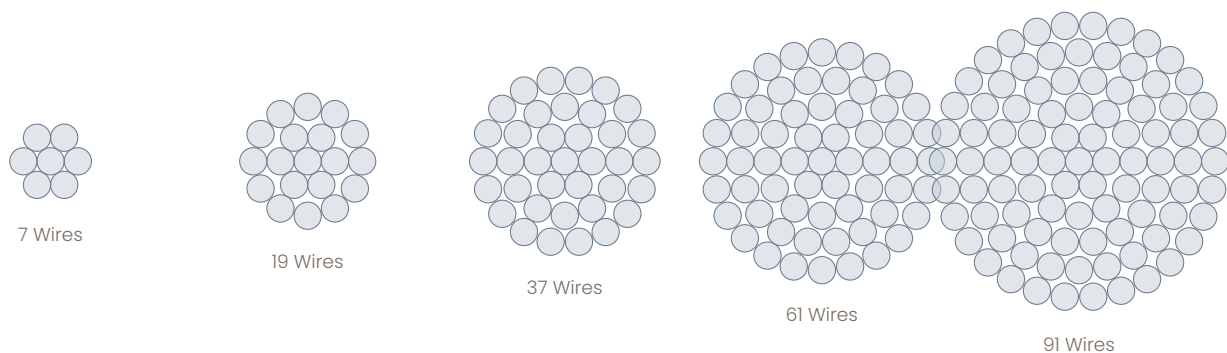
All Aluminium Conductors (AAC) can be supplied to meet various International Standards:

- BS 215/1
- IEC 61089
- ASTM B 231
- DIN 48201/5

Technical Data

Composition (No. of Wires)	Modulus of Elasticity (MPa)	Coeff. of Linear Exp. (per °C × 10 ⁻⁶)
7	63 300	23.0
19	61 200	23.0
37	58 900	23.0
61	58 300	23.0
91	58 300	23.0

Wire Configurations



All Aluminium Conductors (AAC). BS 215/1 Standard.

Code Name	CSA (mm ²)	Constr. No.×Ø	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Breaking (kN)
Midge	22	7×2.06	6.18	64	1.22700	3.99
Ant	50	7×3.10	9.30	145	0.54190	8.28
Fly	60	7×3.40	10.20	174	0.45050	9.90
Wasp	100	7×4.39	13.17	290	0.27020	16.00
Hornet	150	19×3.25	16.25	434	0.18250	25.70
Chafer	200	19×3.78	18.90	587	0.13490	32.40
Cockroach	250	19×4.22	21.10	731	0.10830	40.40
Butterfly	300	19×4.65	23.25	888	0.08916	48.75
Centipede	400	37×3.78	26.46	1145	0.06944	63.10

Data is approximate and subject to manufacturing tolerance. DC resistance is calculated value at 20 °C.

All Aluminium Conductors (AAC) -- Al Conductors. IEC 61089 Standard.

Code No.	CSA (mm ²)	Constr. No.×Ø	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Rated (kN)
16	16	7×1.71	5.12	43.8	1.78960	3.04
25	25	7×2.13	6.40	68.4	1.14530	4.50
40	40	7×2.70	8.09	109.4	0.71580	6.80
63	63	7×3.39	10.20	172.3	0.45450	10.39
100	100	19×2.59	12.90	274.8	0.28770	17.00
125	125	19×2.89	14.50	343.6	0.23020	21.25
160	160	19×3.27	16.40	439.8	0.17980	26.40
200	200	19×3.66	18.30	549.7	0.14390	32.00
250	250	19×4.09	20.50	687.1	0.11510	40.00
315	315	37×3.29	23.00	867.9	0.09160	51.97
400	400	37×3.71	26.00	1102.0	0.07210	64.00
450	450	37×3.94	27.50	1239.8	0.06410	72.00
500	500	37×4.15	29.00	1377.6	0.05770	80.00
560	560	37×4.39	30.70	1542.9	0.05150	89.60
630	630	61×3.63	32.60	1738.3	0.04580	100.80
710	710	61×3.85	34.60	1959.1	0.04070	113.60
800	800	61×4.09	36.80	2207.4	0.03610	128.00
900	900	61×4.33	39.00	2483.3	0.03210	144.00
1000	1000	61×4.57	41.10	2759.2	0.02890	160.00
1120	1120	91×3.96	43.50	3093.5	0.02580	179.20

Data is approximate and subject to manufacturing tolerance. DC resistance is calculated value at 20 °C.

All Aluminium Conductors (AAC). ASTM B 231 Standard. Selected sizes shown.

Code Word	AWG / MCM	CSA (mm ²)	Constr. No.×Ø	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Rated (kN)
Rose	4	21.1	7×1.96	5.88	58.2	1.36505	3.91
Iris	2	33.6	7×2.47	7.41	92.6	0.85954	5.99
Poppy	1/0	53.5	7×3.12	9.36	147.2	0.53871	8.84
Aster	2/0	67.4	7×3.50	10.50	185.7	0.42808	11.10
Phlox	3/0	85.0	7×3.93	11.79	233.9	0.33953	13.50
Oxlip	4/0	107.2	7×4.42	13.26	295.2	0.26842	17.00
Valerian	250.0	126.7	19×2.91	14.55	348.6	0.22815	20.70
Laurel	266.8	135.2	19×3.01	15.05	372.2	0.21324	22.10
Peony	300.0	152.0	19×3.19	15.95	418.3	0.18986	24.30
Tulip	336.4	170.5	19×3.38	16.90	469.5	0.16911	27.30
Canna	397.5	201.4	19×3.67	18.35	554.9	0.14344	31.60
Syringa	477.0	241.7	37×2.88	20.16	664.8	0.11961	38.60
Hyacinth	500.0	253.3	37×2.95	20.65	696.8	0.11400	40.50
Mistletoe	556.5	282.0	37×3.12	21.84	775.7	0.10192	44.30
Orchid	636.0	322.3	37×3.33	23.31	886.9	0.08947	50.40
Flag	700.0	354.7	61×2.72	24.48	975.8	0.08134	57.10
Violet	715.5	362.6	37×3.53	24.71	998.5	0.07962	56.70
Petunia	750.0	380.0	37×3.62	25.34	1046.0	0.07571	58.60
Arbutus	795.0	402.8	37×3.72	26.04	1109.0	0.07169	61.80
Magnolia	954.0	483.4	37×4.08	28.56	1331.0	0.05960	72.60
Camellia	1000.0	506.7	61×3.25	29.25	1394.0	0.05697	78.30
Marigold	1113.0	564.0	61×3.43	30.87	1553.0	0.05115	87.30
Narcissus	1272.0	644.5	61×3.67	33.03	1774.0	0.04468	98.10
Columbine	1351.0	694.8	61×3.78	34.02	1884.0	0.04212	104.00

Data is approximate and subject to manufacturing tolerance. DC resistance is calculated value at 20 °C.

All Aluminium Conductors (AAC). DIN 48201/5 Standard.

CSA (mm ²)	Constr. No. × Ø	Dia. (mm)	Weight (kg/km)	DC Resist. (Ω/km)	Amp. (A)*	Breaking (kN)
16	7×1.70	5.1	43	1.80180	110	2.84
25	7×2.10	6.3	66	1.18080	145	4.17
35	7×2.50	7.5	94	0.83320	180	5.78
50	7×3.00	9.0	135	0.57860	225	7.94
50	19×1.80	9.0	133	0.59500	225	8.45
70	19×2.10	10.5	181	0.43710	270	11.32
95	19×2.50	12.5	256	0.30840	340	15.68
120	19×2.80	14.0	322	0.24590	390	18.78
150	37×2.25	15.8	406	0.19600	455	25.30
185	37×2.50	17.5	500	0.15870	520	30.54
240	61×2.25	20.3	670	0.11910	625	39.51
300	61×2.50	22.5	827	0.09649	710	47.70
400	61×2.89	26.0	1104	0.07221	855	60.86
500	61×3.23	29.1	1379	0.05781	990	74.67
625	91×2.96	32.6	1732	0.04625	1140	95.25
800	91×3.35	36.9	2218	0.03611	1340	118.39
1000	91×3.74	41.1	2767	0.02897	1540	145.76

* Ampacity values applicable up to 60 Hz at wind velocity of 0.6 m/s and solar effects for an original ambient temperature of 35 °C and a final conductor temperature of 80 °C. Reduce values by approximately 30% in case of special locations at still air.

Construction

All Aluminium-Alloy Conductors (AAAC) is a concentric-lay-stranded conductor consisting of aluminium-alloy wires available in both single layer and multi-layer constructions.

Application

All Aluminium-Alloy Conductors (AAAC) can be used in Medium, High and Extra-High voltage transmission lines. AAAC offers better sag performance due to the high strength-to-weight ratio provided by the aluminium-alloy. In addition, AAAC provides a higher corrosion resistance than ACSR conductors.

Applicable Standards

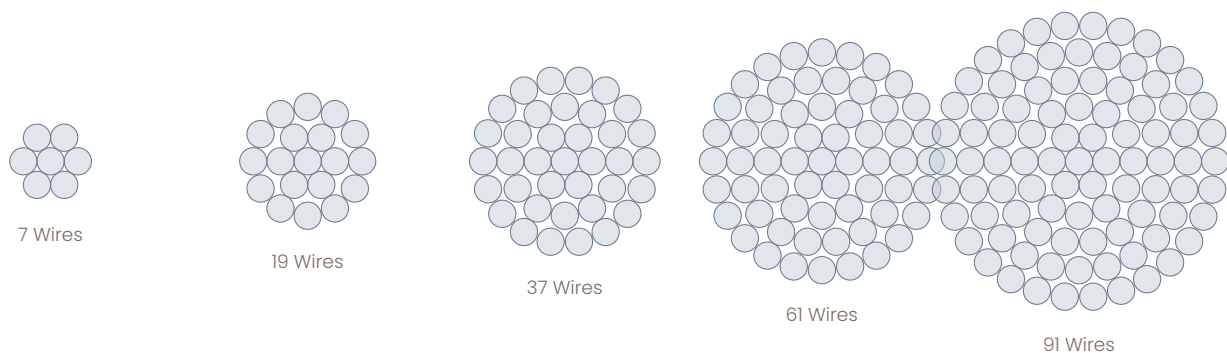
All Aluminium-Alloy Conductors (AAAC) can be supplied to meet various International Standards:

- IEC 61089
- ASTM B 399
- BS EN 50182
- DIN 48201/6

Technical Data

Composition (No. of Wires)	Modulus of Elasticity (MPa)	Coeff. of Linear Exp. (per °C × 10 ⁻⁶)
7	63 300	23.0
19	61 200	23.0
37	58 900	23.0
61	58 300	23.0
91	58 300	23.0

Wire Configurations



All Aluminium-Alloy Conductors (AAAC) -- A2 Conductors. IEC 61089 Standard.

Code No.	CSA (mm ²)	Constr. No.×Ø	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Rated (kN)
16	18.4	7×1.83	5.49	50.4	1.78960	5.43
25	28.8	7×2.29	6.86	78.7	1.14530	8.49
40	46.0	7×2.89	8.68	125.9	0.71580	13.58
63	72.5	7×3.63	10.90	198.3	0.45450	21.39
100	115.0	19×2.78	13.90	316.3	0.28770	33.95
125	144.0	19×3.10	15.50	395.4	0.23020	42.44
160	184.0	19×3.51	17.60	506.1	0.17980	54.32
200	230.0	19×3.93	19.60	632.7	0.14390	67.91
250	288.0	19×4.39	22.00	790.8	0.11510	84.88
315	363.0	37×3.53	24.70	998.9	0.09160	106.95
400	460.0	37×3.98	27.90	1268.4	0.07210	135.81
450	518.0	37×4.22	29.60	1426.9	0.06410	152.79
500	575.0	37×4.45	31.20	1585.5	0.05770	169.76
560	645.0	61×3.67	33.00	1778.4	0.05160	190.14
630	725.0	61×3.89	35.00	2000.7	0.04580	213.90
710	817.0	61×4.13	37.20	2254.8	0.04070	241.07
800	921.0	61×4.38	39.50	2540.6	0.03610	271.62
900	1036.0	91×3.81	41.80	2861.1	0.03210	305.58
1000	1151.0	91×4.01	44.10	3179.5	0.02890	339.53
1120	1289.0	91×4.25	46.70	3560.5	0.02580	380.27
1250	1439.0	91×4.49	49.40	3973.7	0.02310	424.41

Data is approximate and subject to manufacturing tolerance. DC resistance is calculated value at 20 °C.

All Aluminium-Alloy Conductors (AAAC). ASTM B 399 Standard.

Code Word	AWG / MCM	CSA (mm ²)	Constr. No.×Ø	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Rated (kN)
Alton	48.69	24.7	7×2.12	6.36	67.8	1.35568	7.83
Ames	77.47	39.2	7×2.67	8.02	107.5	0.85469	12.40
Azusa	123.30	62.4	7×3.37	10.11	171.3	0.53650	18.90
Anaheim	155.40	78.6	7×3.78	11.35	215.6	0.42643	23.80
Amherst	195.70	99.3	7×4.25	12.75	272.5	0.33733	30.00
Alliance	246.90	125.0	7×4.77	14.31	343.2	0.26779	37.80
Butte	312.80	159.0	19×3.26	16.30	435.1	0.21122	46.50
Canton	394.50	200.0	19×3.66	18.30	548.5	0.16758	58.60
Cairo	465.40	236.0	19×3.98	19.88	648.6	0.14171	69.20
Darien	559.50	284.0	19×4.36	21.79	778.3	0.11809	83.10
Elgin	652.40	331.0	19×4.71	23.54	908.3	0.10119	97.00
Flint	740.80	375.0	37×3.59	25.16	1028.0	0.08944	107.00
Greeley	927.20	470.0	37×4.02	28.14	1289.0	0.07133	135.00

Data is approximate and subject to manufacturing tolerance. DC resistance is calculated value at 20 °C.

All Aluminium-Alloy Conductors (AAAC). ASTM B 399 Standard -- Metric sizes.

AWG / MCM	CSA (mm ²)	Constr. No.×Ø	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Rated (kN)
41.74	21.1	7×1.96	5.88	57.9	1.58600	6.69
66.36	33.5	7×2.47	7.41	92.0	0.99870	10.60
105.60	53.5	7×3.12	9.36	146.8	0.62592	17.00
133.10	67.3	7×3.50	10.50	184.8	0.49738	20.40
167.80	84.9	7×3.93	11.79	233.0	0.39450	25.70
211.60	107.0	7×4.42	13.26	294.7	0.31188	32.50
250.00	126.0	19×2.91	14.55	346.7	0.26509	38.80
300.00	152.0	19×3.19	15.95	416.4	0.22059	46.60
350.00	178.0	19×3.45	17.25	487.3	0.18860	52.00
397.50	201.4	19×3.67	18.35	554.9	0.16486	59.50
450.00	228.0	19×3.91	19.55	626.0	0.14683	66.80
500.00	253.0	19×4.12	20.60	695.0	0.13224	74.20
550.00	279.0	37×3.10	21.70	766.2	0.11995	83.90
600.00	303.0	37×3.23	22.61	831.9	0.11049	91.00
650.00	330.0	37×3.37	23.59	905.5	0.10150	94.90
700.00	354.7	37×3.49	24.43	975.7	0.09464	101.00
750.00	381.0	37×3.62	25.34	1045.0	0.08796	109.00
800.00	404.0	37×3.73	26.11	1109.0	0.08285	116.00
900.00	456.0	37×3.96	27.72	1250.0	0.07351	131.00
1000.00	508.0	37×4.18	29.26	1393.0	0.06597	146.00
1250.00	631.0	61×3.63	32.67	1732.0	0.05306	179.00
1500.00	759.0	61×3.98	35.82	2082.0	0.04414	215.00
1750.00	886.0	61×4.30	38.70	2431.0	0.03781	251.00

Data is approximate and subject to manufacturing tolerance. DC resistance is calculated value at 20 °C.

All Aluminium-Alloy Conductors (AAAC) -- AL3 Conductors U.K. BS EN 50182 Standard.

Code	Old Code	CSA (mm ²)	Constr. No.×Ø	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Breaking (kN)
19-AL3	BOX	18.8	7×1.85	5.55	51.4	1.74800	5.55
24-AL3	ACACIA	23.8	7×2.08	6.24	64.9	1.38280	7.02
30-AL3	ALMOND	30.1	7×2.34	7.02	82.2	1.09260	8.88
35-AL3	CEDAR	35.5	7×2.54	7.62	96.8	0.92730	10.46
42-AL3	DEODAR	42.2	7×2.77	8.31	115.2	0.77970	12.44
48-AL3	FIR	47.8	7×2.95	8.85	130.6	0.68750	14.11
60-AL3	HAZEL	59.9	7×3.30	9.90	163.4	0.54940	17.66
72-AL3	PINE	71.6	7×3.61	10.80	195.6	0.45910	21.14
84-AL3	HOLLY	84.1	7×3.91	11.70	229.5	0.39130	24.79
90-AL3	WILLOW	89.7	7×4.04	12.10	245.0	0.36650	26.47
119-AL3	OAK	118.9	7×4.65	14.00	324.5	0.27670	35.07
151-AL3	MULBERRY	150.9	19×3.18	15.90	414.3	0.21920	44.52
181-AL3	ASH	180.7	19×3.48	17.40	496.1	0.18300	53.31

BS EN 50182 AL3 Standard (Cont'd).

Code	Old Code	CSA (mm ²)	Constr. No.×Ø	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Breaking (kN)
211-AL3	ELM	211.0	19×3.76	18.80	579.2	0.15680	62.24
239-AL3	POPLAR	239.4	37×2.87	20.10	659.4	0.13870	70.61
303-AL3	SYCAMORE	303.2	37×3.23	22.60	835.2	0.10950	89.40
362-AL3	UPAS	362.1	37×3.53	24.70	997.5	0.09170	106.82
479-AL3	YEW	479.0	37×4.06	28.40	1319.6	0.06930	141.31
498-AL3	TOTARA	498.1	37×4.14	29.00	1372.1	0.06660	146.93
587-AL3	RUBUS	586.9	61×3.50	31.50	1622.0	0.05670	173.13
659-AL3	SORBUS	659.4	61×3.71	33.40	1822.5	0.05050	194.53
821-AL3	ARAUCARIA	821.1	61×4.14	37.30	2269.4	0.04060	242.24
996-AL3	REDWOOD	996.2	61×4.56	41.00	2753.2	0.03340	293.88

Data is approximate and subject to manufacturing tolerance. DC resistance is calculated value at 20 °C.

All Aluminium-Alloy Conductors (AAAC). DIN 48201/6 Standard.

CSA (mm ²)	Constr. No.×Ø	Dia. (mm)	Weight (kg/km)	DC Resist. (Ω/km)	Amp. (A)*	Breaking (kN)
16	7×1.70	5.1	43	2.0910	105	4.44
25	7×2.10	6.3	66	1.37030	135	6.77
35	7×2.50	7.5	94	0.96690	170	9.60
50	7×3.00	9.0	135	0.67140	210	13.82
50	19×1.80	9.0	133	0.69050	210	13.50
70	19×2.10	10.5	181	0.50730	255	18.38
95	19×2.50	12.5	256	0.35790	320	26.05
120	19×2.80	14.0	322	0.28540	365	32.68
150	37×2.25	15.8	406	0.22740	425	41.09
185	37×2.50	17.5	500	0.18420	490	50.73
240	61×2.25	20.3	670	0.13830	585	67.74
300	61×2.50	22.5	827	0.11200	670	83.63
400	61×2.89	26.0	1104	0.08380	810	111.76
500	61×3.23	29.1	1379	0.06700	930	139.60
625	91×2.96	32.6	1732	0.05360	1075	174.90
800	91×3.35	36.9	2218	0.04180	1255	224.02
1000	91×3.74	41.1	2767	0.03360	1450	279.22

* Ampacity values applicable up to 60 Hz at wind velocity of 0.6 m/s and solar effects for an original ambient temperature of 35 °C and a final conductor temperature of 80 °C. Reduce values by approximately 30% in case of special locations at still air.

Construction

Aluminium Conductors, Steel-Reinforced (ACSR) is a concentric-lay-stranded conductor consisting of a galvanized steel central core with one or more layers of hard drawn stranded aluminium wires laid helically over the steel core. Steel core wires are protected from corrosion by galvanization.

Application

Aluminium Conductors, Steel-Reinforced (ACSR) can be used in Medium, High and Extra-High voltage transmission lines; also used for primary and secondary distribution lines. The combination of aluminium and steel in the conductor design offers both efficient conductivity and high tensile strength making ACSR the most economical solution for overhead power transmission and distribution projects.

Applicable Standards

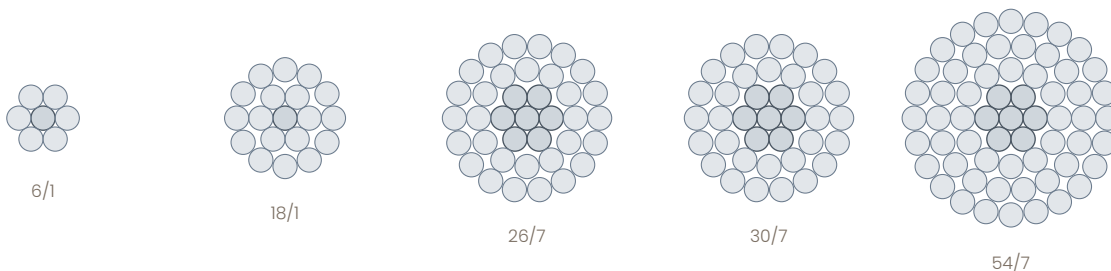
Aluminium Conductors, Steel-Reinforced (ACSR) can be supplied to meet various International Standards:

- BS 215/2
- IEC 61089
- DIN 48204
- ASTM B 232

Technical Data

Composition (AL / ST)	Modulus of Elasticity (MPa)	Coeff. of Linear Exp. (per °C × 10 ⁻⁶)
6 / 1	79 000	19.1
6 / 7	75 000	19.8
26 / 7	74 200	18.9
30 / 7	80 000	17.8
30 / 19	78 500	18.0
54 / 7	67 100	19.3
54 / 19	69 700	19.5

Wire Configurations



Aluminium Conductors, Steel-Reinforced (ACSR). BS 215/2 Standard.

Code Name	CSA (mm ²)	Al Constr. No.×Ø	St Constr. No.×Ø	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Breaking (kN)
Gopher	25	6×2.36	1×2.36	7.08	106	1.09300	9.61
Weasel	30	6×2.59	1×2.59	7.77	128	0.90770	11.45
Ferret	40	6×3.00	1×3.00	9.00	172	0.67660	15.20
Rabbit	50	6×3.35	1×3.35	10.05	214	0.54260	18.35
Horse	70	12×2.79	7×2.79	13.95	538	0.39360	61.20
Dog	100	6×4.72	7×1.57	14.15	394	0.27330	32.70
Wolf	150	30×2.59	7×2.59	18.13	726	0.18280	69.20
Dingo	150	18×3.35	1×3.35	16.75	506	0.18150	35.70
Lynx	175	30×2.79	7×2.79	19.53	842	0.15760	79.80
Caracal	175	18×3.61	1×3.61	18.05	587	0.15630	41.10
Panther	200	30×3.00	7×3.00	21.00	974	0.13630	92.25
Jaguar	200	18×3.86	1×3.86	19.30	671	0.13670	46.55
Zebra	400	54×3.18	7×3.18	28.62	1621	0.06740	131.90

Data is approximate and subject to manufacturing tolerance. DC resistance is calculated value at 20 °C.

Aluminium Conductors, Steel-Reinforced (ACSR) -- Al/SIA Conductors. IEC 61089 Standard.

Code No.	St %	Al mm ²	St mm ²	Al Constr. No.×Ø	St Constr. No.×Ø	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Rated (kN)
16	17	16	2.67	6×1.84	1×1.84	5.53	64.6	1.79340	6.08
25	17	25	4.17	6×2.30	1×2.30	6.91	100.9	1.14780	9.13
40	17	40	6.67	6×2.91	1×2.91	8.74	161.5	0.71740	14.40
63	17	63	10.50	6×3.66	1×3.66	11.00	254.4	0.45550	21.63
100	17	100	16.70	6×4.61	1×4.61	13.80	403.8	0.28690	34.33
125	6	125	6.94	18×2.97	1×2.97	14.90	397.9	0.23040	29.17
125	16	125	20.40	26×2.47	7×1.92	15.70	503.9	0.23100	45.69
160	6	160	8.89	18×3.36	1×3.36	16.80	509.3	0.18000	36.18
160	16	160	26.10	26×2.80	7×2.18	17.70	644.9	0.18050	57.69
200	6	200	11.10	18×3.76	1×3.76	18.80	636.7	0.14400	44.22
200	16	200	32.60	26×3.13	7×2.43	19.80	806.2	0.14440	70.13
250	10	250	24.60	22×3.80	7×2.11	21.60	880.6	0.11540	68.72
250	16	250	40.70	26×3.50	7×2.72	22.20	1007.7	0.11550	87.67
315	7	315	21.80	45×2.99	7×1.99	23.90	1039.6	0.09170	79.03
315	16	315	51.30	26×3.93	7×3.05	24.90	1269.7	0.09170	106.83
400	7	400	27.70	45×3.36	7×2.24	26.90	1320.1	0.07220	98.36
400	13	400	51.90	54×3.07	7×3.07	27.60	1510.3	0.07230	123.04
450	7	450	31.10	45×3.57	7×2.38	28.50	1485.2	0.06420	107.47
450	13	450	58.30	54×3.26	7×3.26	29.30	1699.1	0.06430	138.42
500	7	500	34.60	45×3.76	7×2.51	30.10	1650.2	0.05780	119.41
500	13	500	64.80	54×3.43	7×3.43	30.90	1887.9	0.05780	153.50

Data is approximate and subject to manufacturing tolerance. DC resistance is calculated value at 20 °C.

Aluminium Conductors, Steel-Reinforced (ACSR) -- Al/SIA Conductors. IEC 61089 Standard (Cont'd).

Code No.	St %	Al mm ²	St mm ²	Al Constr. No.×Ø	St Constr. No.×Ø	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Rated (kN)
560	7	560	38.70	45×3.98	7×2.65	31.80	1848.2	0.05160	133.74
560	13	560	70.90	54×3.63	19×2.18	32.70	2103.4	0.05160	172.59
630	7	630	43.60	45×4.22	7×2.81	33.80	2079.2	0.04590	150.45
630	13	630	79.80	54×3.85	19×2.31	34.70	2366.3	0.04590	191.77
710	7	710	49.10	45×4.48	7×2.99	35.90	2343.2	0.04070	169.56
710	13	710	89.90	54×4.09	19×2.45	36.80	2666.8	0.04070	216.12
800	4	800	34.60	72×3.76	7×2.51	37.60	2480.2	0.03610	167.41
800	8	800	66.70	84×3.48	7×3.48	38.30	2732.7	0.03620	205.33
800	13	800	101.0	54×4.34	19×2.61	39.10	3004.9	0.03620	243.52
900	4	900	38.90	72×3.99	7×2.66	39.90	2790.2	0.03210	188.33
900	8	900	75.00	84×3.69	7×3.69	40.60	3074.2	0.03220	226.50
1000	4	1000	43.20	72×4.21	7×2.80	42.10	3100.3	0.02890	209.26
1120	4	1120	47.30	72×4.45	19×1.78	44.50	3464.9	0.02580	234.53
1120	8	1120	91.20	84×4.12	19×2.47	45.30	3811.5	0.02580	283.17
1250	8	1250	102.0	84×4.35	19×2.61	47.90	4253.9	0.02320	316.04
1250	4	1250	52.80	72×4.70	19×1.88	47.00	3867.1	0.02310	261.75

Data is approximate and subject to manufacturing tolerance. DC resistance is calculated value at 20 °C.

Aluminium Conductors, Steel-Reinforced (ACSR). DIN 48204 Standard.

Nom. CSA	Al mm ²	St mm ²	Al Constr. No.×Ø	St Constr. No.×Ø	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Amp. (A)*	Rated (kN)
16/2.5	15.27	2.54	6×1.80	1×1.80	5.4	62	1.87930	105	5.81
25/4	23.86	3.98	6×2.25	1×2.25	6.8	97	1.20280	140	9.02
35/6	34.35	5.73	6×2.70	1×2.70	8.1	140	0.83530	170	12.70
44/32	43.98	31.67	14×2.00	7×2.40	11.2	373	0.65730	195	45.46
50/8	48.25	8.04	6×3.20	1×3.20	9.6	196	0.59460	210	17.18
50/30	51.17	29.85	12×2.33	7×2.33	11.7	378	0.56440	213	44.28
70/12	69.89	11.40	26×1.85	7×1.44	11.7	284	0.41300	290	26.31
95/15	94.39	15.33	26×2.15	7×1.67	13.6	383	0.30580	350	35.17
95/55	96.61	66.30	12×3.20	7×3.20	16.0	714	0.29920	367	80.20
105/75	105.67	75.55	14×3.10	19×2.25	17.5	899	0.27360	394	106.69
120/20	121.57	19.85	26×2.44	7×1.90	15.5	494	0.23740	410	44.94
120/70	122.15	71.25	12×3.60	7×3.60	18.0	904	0.23640	724	98.16
125/30	127.92	29.85	30×2.33	7×2.33	16.3	590	0.22590	425	57.86
150/25	148.86	24.25	26×2.70	7×2.10	17.1	604	0.19390	470	54.37
170/40	171.77	40.08	30×2.70	7×2.70	18.9	794	0.16820	520	77.01
185/30	183.78	29.85	26×3.00	7×2.33	19.0	744	0.15710	535	66.28

* Ampacity values applicable up to 60 Hz at wind velocity of 0.6 m/s and solar effects for an original ambient temperature of 35 °C and a final conductor temperature of 80 °C. Reduce values by approximately 30% in case of special locations at still air.

Aluminium Conductors, Steel-Reinforced (ACSR). DIN 48204 Standard (Cont'd).

Nom. CSA	Al mm ²	St mm ²	Al Constr. No.×Ø	St Constr. No.×Ø	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Amp. (A)*	Rated (kN)
210/35	209.10	34.09	26×3.20	7×2.49	20.3	848	0.13800	590	74.94
210/50	212.06	49.48	30×3.00	7×3.00	21.0	979	0.13630	610	92.25
230/30	230.91	28.85	24×3.50	7×2.33	21.0	874	0.12490	630	73.09
240/40	243.05	39.49	26×3.45	7×2.68	21.8	985	0.11880	645	86.46
265/35	263.66	34.09	24×3.74	7×2.49	22.4	998	0.10940	680	82.94
300/50	304.26	49.48	26×3.85	7×3.00	24.5	1233	0.09490	740	105.09
305/40	304.62	39.49	54×2.68	7×2.68	24.1	1155	0.09490	740	99.30
340/30	339.29	29.85	48×3.00	7×2.33	25.0	1174	0.08510	790	92.56
380/50	381.70	49.48	54×3.00	7×3.00	27.0	1448	0.07570	840	120.91
385/35	386.04	34.09	48×3.20	7×2.49	26.7	1336	0.07480	850	104.31
435/55	434.29	56.30	54×3.20	7×3.20	28.8	1647	0.06660	900	136.27
450/40	448.71	39.49	48×3.45	7×2.68	28.7	1553	0.06440	920	120.19
490/65	490.29	63.55	54×3.40	7×3.40	30.6	1860	0.05900	960	152.85
495/35	494.36	34.09	45×3.74	7×2.49	29.9	1636	0.05840	985	120.31
510/45	510.54	45.28	48×3.68	7×2.87	30.7	1770	0.05660	995	134.33
550/70	549.65	71.25	54×3.60	7×3.60	32.4	2085	0.05260	1020	167.42
560/50	561.7	49.48	48×3.86	7×3.00	32.2	1943	0.05140	1040	146.28
570/40	571.16	39.49	45×4.02	7×2.68	32.2	1889	0.05060	1050	137.98
650/45	653.49	45.28	45×4.30	7×2.87	34.4	2163	0.04420	1120	155.52
680/85	678.58	85.95	54×4.00	19×2.40	36.0	2564	0.04260	1150	209.99

* Ampacity values applicable up to 60 Hz at wind velocity of 0.6 m/s and solar effects for an original ambient temperature of 35 °C and a final conductor temperature of 80 °C. Reduce values by approximately 30% in case of special locations at still air.

Aluminium Conductors, Steel-Reinforced (ACSR). ASTM B 232 Standard. Selected sizes shown.

Code Word	MCM	Al Constr. No. × Ø	St Constr. No. × Ø	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Rated (kN)
Turkey	26	6 × 1.68	1 × 1.68	5.04	53.6	2.15703	5.28
Swan	41.74	6 × 2.12	1 × 2.12	6.36	85.3	1.35457	8.30
Sparrow	66.36	6 × 2.67	1 × 2.67	8.01	135.7	0.85399	12.69
Robin	83.69	6 × 3.00	1 × 3.00	9.00	171.1	0.67644	15.81
Raven	105.60	6 × 3.37	1 × 3.37	10.11	216.1	0.53606	19.35
Quail	133.10	6 × 3.78	1 × 3.78	11.34	272.0	0.42608	23.27
Pigeon	167.80	6 × 4.25	1 × 4.25	12.75	343.0	0.33705	29.42
Penguin	211.60	6 × 4.77	1 × 4.77	14.31	432.7	0.26757	37.06
Partridge	266.80	26 × 2.57	7 × 2.00	16.28	545.9	0.21480	50.23
Ostrich	300.0	26 × 2.73	7 × 2.12	17.28	613.4	0.19036	56.55
Merlin	336.4	18 × 3.47	1 × 3.47	17.35	542.8	0.16937	38.17
Oriole	336.4	30 × 2.69	7 × 2.69	18.83	783.3	0.17034	77.43
Chickadee	397.5	18 × 3.77	1 × 3.77	18.85	641.3	0.14348	43.37
Hawk	477.0	26 × 3.44	7 × 2.67	21.77	975.1	0.11989	86.36
Dove	556.5	26 × 3.72	7 × 2.89	23.55	1138.6	0.10252	101.10
Eagle	556.5	30 × 3.46	7 × 3.46	24.22	1295.6	0.10296	122.94
Peacock	605.0	24 × 4.03	7 × 2.69	24.19	1158.9	0.09464	95.86
Drake	795.0	26 × 4.44	7 × 3.45	28.11	1626.4	0.07197	139.67
Tern	795.0	45 × 3.38	7 × 2.25	27.03	1331.8	0.07175	97.47
Cardinal	954.0	54 × 3.38	7 × 3.38	30.42	1825.9	0.05979	149.72

Data is approximate and subject to manufacturing tolerance. DC resistance is calculated value at 20 °C.

Aluminium Conductors, Steel-Reinforced (ACSR). ASTM B 232 Standard (Cont'd).

Code Word	MCM	Al Constr. No. × Ø	St Constr. No. × Ø	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Rated (kN)
Rail	954.0	45 × 3.70	7 × 2.47	29.61	1598.1	0.05988	116.07
Curlew	1033.5	54 × 3.51	7 × 3.51	31.62	1977.6	0.05545	161.46
Bluejay	1113.0	45 × 4.00	7 × 2.66	31.98	1866.0	0.05123	132.71
Finch	1113.0	54 × 3.65	19 × 2.19	32.85	2127.8	0.05152	174.60
Bunting	1192.5	45 × 4.14	7 × 2.76	33.12	1996.9	0.04783	142.42
Bittern	1272.0	45 × 4.27	7 × 2.85	34.16	2130.8	0.04496	151.63
Pheasant	1272.0	54 × 3.90	19 × 2.34	35.10	2431.4	0.04513	194.13
Bobolink	1431.0	45 × 4.53	7 × 3.02	36.24	2397.2	0.03995	170.51
Plover	1431.0	54 × 4.14	19 × 2.48	37.24	2734.9	0.04005	218.40
Falcon	1590.0	54 × 4.36	19 × 2.62	39.26	3038.5	0.03611	242.99
Chukar	1780.0	84 × 3.70	19 × 2.22	40.70	3083.1	0.03223	227.79
Bluebird	2156.0	84 × 4.07	19 × 2.44	44.76	3731.9	0.02664	268.05
Kiwi	2167.0	72 × 4.41	7 × 2.94	44.10	3423.9	0.02647	221.71
Thrasher	2312.0	76 × 4.43	19 × 2.07	45.79	3754.2	0.02485	251.86

Data is approximate and subject to manufacturing tolerance. DC resistance is calculated value at 20 °C.

Construction

Aluminium Conductors, Aluminium-Clad Steel Reinforced (ACSR/AW) is a concentric-lay-stranded conductor consisting of an aluminium-clad steel (Alumoweld) central core with one or more layers of hard drawn stranded aluminium wires. Alumoweld is a highly resistant steel rod covered with a thick coating of pure aluminium, which is cold-drawn to obtain wires of the required diameters. The design and dimensions of ACSR/AW conductors are identical to those of ordinary ACSR conductors, except the steel core in ACSR conductor is replaced by aluminium-clad steel core in ACSR/AW.

Application

Aluminium Conductors, Aluminium-Clad Steel Reinforced (ACSR/AW) can be used in Medium, High and Extra-High voltage transmission lines; also used for earth wires. In comparison with ACSR conductors, ACSR/AW conductors have considerable technical and economical advantages in overhead lines. Its lower weight combined with its higher current carrying capacity and corrosion protection provide a longer life cycle, reduction in energy losses and significant cost saving during the operation of the line.

Applicable Standards

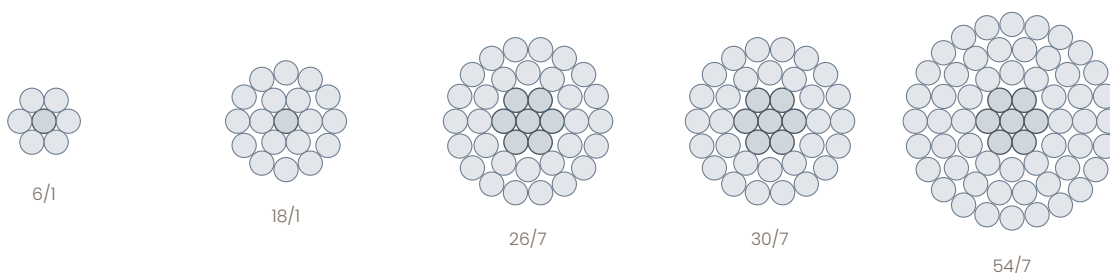
Aluminium Conductors, Aluminium-Clad Steel Reinforced (ACSR/AW) is designed and tested to meet:

- ASTM B 549

Technical Data

Composition (AL / AW)	Modulus of Elasticity (MPa)	Coeff. of Linear Exp. (per °C × 10 ⁻⁶)
6 / 1	74 500	19.3
6 / 7	71 600	20.0
26 / 7	71 600	19.1
30 / 7	74 500	18.0
30 / 19	72 500	18.2
54 / 7	65 700	19.5
54 / 19	63 700	19.6

Wire Configurations



Aluminium Conductors, Aluminium-Clad Steel Reinforced (ACSR/AW). ASTM B 549 Standard.

Code Word	MCM	Al Constr. No. x Ø	AW Constr. No. x Ø	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Rated (kN)
Swan/AW	41.74	6 x 2.12	1 x 2.12	6.36	81.0	1.28227	8.0
Swanate/AW	41.74	7 x 1.96	1 x 2.61	6.53	93.0	1.25114	10.0
Sparrow/AW	66.36	6 x 2.67	1 x 2.67	8.01	129.0	0.80840	12.0
Sparate/AW	66.36	7 x 2.47	1 x 3.30	8.24	149.0	0.78740	16.0
Grouse/AW	80.00	8 x 2.54	1 x 4.24	9.32	205.0	0.63591	22.0
Robin/AW	83.69	6 x 3.00	1 x 3.00	9.00	162.0	0.64034	15.0
Petrel/AW	101.80	12 x 2.34	7 x 2.34	11.70	342.0	0.46842	44.0
Raven/AW	105.60	6 x 3.37	1 x 3.37	10.11	205.0	0.50745	19.0
Minorca/AW	110.80	12 x 2.44	7 x 2.44	12.20	372.0	0.43081	48.0
Quail/AW	133.10	6 x 3.78	1 x 3.78	11.34	259.0	0.40334	23.0
Leghorn/AW	134.60	12 x 2.69	7 x 2.69	13.45	452.0	0.35445	58.0
Guinea/AW	159.00	12 x 2.92	7 x 2.92	14.60	534.0	0.30081	68.0
Pigeon/AW	167.80	6 x 4.25	1 x 4.25	12.75	326.0	0.31906	28.0
Dotterel/AW	176.90	12 x 3.08	7 x 3.08	15.40	594.0	0.27037	75.0
Dorking/AW	190.80	12 x 3.20	7 x 3.20	16.00	641.0	0.25047	81.0
Brahma/AW	203.20	16 x 2.86	19 x 2.48	18.12	894.0	0.21628	121.0
Cochin/AW	211.30	12 x 3.37	7 x 3.37	16.85	710.0	0.22584	88.0
Penguin/AW	211.60	6 x 4.77	1 x 4.77	14.31	412.0	0.25329	34.0
Waxwing/AW	266.80	18 x 3.09	1 x 3.09	15.45	421.0	0.20963	30.0
Partridge/AW	266.80	26 x 2.57	7 x 2.00	16.28	519.0	0.20351	48.0
Ostrich/AW	300.0	26 x 2.73	7 x 2.12	17.28	583.0	0.18040	54.0
Merlin/AW	336.40	18 x 3.47	1 x 3.47	17.35	531.0	0.16623	38.0
Linnet/AW	336.40	26 x 2.89	7 x 2.25	18.31	655.0	0.16093	60.0
Oriole/AW	336.40	30 x 2.69	7 x 2.69	18.83	737.0	0.15778	74.0
Chickadee/AW	397.50	18 x 3.77	1 x 3.77	18.85	628.0	0.14082	44.0
Brant/AW	397.50	24 x 3.27	7 x 2.18	19.62	731.0	0.13767	63.0
Ibis/AW	397.50	26 x 3.14	7 x 2.44	19.88	774.0	0.13635	70.0
Lark/AW	397.50	30 x 2.92	7 x 2.92	20.44	869.0	0.13390	87.0
Pelican/AW	477.00	18 x 4.14	1 x 4.14	20.70	755.0	0.11678	51.0
Flicker/AW	477.00	24 x 3.58	7 x 2.39	21.49	877.0	0.11484	74.0
Hawk/AW	477.00	26 x 3.44	7 x 2.68	21.80	929.0	0.11358	84.0
Hen/AW	477.00	30 x 3.20	7 x 3.20	22.40	1043.0	0.11150	104.0
Osprey/AW	556.50	18 x 4.47	1 x 4.47	22.35	880.0	0.10017	59.0
Parakeet/AW	556.50	24 x 3.87	7 x 2.58	23.22	1022.0	0.09829	86.0

Data is approximate and subject to manufacturing tolerance. DC resistance is calculated value at 20 °C.

Aluminium Conductors, Aluminium-Clad Steel Reinforced (ACSR/AW). ASTM B 549 Standard (Cont'd).

Code Word	MCM	Al Constr. No. x Ø	AW Constr. No. x Ø	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Rated (kN)
Dove/AW	556.50	26 x 3.72	7 x 2.89	23.55	1083.0	0.09715	97.0
Eagle/AW	556.50	30 x 3.46	7 x 3.46	24.22	1217.0	0.09537	119.0
Peacock/AW	605.00	24 x 4.03	7 x 2.69	24.19	1112.0	0.09063	93.0
Squab/AW	605.00	26 x 3.87	7 x 3.01	24.51	1177.0	0.08976	105.0
Wood Duck/AW	605.00	30 x 3.61	7 x 3.61	25.27	1323.0	0.08761	126.0
Teal/AW	605.00	30 x 3.61	19 x 2.16	25.24	1314.0	0.08780	127.0
Kingbird/AW	636.00	18 x 4.78	1 x 4.78	23.90	1006.0	0.08760	67.0
Swift/AW	636.00	36 x 3.38	1 x 3.38	23.66	946.0	0.08842	61.0
Rook/AW	636.00	24 x 4.14	7 x 2.76	24.84	1168.0	0.08589	98.0
Grosbeak/AW	636.00	26 x 3.97	7 x 3.09	25.15	1238.0	0.08528	110.0
Scoter/AW	636.00	30 x 3.70	7 x 3.70	25.90	1391.0	0.08340	130.0
Egret/AW	636.00	30 x 3.70	19 x 2.22	25.90	1381.0	0.08355	133.0
Flamingo/AW	666.60	24 x 4.23	7 x 2.82	25.38	1225.0	0.08227	103.0
Gannet/AW	666.60	26 x 4.07	7 x 3.16	25.76	1298.0	0.08117	116.0
Stilt/AW	715.50	24 x 4.39	7 x 2.92	26.32	1314.0	0.07640	110.0
Starling/AW	715.50	26 x 4.21	7 x 3.28	26.68	1393.0	0.07583	122.0
Redwing/AW	715.50	30 x 3.92	19 x 2.35	27.43	1552.0	0.07444	149.0
Coot/AW	795.00	36 x 3.77	1 x 3.77	26.39	1183.0	0.07107	74.0
Cuckoo/AW	795.00	24 x 4.62	7 x 3.08	27.74	1460.0	0.06897	122.0
Drake/AW	795.00	26 x 4.44	7 x 3.45	28.11	1549.0	0.06820	136.0
Tern/AW	795.00	45 x 3.38	7 x 2.25	27.03	1298.0	0.07011	96.0
Condor/AW	795.00	54 x 3.08	7 x 3.08	27.72	1458.0	0.06897	124.0
Mallard/AW	795.00	30 x 4.14	19 x 2.48	28.96	1726.0	0.06675	165.0
Ruddy/AW	900.00	45 x 3.59	7 x 2.40	28.73	1470.0	0.06213	107.0
Canary/AW	900.00	54 x 3.28	7 x 3.28	29.52	1653.0	0.06081	138.0
Catbird/AW	954.00	36 x 4.14	1 x 4.14	28.98	1420.0	0.05894	87.0
Rail/AW	954.00	45 x 3.70	7 x 2.47	29.61	1558.0	0.05850	113.0
Cardinal/AW	954.00	54 x 3.38	7 x 3.38	30.42	1752.0	0.05727	146.0

Data is approximate and subject to manufacturing tolerance. DC resistance is calculated value at 20 °C.

Aluminium Conductors, Aluminium-Clad Steel Reinforced (ACSR/AW). ASTM B 549 Standard (Cont'd).

Code Word	MCM	Al Constr. No.×Ø	AW Constr. No.×Ø	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Rated (kN)
Tanager/AW	1033.50	36×4.30	1×4.30	30.12	1537.0	0.05463	94.0
Ortolan/AW	1033.50	45×3.85	7×2.57	30.81	1688.0	0.05403	121.0
Curlew/AW	1033.50	54×3.51	7×3.51	31.62	1896.0	0.05310	158.0
Bluejay/AW	1113.00	45×4.00	7×2.66	31.98	1819.0	0.05006	130.0
Finch/AW	1113.00	54×3.65	19×2.19	32.85	2043.0	0.04939	167.0
Bunting/AW	1192.50	45×4.14	7×2.76	33.12	1948.0	0.04673	139.0
Grackle/AW	1192.50	54×3.77	19×2.27	33.97	2188.0	0.04628	179.0
Skylark/AW	1272.00	36×4.78	1×4.78	33.46	1893.0	0.04421	114.0
Bittern/AW	1272.00	45×4.27	7×2.85	34.16	2078.0	0.04392	149.0
Pheasant/AW	1272.00	54×3.90	19×2.34	35.10	2333.0	0.04326	189.0
Dipper/AW	1351.50	45×4.40	7×2.93	35.19	2207.0	0.04137	158.0
Martin/AW	1351.50	54×4.02	19×2.41	36.17	2478.0	0.04072	201.0
Bobolink/AW	1431.00	45×4.53	7×3.02	36.24	2336.0	0.03903	167.0
Plover/AW	1431.00	54×4.14	19×2.48	37.24	2625.0	0.03840	212.0
Nuthatch/AW	1510.50	45×4.65	7×3.10	37.20	2467.0	0.03704	177.0
Parrot/AW	1510.50	54×4.25	19×2.55	38.25	2768.0	0.03643	224.0
Lapwing/AW	1590.00	45×4.78	7×3.18	38.20	2598.0	0.03506	186.0
Falcon/AW	1590.00	54×4.36	19×2.62	39.26	2917.0	0.03461	236.0
Chukar/AW	1780.00	84×3.70	19×2.22	40.70	2996.0	0.03136	220.0
Bluebird/AW	2156.00	84×4.07	19×2.44	44.76	3627.0	0.02592	262.0
Kiwi/AW	2167.00	72×4.41	7×2.94	44.10	3366.0	0.02609	218.0
Thrasher/AW	2312.00	76×4.43	19×2.07	45.79	3679.0	0.02440	246.0

Data is approximate and subject to manufacturing tolerance. DC resistance is calculated value at 20 °C.

Construction

Aluminium Conductors, Aluminium-Alloy Reinforced (ACAR) is a concentric-lay-stranded conductor consisting of stranded aluminium-alloy central core with one or more layers of hard drawn stranded aluminium wires. The diameters of all wires are the same. Aluminium and aluminium-alloy wires can be mixed in the same layer.

Application

Aluminium Conductors, Aluminium-Alloy Reinforced (ACAR) can be used as bare overhead transmission conductor or primary or secondary distribution conductor. When higher capacity and strength for equal weight are prime line considerations, ACAR is the solution over ACSR due to its better strength-to-weight ratio.

Applicable Standards

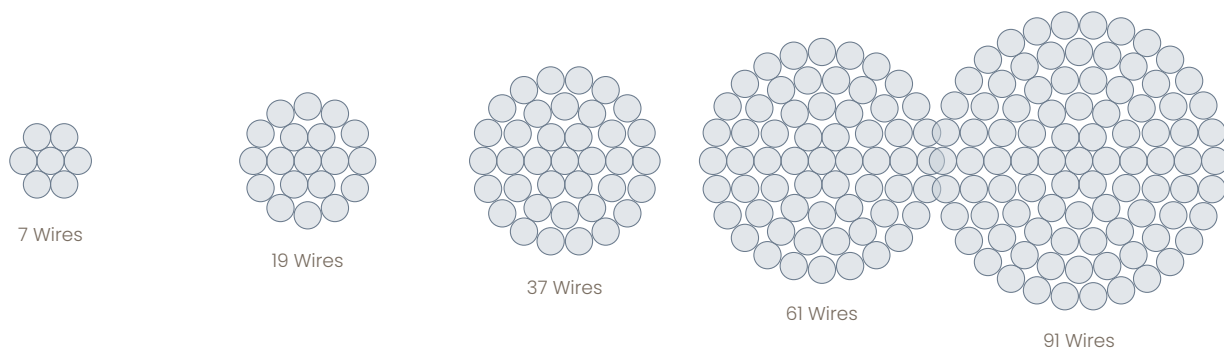
Aluminium Conductors, Aluminium-Alloy Reinforced (ACAR) can be supplied to meet various International Standards:

- IEC 61089
- ASTM B 524

Technical Data

Composition (AL + ALLOY)	Modulus of Elasticity (MPa)	Coeff. of Linear Exp. (per °C × 10 ⁻⁶)
7	63 300	23.0
19	61 200	23.0
37	58 900	23.0
61	58 300	23.0
91	58 300	23.0

Wire Configurations



Aluminium Conductors, Aluminium-Alloy Reinforced (ACAR) -- Al/A2 Conductors. IEC 61089 Standard.

Code No.	Al mm ²	Alloy mm ²	Al Constr. No.×Ø	Alloy Constr. No.×Ø	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Rated (kN)
16	9.73	7.30	4×1.76	3×1.76	5.28	46.6	1.78960	3.85
25	15.20	11.40	4×2.20	3×2.20	6.60	72.8	1.14530	5.93
40	24.30	18.30	4×2.78	3×2.78	8.35	116.5	0.71580	9.25
63	38.30	28.70	4×3.49	3×3.49	10.50	183.5	0.45450	14.38
100	60.80	45.60	4×4.40	3×4.40	13.20	291.2	0.28630	22.52
125	83.30	48.60	12×2.97	7×2.97	14.90	362.7	0.23020	27.79
160	107.00	62.20	12×3.36	7×3.36	16.80	464.2	0.17980	35.04
200	133.00	77.80	12×3.76	7×3.76	18.80	580.3	0.14390	43.13
250	167.00	97.20	12×4.21	7×4.21	21.00	725.3	0.11510	53.92
250	131.00	138.00	18×3.04	19×3.04	21.30	742.2	0.11540	60.39
315	263.00	61.30	30×3.34	7×3.34	23.40	892.6	0.09160	60.52
315	165.00	174.00	18×3.42	19×3.42	23.90	935.1	0.09160	76.09
400	334.00	77.80	30×3.76	7×3.76	26.30	1133.5	0.07210	75.19
400	210.00	221.00	18×3.85	19×3.85	27.00	1187.5	0.07210	95.58
450	375.00	87.60	30×3.99	7×3.99	27.90	1275.2	0.06410	84.59
450	236.00	249.00	18×4.08	19×4.08	28.60	1335.9	0.06410	107.52
500	417.00	97.30	30×4.21	7×4.21	29.40	1416.9	0.05770	93.98
500	262.00	277.00	18×4.31	19×4.31	30.10	1484.3	0.05770	119.47
560	467.00	109.00	30×4.45	7×4.45	31.20	1586.9	0.05150	105.26
560	504.00	65.40	54×3.45	7×3.45	31.00	1571.9	0.05160	101.54
630	454.00	205.00	42×3.71	19×3.71	33.40	1820.0	0.04580	130.25
630	271.00	417.00	24×3.79	37×3.79	34.10	1897.5	0.04580	160.19
710	512.00	232.00	42×3.94	19×3.94	35.50	2051.2	0.04070	146.78
710	305.00	470.00	24×4.02	37×4.02	36.20	2138.4	0.04070	180.53
800	577.00	261.00	42×4.18	19×4.18	37.60	2311.2	0.03610	165.39
800	344.00	530.00	24×4.27	37×4.27	38.40	2409.5	0.03610	203.41
900	649.00	294.00	42×4.43	19×4.43	39.90	2600.1	0.03210	186.06
900	567.00	388.00	54×3.66	37×3.66	40.20	2638.4	0.03210	199.54
1000	816.00	215.00	72×3.80	19×3.80	41.80	2849.1	0.02890	190.94
1000	630.00	432.00	54×3.85	37×3.85	42.40	2931.6	0.02890	221.71
1120	914.00	241.00	72×4.02	19×4.02	44.20	3191.0	0.02580	213.85
1120	705.00	483.00	54×4.08	37×4.08	44.90	3283.4	0.02580	248.32
1250	1020.00	269.00	72×4.25	19×4.25	46.70	3561.4	0.02310	238.68
1250	787.00	539.00	54×4.31	37×4.31	47.40	3664.5	0.02310	277.14
1400	1143.00	302.00	72×4.50	19×4.50	49.40	3988.8	0.02070	267.32

Data is approximate and subject to manufacturing tolerance. DC resistance is calculated value at 20 °C.

Aluminium Conductors, Aluminium-Alloy Reinforced (ACAR) -- Al/A3 Conductors. IEC 61089 Standard.

Code No.	Al mm ²	Alloy mm ²	Al Constr. No.×Ø	Alloy Constr. No.×Ø	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Rated (kN)
16	9.78	7.33	4×1.76	3×1.76	5.29	46.8	1.78960	4.07
25	15.30	11.50	4×2.21	3×2.21	6.62	73.1	1.14530	6.29
40	24.40	18.30	4×2.79	3×2.79	8.37	117.0	0.71580	9.82
63	38.50	28.90	4×3.50	3×3.50	10.50	184.3	0.45450	14.80
100	61.10	45.80	4×4.41	3×4.41	13.20	292.5	0.28630	23.49
125	83.70	48.80	12×2.98	7×2.98	14.90	364.1	0.23020	29.29
160	107.00	62.50	12×3.37	7×3.37	16.90	466.0	0.17980	36.95
200	134.00	78.10	12×3.77	7×3.77	18.80	582.5	0.14390	44.78
250	167.00	97.60	12×4.21	7×4.21	21.10	728.1	0.11510	55.98
250	132.00	139.00	18×3.05	19×3.05	21.40	746.0	0.11540	64.67
315	263.00	61.40	30×3.34	7×3.34	23.40	894.4	0.09160	62.40
315	166.00	175.00	18×3.43	19×3.43	24.00	940.0	0.09160	81.48
400	334.00	78.00	30×3.77	7×3.77	26.40	1135.8	0.07210	76.82
400	211.00	222.00	18×3.86	19×3.86	27.00	1193.7	0.07210	100.30
450	376.00	87.70	30×3.99	7×3.99	28.00	1277.8	0.06410	86.42
450	237.00	250.00	18×4.10	19×4.10	28.70	1342.9	0.06410	112.84
500	418.00	97.50	30×4.21	7×4.21	29.50	1419.8	0.05770	96.03
500	263.00	278.00	18×4.32	19×4.32	30.20	1492.1	0.05770	125.38
560	468.00	109.00	30×4.46	7×4.46	31.20	1590.1	0.05150	107.55
560	505.00	65.50	54×3.45	7×3.45	31.10	1573.9	0.05160	103.53
630	456.00	206.00	42×3.72	19×3.72	33.40	1826.0	0.04580	134.59
630	272.00	420.00	24×3.80	37×3.80	34.20	1909.0	0.04580	169.14
710	514.00	232.00	42×3.95	19×3.95	35.50	2057.8	0.04070	151.68
710	307.00	473.00	24×4.03	37×4.03	36.30	2151.4	0.04070	190.61
800	579.00	262.00	42×4.19	19×4.19	37.70	2318.7	0.03610	170.90
800	346.00	533.00	24×4.28	37×4.28	38.50	2424.2	0.03610	214.78
900	651.00	294.00	42×4.44	19×4.44	40.00	2608.5	0.03210	192.27
900	569.00	390.00	54×3.66	37×3.66	40.30	2649.5	0.03210	207.79
1000	818.00	216.00	72×3.80	19×3.80	41.80	2855.4	0.02890	195.47
1000	632.00	433.00	54×3.86	37×3.86	42.50	2943.9	0.02890	230.88
1120	916.00	242.00	72×4.02	19×4.02	44.30	3198.1	0.02580	218.92
1120	708.00	485.00	54×4.09	37×4.09	45.00	3297.2	0.02580	258.58
1250	1022.00	270.00	72×4.25	19×4.25	46.80	3569.3	0.02310	244.33
1250	791.00	542.00	54×4.32	37×4.32	47.50	3679.5	0.02310	288.60
1400	1145.00	302.00	72×4.50	19×4.50	49.50	3997.6	0.02070	273.65

Data is approximate and subject to manufacturing tolerance. DC resistance is calculated value at 20 °C.

Aluminium Conductors, Aluminium-Alloy Reinforced (ACAR). ASTM B 524 Standard.

CSA (mm ²)	Al Constr. No. × Ø	Alloy Constr. No. × Ø	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Rated (kN)
16	4×1.71	3×1.71	5.13	44.2	1.90726	3.59
20	4×1.91	3×1.91	5.73	55.2	1.52875	4.48
25	4×2.13	3×2.13	6.39	68.6	1.22926	5.57
31.5	4×2.39	3×2.39	7.17	86.4	0.97635	7.01
40	4×2.70	3×2.70	8.10	110.3	0.76502	8.95
50	4×3.02	3×3.02	9.06	138.1	0.61149	11.20
63	4×3.39	3×3.39	10.17	173.9	0.48529	13.70
80	4×3.81	3×3.81	11.43	219.7	0.38420	17.20
100	4×4.26	3×4.26	12.78	274.6	0.30731	21.31
112	4×4.51	3×4.51	13.53	307.8	0.27419	23.90
125	4×4.77	3×4.77	14.31	344.3	0.24511	26.70
140	15×3.06	4×3.06	15.30	385.0	0.21257	26.50
140	12×3.06	7×3.06	15.30	384.0	0.21750	30.10
160	15×3.27	4×3.27	16.35	440.0	0.18614	29.80
160	12×3.27	7×3.27	16.35	439.0	0.19046	33.50
180	15×3.47	4×3.47	17.35	495.0	0.16530	33.60
180	12×3.47	7×3.47	17.35	495.0	0.16914	37.80
200	15×3.66	4×3.66	18.30	550.0	0.14858	36.90
200	12×3.66	7×3.66	18.30	550.0	0.15203	41.60
224	15×3.87	4×3.87	19.35	616.0	0.13290	40.60
224	12×3.87	7×3.87	19.35	615.0	0.13598	46.00
250	15×4.09	4×4.09	20.45	688.0	0.11898	45.30
250	12×4.09	7×4.09	20.45	687.0	0.12174	51.40
250	18×2.93	19×2.93	20.51	687.0	0.12447	57.40
250	24×2.93	13×2.93	20.51	686.0	0.12151	51.40
250	30×2.93	7×2.93	20.51	688.0	0.11869	46.60
250	33×2.93	4×2.93	20.51	688.0	0.11733	42.90
280	15×4.33	4×4.33	21.65	771.0	0.10616	50.80
280	12×4.33	7×4.33	21.65	771.0	0.10862	57.60
280	18×3.10	19×3.10	21.70	768.0	0.11119	64.20
280	24×3.10	13×3.10	21.70	769.0	0.10855	57.60
280	30×3.10	7×3.10	21.70	770.0	0.10603	52.10
280	33×3.10	4×3.10	21.70	770.0	0.10482	48.10
315	18×3.29	19×3.29	23.03	865.0	0.09872	70.20
315	24×3.29	13×3.29	23.03	866.0	0.09638	63.40

Data is approximate and subject to manufacturing tolerance. DC resistance is calculated value at 20 °C.

Aluminium Conductors, Aluminium-Alloy Reinforced (ACAR). ASTM B 524 Standard (Cont'd).

CSA (mm ²)	Al Constr. No.×Ø	Alloy Constr. No.×Ø	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Rated (kN)
315	30×3.29	7×3.29	23.03	866.0	0.09461	57.70
315	33×3.29	4×3.29	23.03	866.0	0.09335	53.40
355	18×3.49	19×3.49	24.43	975.0	0.08774	78.90
355	24×3.49	13×3.49	24.43	975.0	0.08555	71.20
355	30×3.49	7×3.49	24.43	975.0	0.08371	65.00
355	33×3.49	4×3.49	24.43	975.0	0.08271	60.00
400	18×3.70	19×3.70	25.93	1098.0	0.07788	88.70
400	24×3.70	13×3.70	25.93	1098.0	0.07592	80.10
400	30×3.70	7×3.70	25.93	1098.0	0.07421	73.20
400	33×3.70	4×3.70	25.93	1098.0	0.07321	67.50
450	18×3.93	19×3.93	27.50	1236.0	0.06914	99.70
450	24×3.93	13×3.93	27.50	1236.0	0.06745	90.10
450	30×3.93	7×3.93	27.50	1236.0	0.06591	82.20
450	33×3.93	4×3.93	27.50	1236.0	0.06498	75.90
500	18×4.14	19×4.14	29.00	1373.0	0.06228	110.80
500	24×4.14	13×4.14	29.00	1373.0	0.06068	100.10
500	30×4.14	7×4.14	29.00	1373.0	0.05934	91.30
500	33×4.14	4×4.14	29.00	1373.0	0.05849	84.40
560	24×4.38	13×4.38	30.70	1538.0	0.05416	112.20
560	30×4.38	7×4.38	30.70	1538.0	0.05297	102.30
560	33×4.38	4×4.38	30.70	1538.0	0.05217	94.50
630	24×4.64	13×4.64	32.50	1730.0	0.04819	126.20
630	30×4.64	7×4.64	32.50	1730.0	0.04711	115.10
630	33×4.64	4×4.64	32.50	1730.0	0.04641	106.30
710	24×4.93	13×4.93	34.50	1950.0	0.04278	142.10
710	30×4.93	7×4.93	34.50	1950.0	0.04182	129.70
710	33×4.93	4×4.93	34.50	1950.0	0.04119	119.80
800	24×5.23	13×5.23	36.60	2196.0	0.03798	160.10
800	30×5.23	7×5.23	36.60	2196.0	0.03713	146.00
800	33×5.23	4×5.23	36.60	2196.0	0.03654	134.80
900	42×4.15	19×4.15	37.40	2469.0	0.03380	179.50
900	54×3.67	37×3.67	37.70	2477.0	0.03378	195.00
1000	42×4.38	19×4.38	39.40	2743.0	0.03043	199.40
1000	54×3.87	37×3.87	39.80	2753.0	0.03038	216.70
1120	42×4.64	19×4.64	41.80	3073.0	0.02715	223.30
1120	54×4.10	37×4.10	42.10	3083.0	0.02713	242.70
1250	42×4.91	19×4.91	44.20	3429.0	0.02434	249.20
1250	54×4.33	37×4.33	44.40	3439.0	0.02430	270.80
1400	42×5.20	19×5.20	46.80	3840.0	0.02175	279.00
1400	54×4.59	37×4.59	47.10	3852.0	0.02170	303.20

Data is approximate and subject to manufacturing tolerance. DC resistance is calculated value at 20 °C.

Construction

Service drop or secondary distribution cables composed of one or more concentric-lay-stranded aluminium 1350 phase conductors insulated with an extruded layer of cross-linked polyethylene compound and assembled with one neutral conductor of All Aluminium Conductors (AAC); Aluminium-Alloy Conductors 6201-T81 (AAAC); Aluminium Conductors, Steel-Reinforced (ACSR); or Aluminium Conductors, Aluminium-Clad Steel Reinforced (ACSR/AW). The neutral conductor may be bare or covered with an extruded layer of cross-linked polyethylene compound.

Note: This catalogue covers only the design and construction of Quadruplex cables with three concentric-lay-stranded aluminium 1350 phase conductors assembled with one bare full neutral conductor. However, we can provide the necessary information for any other type or design upon a customer's request.

Application

Service drop cables are intended for use either as a service drop cable between a power pole and the service entrance, or as a secondary distribution cable between poles. The use of these service drop or secondary distribution cables is limited to circuits not exceeding 600 volts phase-to-phase or 480 volts phase-to-ground, to a normal temperature rating of the service conductor temperature of 90 °C.

Applicable Standard

Weather-resistant service drop cables are designed and tested to meet:

- ANSI / ICEA S-76-474

Technical Data

- Nominal voltage: 480 V phase-to-ground / 600 V phase-to-phase
- Power frequency test voltage: 3.0 kV for 1 minute
- Max. conductor temperature (normal operation): 90 °C
- Max. conductor temperature (emergency): 130 °C
- Max. conductor temperature (short circuit): 250 °C

Quadruplex Service Drop Cables With Bare AAC Neutral Conductor. ANSI / ICEA S-76-474 Standard.

Phase MCM	Phase mm ²	Min. Insul. (mm)	Neut. MCM	Neut. mm ²	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Neut. Rated (kN)
4	21.1	1.0	4	21.1	18.3	322	1.36505	3.91
2	33.6	1.0	2	33.6	21.9	485	0.85954	5.99
1/0	53.5	1.4	1/0	53.5	28.2	786	0.53871	8.84
2/0	67.4	1.4	2/0	67.4	30.9	966	0.42808	11.10
3/0	85.0	1.4	3/0	85.0	34.0	1192	0.33953	13.50
4/0	107.2	1.4	4/0	107.2	37.6	1478	0.26842	17.00
266.8	135.2	1.8	266.8	135.2	43.8	1871	0.21324	22.10
336.4	170.5	1.8	336.4	170.5	48.2	2306	0.16911	27.30
397.5	201.4	1.8	397.5	201.4	51.8	2694	0.14344	31.60
477.0	241.7	1.8	477.0	241.7	56.1	3149	0.11961	38.60

Quadruplex Service Drop Cables With Bare AAAC Neutral Conductor. ANSI / ICEA S-76-474 Standard.

Phase MCM	Phase mm ²	Min. Insul. (mm)	AAAC MCM	AAAC mm ²	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Neut. Rated (kN)
4	21.1	1.0	48.69	24.7	18.5	332	1.36505	7.83
2	33.6	1.0	77.47	39.2	22.3	499	0.85954	12.40
1/0	53.5	1.4	123.30	62.4	28.6	810	0.53871	18.90
2/0	67.4	1.4	155.40	78.6	31.4	995	0.42808	23.80
3/0	85.0	1.4	195.70	99.3	34.6	1230	0.33953	30.00
4/0	107.2	1.4	246.90	125.0	38.2	1526	0.26842	37.80
266.8	135.2	1.8	312.80	159.0	44.5	1934	0.21324	46.50
336.4	170.5	1.8	394.50	200.0	49.0	2385	0.16911	58.60
397.5	201.4	1.8	465.40	236.0	52.7	2788	0.14344	69.20
477.0	241.7	1.8	559.50	284.0	57.1	3263	0.11961	83.10

Data is approximate and subject to manufacturing tolerance. DC resistance is maximum value at 20 °C.

Quadruplex Service Drop Cables With Bare ACSR Neutral Conductor. ANSI / ICEA S-76-474 Standard.

Phase MCM	Phase mm ²	Min. Insul. (mm)	ACSR MCM	ACSR mm ²	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Neut. Rated (kN)
4	21.1	1.0	4	21.1	18.5	349	1.36505	8.30
2	33.6	1.0	2	33.6	22.3	528	0.85954	12.69
1/0	53.5	1.4	1/0	53.5	28.6	855	0.53871	19.35
2/0	67.4	1.4	2/0	67.4	31.4	1052	0.42808	23.27
3/0	85.0	1.4	3/0	85.0	34.6	1301	0.33953	29.42
4/0	107.2	1.4	4/0	107.2	38.2	1616	0.26842	37.06
266.8	135.2	1.8	266.8	135.2	44.0	1929	0.21324	30.27
336.4	170.5	1.8	336.4	170.5	48.4	2379	0.16911	38.17
397.5	201.4	1.8	397.5	201.4	52.1	2780	0.14344	43.37
477.0	241.7	1.8	477.0	241.7	56.4	3254	0.11961	52.30

Quadruplex Service Drop Cables With Bare ACSR/AW Neutral Conductor. ANSI / ICEA S-76-474 Standard.

Phase MCM	Phase mm ²	Min. Insul. (mm)	ACSR/AW MCM	ACSR/AW mm ²	Dia. (mm)	Wt. (kg/km)	DC Resist. (Ω/km)	Neut. Rated (kN)
4	21.1	1.0	4	21.1	18.5	345	1.36505	8.00
2	33.6	1.0	2	33.6	22.3	521	0.85954	12.00
1/0	53.5	1.4	1/0	53.5	28.6	844	0.53871	19.00
2/0	67.4	1.4	2/0	67.4	31.4	1039	0.42808	23.00
3/0	85.0	1.4	3/0	85.0	34.6	1284	0.33953	28.00
4/0	107.2	1.4	4/0	107.2	38.2	1595	0.26842	34.00
266.8	135.2	1.8	266.8	135.2	44.0	1920	0.21324	30.00
336.4	170.5	1.8	336.4	170.5	48.4	2368	0.16911	38.00
397.5	201.4	1.8	397.5	201.4	52.1	2767	0.14344	44.00
477.0	241.7	1.8	477.0	241.7	56.4	3240	0.11961	51.00

Data is approximate and subject to manufacturing tolerance. DC resistance is maximum value at 20 °C.

Packaging

Overhead conductors are supplied on wooden drums or steel reels, depending on the conductor size and customer requirements. Each package is secured with protective wrapping to prevent surface damage and oxidation during transit and storage.

Standard Drum Sizes

Metric	Small	Medium	Large
Flange Diameter	800 mm	1200 mm	1600 mm
Barrel Diameter	400 mm	600 mm	800 mm
Barrel Width	450 mm	600 mm	750 mm
Typical Conductor CSA	1.5 – 35 mm ²	50 – 185 mm ²	240 – 500 mm ²

Drum dimensions and conductor length per drum are nominal values. Custom packaging configurations are available on request.

Labelling

All drums are identified with manufacturer tags showing:

- Conductor type (SDC, HDC, AAC, AAAC, ACSR, ACSR/AW, ACAR, or Service Drop)
- Cross-sectional area and construction
- Applicable standard
- Lot/batch number
- Net weight and conductor length
- Date of manufacture

Storage

Conductors should be stored in a clean, dry environment, protected from moisture and corrosive atmospheres. Drums should remain sealed until installation. For copper conductors, prolonged exposure to moisture can cause surface oxidation; for aluminium conductors, storage away from marine or chemically aggressive environments is recommended.