



CONDUCTOR CATALOGUE



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Quality Policy

We firmly believe that quality leads to customer delight, which is why we have developed stringent quality measures and standards.

OSWAL implements a structured Quality Policy with well-defined Objectives and goals,

Quality Objectives

- Maintaining consistency in product attributes, timely delivery, and services
- Encouraging participation of employees in improving quality and efficiency
- Safe and healthy work environments and optimized utilization of energy resources
- Continual employee training

CONVERSION FACTORS TABLE

These units	Multiplied by Equal		These units	Multiplied by Equal	
Amperes per sq. cm	6.452	Amperes per sq. in	Foot-pounds	1.205 x 10'	Britishthermalunits
Ampere-turns	1.257	Gilbert		1.356 x 10'	Ergs
Ampere-turns per cm	2.540	Ampere-turns per in		5.050 x 10'	horsepower hours
British thermal units	778.3	Foot pounds		1.356	joules
	3.930x 10+	Horsepower hours	Foot-pounds per sec	3.766 x 10"	kilowatt hours
	1.055	Joules		7.709 x 10 ^a	B.t. units per minute
B.t.u. per min	2.931 x 10*	Kilowatt hours		1.818 x 10 ^a	Horse power
	12.97	Foot-pounds per sec	Gallons US	1.356 x 10 ^a	Kilowatts
	0.02357	Horsepower		0.1337	Cubic feet
	0.01758	Kilowatts	Gallons per minute	231	Cubic inches
	17.59	Watts		2.228 x 10 ^a	Cubic feet per sec
	3.281 x 10 ^a	Foot		6.452	Lines per sq. inch
	0.3937	Inches	Gausses	0.7958	Ampere-turns
Centimeters	6.214 x 10*	Miles	Gilbert	2.021	Ampere-turns per inch
	393.7	Miles	Gilbert per CM	980.7	Dynes
	1.094 x 102	Yards	Grams	15.43	Grains
Centimeter-dynes	7.376x 10'	Pound-feet		0.03527	Ounces
Centimeter-grams	7.233 x 105"	Pound-feet		0.03215	Ounces (tray]
Centimeter per sec	1.969	Feet per minute		2.205 x 10 ^a	Pounds
	0.03281	Feet per sec	Horsepower	42.42	B.t. units per minute
	0.02237	Miles per hour		33,000	Foot-pounds per minute
	3.728x 10+	Miles per minute		550	Foot-pounds per second
Circular mils	7.854 x 10°	Sq. inches		1.014	Horsepower (metric)
	0.7854	Sq. mils		0.7457	Kilowatts
Cms Per sec Per sec	0.03281	Feet per sec Per sec	Horsepower (boiler)	745.7	Watts
Cubic Centimeters	3.531 x 10'5	Cubic feet		33.250	B.t.u. per hour. Kilowatts
	3.102 x 10°	Cubic inches	Horsepower hours	9.804	Kilowatts,
				2.545	B.t. units
Cubic feet	7.481	Gallons U.S./6.228 imp, gal		1.98 x 10"	Foot-Pounds
Cubic meters	59.83	Pints [liquid) US	Inches of water	2.684 x 10°	Joules
	29.92	Quarts (liquid) US		0.5781	Ounce per sq. in.
	49.92	Pints [imperial)		5.202	Pounds per sq. ft.
	24.915	Quarts (imperial)		0.03613	Pounds per sq. in.
	35.31	Cubic feet	Inches of water	0.5781	Ounces per sq. in.
	61.024 x 10'	Cubic inches		5.202	Pounds per sq. ft.
	1.308	Cubic yards		0.03613	Pounds per sq. in.
	264 2	Gallons US		9,480 x 10'	B.t. Units
	2113	(1,759 imperial) pints (liquid)	Joules (Int.)	10	Ergs
	1057	(879 imperial] quarts liquid		0.7378	Foot-pounds.
Degrees (angle)	0.01745	Radians		2.778 x 10+	Dynes.
Degrees per sec	0.1657	Revolutions per minute	Kilograms	980.655x10	Pounds
Dynes	2.248 x 10*	Pounds		2.205	Tons [short)
Ergs (dyne- CM)	9.480 x 10°"	British thermal units		1.102x10 **	Pounds per sq. inch.
	7.378 x 10"	Foot pounds	Kilogram per sq. mm	14.222	Tons per sq. inch.
	10°	Joules		0.0063497	Pounds per sq. inch.
Ergs per sec	5.688 x 10*	B.t. units per minute		1,422.3	Miles.
	4.427 x 10*	Foot-pounds per minute	Kilogram per sq. mm	0.62137	SPA
	7.378 x 10*	Foot-pounds per sec	Kilometer	1,093.61	Maxwells
	1.341 x 10'	Horsepower		3,280.84	B.t. units per min
	10"	Kilowatts		10	Foot-pounds per min.
Feet of Water	62,43	Pounds per sq. foot	Kilolines	56.88	Foot pounds per sec.
	0,4335	Pounds per sq. inch	Kilowatts	4.427 x 10'	Horsepower
Feet per minute	0.01667	Feet per seconds		737.8	watts
	0.01136	Miles per hour		1,341	
Feet per sec	0.5921	Knots		10	
	0.6813	Miles per hour			



These units	Multiplied by	Equal			
Amperes per sq . cm	6.452	Amperes per sq . in	Foot-pounds per sec	$3.766 \times 10^{\circ}$	kilowatt hours
Ampere - turns	1.257	Gilbert		7.709×10^a	B.t.u. units per minute
Ampere - turns per ch	2.540	Ampere - turns per in		$1.818 \times 10'$	Horse power
British thermal units	778.3	Foot pounds		1.356×10^a	Kilowatts
	$3.930 \times 10^{**}$	Horsepower hours	Gallons US	0.1337	Cubic feet
	1.055	Joules		231	Cubic inches
	$2.931 \times 10^{+}$	Kilowatt hours	Gallons per minute	2.228×10^a	Cubic feet per sec
B.t.u. per min	12.97	Foot - pounds per sec	Gausses	6.452	Lines per sq. inch
	0.02357	Horsepower	Gilbert	0.7958	Ampere-turns
	0.01758	Kilowatts	Gilbert per centimeter	2.021	Ampere-turns per inch
	17.58	Watts	Grams	980.7	Dynes
Centimeters	$3.281 \times 10^{\circ}$	Feet		15.43	Grains
Centimeter - dynes	0.3937	Inches	Grams	0.03527	Ounces
	$6.214 \times 10^*$	Miles		0.03215	Ounces (tray]
	393.7	Miles		2.205×10^a	Pounds
	1.094×10^{-a}	Yards	Horsepower	42.42	B.t.u. units per minute
Centimeter - grams	$7.376 \times 10^{\circ}$	Pound - feet		33,000	Foot-pounds per minute
Centimeter per sec	7.233×10^5	Pound - feet		550	Foot-pounds per second
	1.969	Feet per minute		1.014	Horsepower [metric)
	0.03281	Feet per sec		0.7457	Kilowatts
	0.02237	Miles per hour		745.7	Watts
	$3.728 \times 10^{+}$	Miles per minute	Horsepower (boller)	33.250	B.t.u. per hour
Circular mils	$7.854 \times 10^{\circ}$	Sq . inches	Horsepower hours	2.545	Kilowatts
	0.7854	Sq . mils		$1.98 \times 10^{\wedge}$	B.t.u. units
Cms Per sec Per sec	0.03281	Feet per sec Per sec		2.604×10^a	Foot-Pounds
Cubic Centimeters	3.531×10^5	Cubic feet	Inches of water	0.5781	Joules
	$3.102 \times 10^{\circ}$	Cubic inches		5.202	Ounce per sq. in.
Cubic feet	7.481	Gallons U.S./6.228 imp . gal		0.03613	Pounds per sq. ft.
	59.83	Pints [liquid) US	Joules (Int.)	$9,480 \times 10^{-*}$	Pounds per sq. in.
	29.92	Quarts (liquid] US		10'	B.t.u. Units
	49.83	Pints [imperial]		0.7378	Eres
	24.915	Quarts (imperial)		$2.778 \times 10^{-*}$	Foot-pounds
Cubic meters	35.31	Cubic feet	Kilograms	$980.665 \times 10^{-''}$	Watt-hours
	$61.024 \times 10'$	Cubic inches		2.205	Dynes
	1.308	Cubic yards		$1.102 \times 10^{-''}$	Pounds
	264.2	Gallons US	Kilogram per sq. mm.	14.22	Tons [short)
	2113	(1,759 imperial) pints (liquid)		0.0063497	Pounds per sq. inch
	105	(879 imperial) quarts (liquid)	Kilogram per sq. mm.	1,422.3	Tons per sq. inch
Degrees (angle)	0.01745	Radians		0.62137	Pounds per sq. inch
Degrees per sec	0.1667	Revolutions per minute	Kilometer	1,093.61	Miles
Dynes	2.248×10	Pounds		3,280.04	Vds
Ergs (dyne- CM)	$9.480 \times 10^{''}$	British thermal units	Kilolines	10'	Ft
	$7.378 \times 10^*$	Foot pounds	Kilowatts	56.88	Maxwells
	10	Joules		$4.427 \times 10'$	B.t.u. units per min
Ergs per sec	$5.688 \times 10^{\circ}$	B.t. units per minute		737.8	Foot-pounds per min.
	$4.427 \times 10^*$	Foot - pounds per minute		1,341	Foot pounds per sec.
	$7.378 \times 10^*$	Foot - pounds per sec		10^a	Horsepower
	$1.341 \times 10^{''}$	Horsepower			Watts
	10	Kilowatts	These units	Multiplied by	Equal
Feet of Water	62.43	Pounds per sq . foot	Kilowatt-hours	3,413	B.t.u. units per min.
	0.4335	Pounds per sq . inch		2.656×10^a	Foot-pounds
Feet per minute	0.01667	Feet per seconds		1,341	Horsepower hours
	0.01136	Miles per hour		$3.6 \times 10'$	Joules
Feet per sec	0.5921	Knots	Lumens per sq. ft.	1	Footcandles
	0.6813	Miles per hour	Megalines	105	Maxwells
These units	Multiplied by	Equal	Megohms	10	Ohms
Foot - pounds	$1.285 \times 10'$	British thermal units	Metre	3.281	Feet
	$1.356 \times 10'$	Ergs			
	5.050×10^7	horsepower hours			
	1.356	joules			



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Applicable Indian / International Standards References

A. Indian Standards

- | | |
|----------------------|--|
| 1. IS 9997/1991 | With latest version for Aluminium Alloy Ingots |
| 2. IS 504/1963 | With latest version for Chemical Analyser |
| 3. IS 2658/1964 | With latest version for Tensile test |
| 4. IS 3635/1986 | With latest version |
| 5. IS 398(P-IV)/1994 | With latest version for AAAC conductor |
| 6. IS 209-1992 | |
| 7. IS 2633-1990 | |
| 8. IS 1521-1991 | |
| 9. IS 2629.1990 | |
| 10. IS 4826-1992 | |
| 11. IS 6745-1991 | |
| 12. IS 8263-1976 | |
| 13. IEC 1089-1991 | |
| 14. IS 1778/1980 | With latest version |
| 15. IS 1841-1978 | |
| 16. IS 3975 | |
| 17. IS 7623-1985 | For lithium base grease Grade-II |
| 18. IS 5484-1978 | |
| 19. IEC-207-889-1089 | |
| 20. IS 14255.1995 | For Arial Bunch Cable |
| 21. IS 398(P-1)/1996 | |
| 22. IS 398(P-2)/1996 | |
| 23. IS 398(P-5)/1996 | |
| 24. IS 398(P-6)/2021 | |

B. International Standards

1. BS-215(P-1,P-2) 1970
2. BS4565-1990
3. BS443-1990
4. BS 183-1982
5. BS 3288
6. ASTM Standard
7. French standard sizes
8. Canadian Standards
9. DIN 48204 10. DIN 48021
11. DIN VDE 0210.0211,46391,48303, 57103
12. BS 3242-1970

VARIOUS INDIAN STANDARDS

ALUMINIUM WIRES USED IN THE CONSTRUCTION OF ALUMINIUM STRANDED CONDUCTORS (IS:398-I/1996)

Diameter			Cross Sectional Area of Nominal Diameter Wire	Mass	Resistance at 20° C, Maximum	Breaking Load Minimum	
Nom	Min	Max				Before Standing	After Standing
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
mm	mm	mm	mm ²	kg/km	Ω /km	kN	kN
2.21	2.19	2.23	3.836	10.37	7.553	0.68	0.65
3.10	3.07	3.13	7.548	20.40	3.843	1.24	1.18
3.18	3.15	3.21	7.942	21.47	3.651	1.29	1.23
3.99	3.95	4.03	12.50	33.80	2.322	1.98	1.88
4.39	4.35	4.43	15.14	40.91	1.194	2.40	2.28
4.65	4.60	4.70	16.98	45.90	1.712	2.70	2.56

NOTE:

1. The resistance has been calculated from the maximum values of resistivity and the cross-sectional area based on the minimum diameter.
2. The resistance of that individual wires shall be such that the completed standard conductor meets the requirements of the maximum resistance specified in calculated by applying the relevant stranding constants.

ALUMINIUM STRANDED CONDUCTORS

Nominal Aluminium Area	Stranding and Wire Diameter	Sectional Area	Approximate Overall Diameter	Approximate Mass	Calculated Resistance at 20° C, Max	Approximate Calculated Breaking Load
mm ²	mm	mm ²	mm	kg/km	Ω/km	kN
25	7/2.21	26.85	6.63	74	1.093	4.52
50	7/3.10	52.83	9.30	145	0.556 1	8.25
100	7/4.39	106.0	13.17	290	0.277 0	15.96
150	19/3.18	150.9	15.90	415	0.195 6	23.28
240	19/3.99	237.6	19.95	654	0.124 4	35.74
300	19/4.65	322.7	23.25	888	0.091 71	48.74

NOTE:

1. For the basis of calculation of this table, see appendix A
2. The Sectional area of a stranded conductor has been taken as the sum of the cross sectional areas of the individual wires.



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LAY RATIOS FOR ALUMINIUM STRANDED CONDUCTORS

Number of Wires in Conductor	Lay Ratio			
	6 Wire Layer		12 Wire Layer	
	Min	Max	Min	Max
1	2	3	4	5
7	10	14	-	-
19	10	16	10	14

STRANDING CONSTANTS

Number of Wires In Conductor	Stranding Constants	
	Mass	Electrical Resistance
1	2	3
7	7.091	0.144 7
19	19.34	0.053 57

MODULUS OF ELASTICITY AND COEFFICIENT OF LINEAR EXPANSION

No. of Wires	Final Modulus of Elasticity (Practical) GN/m ²	Coefficient of Linear Expansion/°C
7	59	23.0 x 10 ⁻⁶
19	60	23.0 x 10 ⁻⁶

NOTES:

1. These values are given for information only.
2. Moduli values quoted may be regarded as being accurate to within 3 GN/m².
3. Moduli values quoted may be taken as applying to conductors stressed between 15 and 50 percent of the ultimate strength of the conductor.



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ALUMINIUM ALLOY WIRES USED IN THE CONSTRUCTION OF STRANDED ALUMINIUM ALLOY CONDUCTOR

(As per IS - 398 part IV/1994)

Diameter			Cross Sectional Area of Nominal Diameter Wire	Mass	Minimum Breaking Load		Resistance at 20°C Max
Nom	Min	Max			Before Stranding	After Stranding	
mm	mm	mm	mm ²	kg/km	kN	kN	ohms/km
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2.00	1.98	2.02	3.142	8.482	0.97	0.92	10.653
2.50	2.47	2.53	4.909	13.25	1.52	1.44	6.845
2.89	2.86	2.92	6.560	17.71	2.03	1.93	5.106
3.15	3.12	3.18	7.793	21.04	2.41	2.29	4.290
3.31	3.28	3.34	8.605	23.23	2.66	2.53	3.882
3.40	3.37	3.43	9.079	24.51	2.80	2.66	3.677
3.45	3.42	3.48	9.348	25.24	2.89	2.75	3.571
3.55	3.51	3.59	9.898	26.72	3.06	2.91	3.390
3.66	3.62	3.70	10.52	26.41	3.25	3.09	3.187
3.71	3.67	3.75	10.81	21.19	3.34	3.17	3.101
3.81	3.77	3.85	11.40	30.78	3.52	3.34	2.938
3.94	3.90	3.98	12.19	32.92	3.77	3.58	2.746
4.00	3.96	4.04	12.57	33.93	3.88	3.69	2.663
4.26	4.22	4.30	14.25	38.48	4.40	4.18	2.345

NOTES:

1. Maximum resistance values given in col 8 have been calculated from the maximum values of the resistivity and the cross sectional area based on the minimum diameter.
2. The minimum breaking load is calculated on nominal diameter at ultimate tensile strength of 31.5kg/mm² for a wire before stranding and 95 percent of that after stranding.



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ALUMINIUM ALLOY STANDARD CONDUCTOR

Sl No.	Actual Area	Stranding and Wire Dia	Approx Overall Dia	Approx Mass	Calculated Maximum Resistance at 20°C	Approx Calculated Breaking Load
	mm ²	mm	mm	kg/km	ohms/km	kN
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	15	3/2.50	5.39	40.15	2.304 0	4.33
2.	22	7/2.00	6.00	60.16	1.541 0	6.45
3.	34	7/2.50	7.50	94.00	0.990 0	10.11
4.	55	7/3.15	9.45	149.20	0.621 0	16.03
5.	80	7/3.81	11.43	218.26	0.425 0	23.41
6.	100	7/4.26	12.78	272.86	0.339 0	29.26
7.	125	19/2.89	14.45	342.51	0.273 5	36.64
8.	148	19/3.15	15.75	406.91	0.229 0	43.50
9.	173	19/3.40	17.00	474.02	0.196 9	50.54
10.	200	19/3.66	18.30	549.40	0.171 0	58.66
11.	232	19/3.94	19.70	636.67	0.147 1	68.05
12.	288	37/3.15	22.05	794.05	0.118 2	84.71
13.	346	37/3.45	24.15	952.56	0.098 4	101.58
14.	400	37/3.71	25.97	1 101.63	0.082 9	117.40
15.	465	37/4.00	28.00	1 280.50	0.073 4	136.38
16.	525	61/3.31	29.79	1 448.39	0.065 1	146.03
17.	570	61/3.45	31.05	1 573.71	0.059 8	158.66
18.	604	61/3.55	31.95	1 666.00	0.056 8	167.99
19.	642	61/3.66	32.94	1 771.36	0.053 4	178.43
20.	695	61/3.81	34.29	1 919.13	0.049 2	193.25
21.	767	61/4.00	36.00	2 115.54	0.044 6	213.01

NOTES:

1. For the basis of calculation of this table, see Annex B.
2. The actual area of a stranded conductor has been taken as the sum of the cross-sectional areas of the individual wires of nominal diameter.
- 3 Maximum resistance values of stranded conductor have been calculated on the basis of maximum resistivity and the cross sectional area based on the minimum diameter.

LAY RATIOS FOR ALUMINIUM ALLOY STRANDED CONDUCTORS

Number of Wires in Conductor	Lay Ratios							
	3/6 Wire Layer		12 Wire Layer		18 Wire Layer		24 Wire Layer	
	Min	Max	Min	Max	Min	Max	Min	Max
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
3	10	14	—	—	—	—	—	—
7	10	14	—	—	—	—	—	—
19	10	16	10	14	—	—	—	—
37	10	17	10	16	10	14	—	—
61	10	17	10	16	10	15	10	14

NOTE:

For the purpose of calculation the mean lay ratio shall be taken as the arithmetic mean of the relevant minimum and maximum values given in the table.

STRANDING CONSTANTS

Number of Wires In Conductor	Stranding Constants	
	Mass	Electrical Resistance
(1)	(2)	(3)
3	3.029	0.336 6
7	7.091	0.144 7
19	19.34	0.053 57
37	37.74	0.027 57
61	62.35	0.016 76

MODULUS OF ELASTICITY AND COEFFICIENT OF LINEAR EXPANSION

No. of Wires	Final Modulus of Elasticity GN/m^2	Coefficient of Linear Expansion/ $^{\circ}\text{C}$
3	$0.650 0 \times 10^6 \text{ kg/cm}^2$	23.0×10^{-6}
7	$0.632 4 \times 10^6 \text{ kg/cm}^2$	23.0×10^{-6}
19	$0.612 \times 10^6 \text{ kg/cm}^2$	23.0×10^{-6}
37	$0.581 4 \times 10^6 \text{ kg/cm}^2$	23.0×10^{-6}
61	$0.550 8 \times 10^6 \text{ kg/cm}^2$	23.0×10^{-6}

NOTE: These values are given for information only



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**ALUMINIUM WIRES USED IN THE CONSTRUCTION OF ALUMINIUM
CONDUCTORS, GALVANIZED REINFORCED
(IS 398 PART-II 1996)**

SI No.	Diameter			Cross Sectional Area of Nominal Diameter Wire	Mass	DC Resistance at 20 °C Max	Minimum Breaking Load	
	<i>Nom</i>	<i>Min</i>	<i>Max</i>				Before Stranding	After Stranding
	mm	mm	mm	mm ²	kg/km	Ω/km	kN	kN
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
i)	1.50	1.48	1.52	1.767	4.78	16.429	0.34	0.32
ii)	1.96	1.94	1.98	3.017	8.15	9.562	0.56	0.53
iii)	2.11	2.09	2.13	3.497	9.45	8.239	0.63	0.60
iv)	2.54	2.52	2.56	5.067	13.70	5.667	0.86	0.82
v)	2.59	2.57	2.61	5.269	14.24	5.449	0.90	0.86
vi)	2.79	2.77	2.81	6.114	16.53	4.690	1.04	0.99
vii)	3.00	2.98	3.02	7.069	19.11	4.052	1.20	1.14
viii)	3.18	3.16	3.20	7.942	21.47	3.604	1.31	1.24
ix)	3.35	3.33	3.37	8.814	23.82	3.245	1.45	1.38
x)	3.50	3.48	3.52	9.621	26.01	2.972	1.59	1.51
xi)	3.53	3.51	3.55	9.787	26.45	2.921	1.57	1.49
xii)	3.80	3.78	3.82	11.341	30.65	2.519	1.81	1.72
xiii)	3.99	3.97	4.01	12.504	33.80	2.283	2.00	1.90
xiv)	4.09	4.07	4.11	13.138	35.51	2.172	2.10	2.00
xv)	4.13	4.11	4.15	13.396	36.21	2.130	2.14	2.03
xvi)	4.44	4.42	4.46	15.483	41.85	1.842	2.48	2.36
xvii)	4.57	4.55	4.59	16.403	44.34	1.738	2.62	2.49
xviii)	4.72	4.70	4.74	17.497	47.29	1.629	2.80	2.66
xix)	4.78	4.76	4.80	17.945	48.51	1.588	2.87	2.73

NOTES:

1. The resistance has been calculated from the cross-sectional area based on minimum diameter and a resistivity of 0.0282 64 ohm.mm³/m.
2. The resistance of individual wires shall be such that the completed stranded conductor meets the requirements of the maximum resistance specified in col(8).
3. Minimum breaking load of individual wires (before stranding) have been calculated considering nominal diameter of each wire.
After stranding values have been kept as 95 percent of the before stranding values.

STEEL WIRES USED IN THE CONSTRUCTION OF ALUMINIUM CONDUCTORS

Sl No.	Diameter			Cross Sectional Area of Nominal Diameter Wire	Mass	Minimum Breaking Load	
	Nom	Min	Max			Before Stranding	After Stranding
	mm	mm	mm	mm ²	kg/km	kN	kN
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
i)	1.50	1.47	1.53	1.767	13.78	2.46	2.34
ii)	1.57	1.54	1.60	1.936	15.10	2.70	2.57
iii)	1.91	1.87	1.95	2.865	22.35	3.99	3.79
iv)	1.96	1.92	2.00	3.017	23.53	4.20	3.99
v)	2.11	2.07	2.15	3.497	27.28	4.59	4.36
vi)	2.21	2.17	2.25	3.836	29.92	5.04	4.79
vii)	2.30	2.25	2.35	4.155	32.41	5.46	5.19
viii)	2.54	2.49	2.59	5.067	39.52	6.66	6.33
ix)	2.59	2.54	2.64	5.269	41.10	6.92	6.57
x)	2.79	2.73	2.85	6.114	47.69	8.03	7.63
xi)	3.00	2.94	3.06	7.069	55.14	9.29	8.83
xii)	3.18	3.12	3.24	7.942	61.95	10.44	9.92
xiii)	3.35	3.28	3.42	8.814	68.75	11.58	11.00
xiv)	3.45	3.38	3.52	9.348	72.91	12.28	11.67
xv)	3.53	3.46	3.60	9.787	76.34	12.86	12.22
xvi)	4.09	4.01	4.17	13.138	102.48	17.26	16.40



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CABLES

ALUMINIUM CONDUCTORS GALVANIZED STEEL-REINFORCED

Sl No.	Nominal Aluminium Area	Stranding and Wire Diameter		Sectional Area of Aluminum	Total Sectional Area	Approx Diameter	Approx Mass	Calculated d.c. Resistance at 20 °C <i>Max</i>	Approx Calculated Breaking Load <i>Min</i>
		Aluminium	Steel						
	mm ²	mm	mm	mm ²	mm ²	mm	kg/km	ohm/km	kN
i)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ii)	10	6/1.50	1/1.50	10.6	12.4	4.50	43	2.706 4	4.09
iii)	18	6/1.96	1/1.96	18.1	21.1	5.88	73	1.585 1	6.86
iv)	20	6/2.11	1/2.11	21.0	24.5	6.33	85	1.367 5	7.61
v)	30	6/2.59	1/2.59	31.6	36.9	7.77	128	0.907 6	11.17
vi)	50	6/3.35	1/3.35	52.9	61.7	10.05	214	0.542 6	18.37
vii)	80	6/4.09	1/4.09	78.8	92.0	12.27	319	0.363 9	27.02
viii)	100	6/4.72	7/1.57	105.0	118.5	14.15	394	0.273 3	32.53
ix)	130	26/2.54	7/1.91	131.7	151.8	15.89	521	0.219 2	45.65
x)	150	30/2.59	7/2.59	158.1	194.9	18.13	726	0.182 8	67.63
xi)	180	30/2.79	7/2.79	183.4	226.2	19.53	842	0.157 6	78.35
xii)	200	30/3.00	7/3.00	212.1	261.5	21.00	974	0.136 3	90.56
xiii)	400	26/4.44	7/3.45	402.6	468.0	28.11	1 624	0.071 7	136.26
xiv)	400	42/3.50	7/1.96	404.1	425.2	26.88	1 286	0.071 7	90.43
xv)	420	54/3.18	7/3.18	428.9	484.5	28.62	1 627	0.067 7	131.44
xvi)	520	42/3.99	7/2.21	525.2	552.0	30.57	1 666	0.055 2	112.31
xvii)	530	54/3.53	7/3.53	528.5	597.0	31.77	2 004	0.054 9	159.60
xviii)	560	42/4.13	7/2.30	562.7	591.7	31.68	1 787	0.051 5	120.57
xix)	690	42/4.57	7/2.54	688.9	724.4	35.04	2 187	0.042 1	147.47
xx)	810	45/4.78	7/3.18	807.5	863.1	38.22	2 668	0.035 8	188.69

NOTE:

In order to maintain the circularity of the wires the tolerances allowed in 8.1.2.1 and 8.1.2.2 shall apply to both the measurements at right angles taken at the same cross-section as per 3.3.



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LAY RATIO OF ALUMINUM CONDUCTORS, GALVANIZED STEEL- REINFORCED

Sl No.	Number of Wires in Conductor		Lay Ratios for Aluminium Wire							
			Lay Ratios for Steel Core (6 Wire Layer)		Outside Layer		Layer Immediately Beneath outside Layer		Innermost Layer of Conductors with 3 Aluminium Wire Layers	
	Aluminium	Steel	Min	Max	Min	Max	Min	Max	Min	Max
(1)	(2)	(3)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
i)	6	1	—	—	10	14	—	—	—	—
ii)	6	7	13	28	10	14	—	—	—	—
iii)	26	7	13	28	10	14	10	16	—	—
iv)	30	7	13	28	10	14	10	16	—	—
v)	42	7	16	18	10	12	11	13	12	14
vi)	45	7	16	18	10	12	11	13	12	14
vii)	54	7	16	18	10	12	11	13	12	14

NOTE:

For the purpose of calculation, the mean lay ratio shall be taken as the arithmetic mean of the relevant minimum and maximum values given in this table.

STANDING CONSTANTS

Sl No.	No. of Wires in Conductor		Mass		Stranding Constant Electrical Resistance
	Aluminium	Steel	Aluminium (kg/km)	Steel (kg/km)	
(1)	(2)	(3)	(4)	(5)	(6)
i)	6	1	6.091	1	0.1692
ii)	6	7	6.091	7.032	0.1692
iii)	26	7	26.562	7.032	0.039 29
iv)	30	7	30.670	7.032	0.034 08
v)	42	7	43.053	7.045	0.024 406
vi)	45	7	46.004	7.045	0.022 718
vii)	54	7	55.430	7.045	0.019 009

ALUMINIUM CONDUCTORS FOR OVERHEAD TRANSMISSION PURPOSES

(IS 398 PART-VI)

MECHANICAL PROPERTIES OF HIGH CONDUCTIVITY ALUMINIUM ALLOY WIRES

Diameter of Wire (mm)		Minimum Tensile Strength of Wire (N/mm ²)		Minimum Elongation on 250 mm (percent) (Before and After Stranding)
Over	Upto and Including	Before Stranding	After Stranding	
-	3.5	250	237.5	2.0
3.5	4.0	240	228.0	2.0
4.0	4.5	230	218.5	2.0

HIGH CONDUCTIVITY ALUMINIUM ALLOY WIRES USED IN THE CONSTRUCTION OF STRANDED CONDUCTORS

Diameter			Cross sectional area of nominal wire diameter mm ²	Mass kg/ km	Minimum Breaking Load		Resistance at 20°C
Nom mm	Min mm	Max mm			Before Stranding kN	After Stranding kN	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2.00	1.97	2.03	3.142	8.483	0.79	0.75	9.246
2.50	2.47	2.53	4.909	13.254	1.23	1.17	5.918
2.89	2.86	2.92	6.56	17.712	1.64	1.56	4.428
3.08	3.05	3.11	7.451	20.117	1.86	1.77	3.899
3.18	3.15	3.21	7.942	21.443	1.99	1.89	3.658
3.31	3.28	3.34	8.605	23.234	2.15	2.04	3.376
3.40	3.37	3.43	9.079	24.513	2.27	2.16	3.200
3.52	3.48	3.56	9.731	26.275	2.34	2.22	2.985
3.66	3.62	3.70	10.521	28.407	2.53	2.40	2.761
3.81	3.77	3.85	11.401	30.783	2.74	2.60	2.548
4.02	3.98	4.06	12.692	34.269	2.92	2.77	2.289
4.26	4.22	4.30	14.253	38.483	3.28	3.12	2.038

NOTES:

1. The resistance value specified in the above table are only for reference.
2. The resistance value specified in the above table are calculated from the standard resistivity of the single wire specified in 6 and cross-sectional area from the nominal wire diameter.
3. The minimum breaking load before stranding is calculated from the tensile strength of single wire specified in Table 1 and cross-sectional area based on the nominal wire diameter and reduced to 95 percent after stranding.



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ALUMINIUM ALLOY STANDARD CONDUCTOR

Sl No.	Actual Area (mm ²)	Stranding and wire Diameter (mm)	Approx Overall Dia (mm)	Approx Mass (kg/ km)	Calculated Maximum Resistance at 20°C (Ω/km)	Approx. Calculated UTS (kN)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	15	3/2.50	5.39	40.15	1.9920	3.50
2	22	7/2.00	6.00	60.15	1.3379	5.20
3	34	7/2.50	7.50	93.98	0.8563	8.20
4	80	7/3.81	11.43	218.28	0.3687	18.20
5	100	7/4.26	12.78	272.88	0.2949	21.80
6	125	19/2.89	14.45	342.55	0.2372	29.60
7	173	19/3.40	17.00	474.09	0.1714	41.0
8	200	19/3.66	18.30	549.39	0.1479	45.60
9	276	37/3.08	21.56	759.20	0.1075	65.47
10	454	61/3.08	27.72	1254.34	0.0653	108.0
11	484	61/3.18	28.62	1337.00	0.0613	115.1
12	525	61/3.31	29.79	1448.61	0.0566	124.70
13	554	61/3.4	30.6	1528.44	0.0536	131.53
14	594	61/3.52	31.7	1638.23	0.0501	135.4
15	642	61/3.66	32.94	1771.16	0.0463	146.40
16	695	61/3.81	34.29	1919.30	0.0427	158.60
17	774	61/4.02	36.18	2136.69	0.0384	169.17

NOTES:

1. The maximum resistance value specified in the above table are calculated from the standard resistivity of the single wire specified in clause 6 and cross sectional area from the nominal wire diameter.
2. The actual cross sectional area of the conductor specified in the above table are calculated as sum of the cross sectional area of nominal wire diameter.
3. See Annex A

LAY RATIO FOR SPECIAL ALUMINIUM ALLOY CONDUCTORS

Number of Wires in Conductor	3/6 Wires Layer		12 Wires Layer		18 Wires Layer		24 Wires Layer	
	Min	Max	Min	Max	Min	Max	Min	Max
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
3	10	14	-	-	-	-	-	-
7	10	14	-	-	-	-	-	-
19	10	16	10	14	-	-	-	-
37	10	17	10	16	10	14	-	-
61	10	17	10	16	10	15	10	14



OSWAL
CABLES



AAC



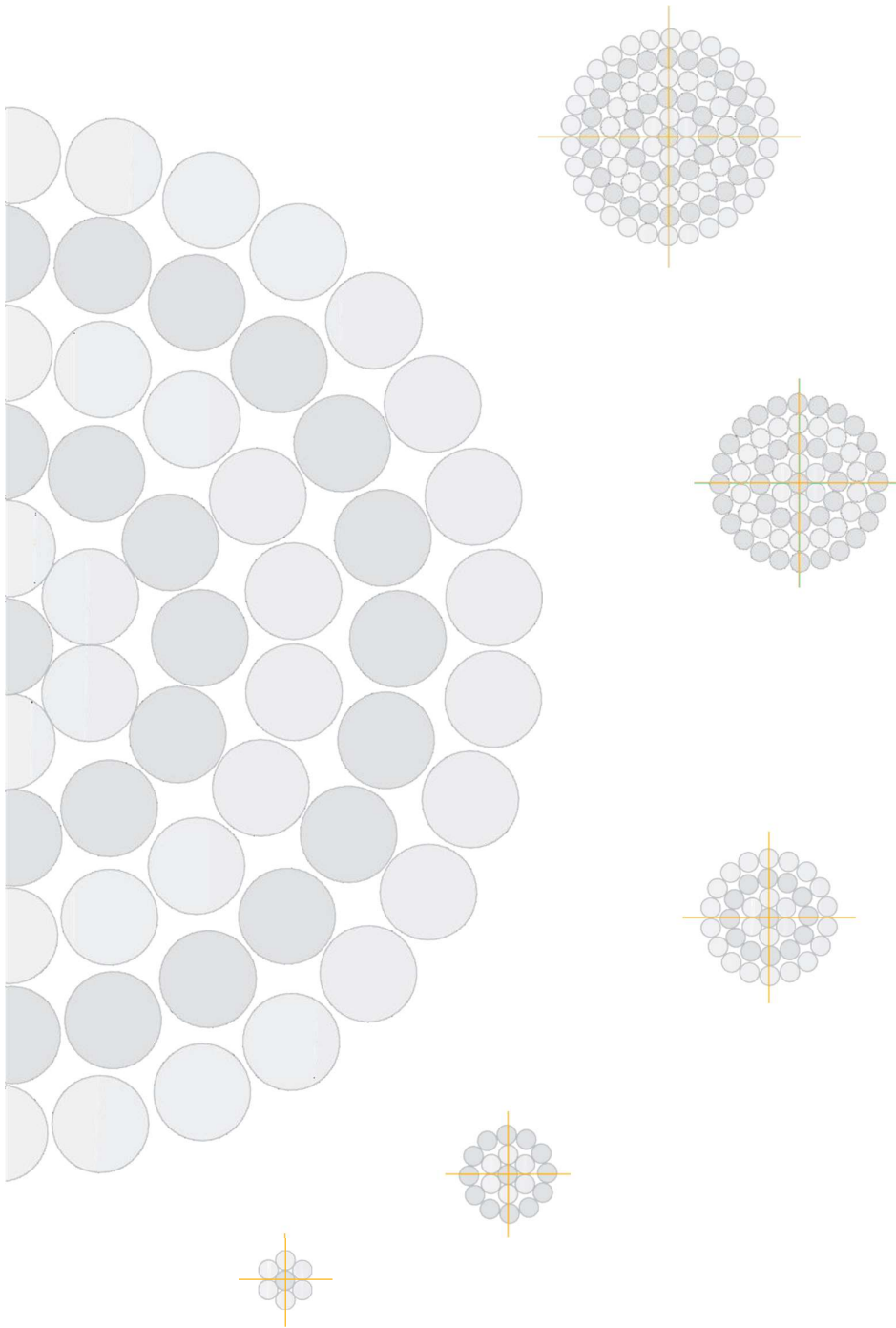
ACSR



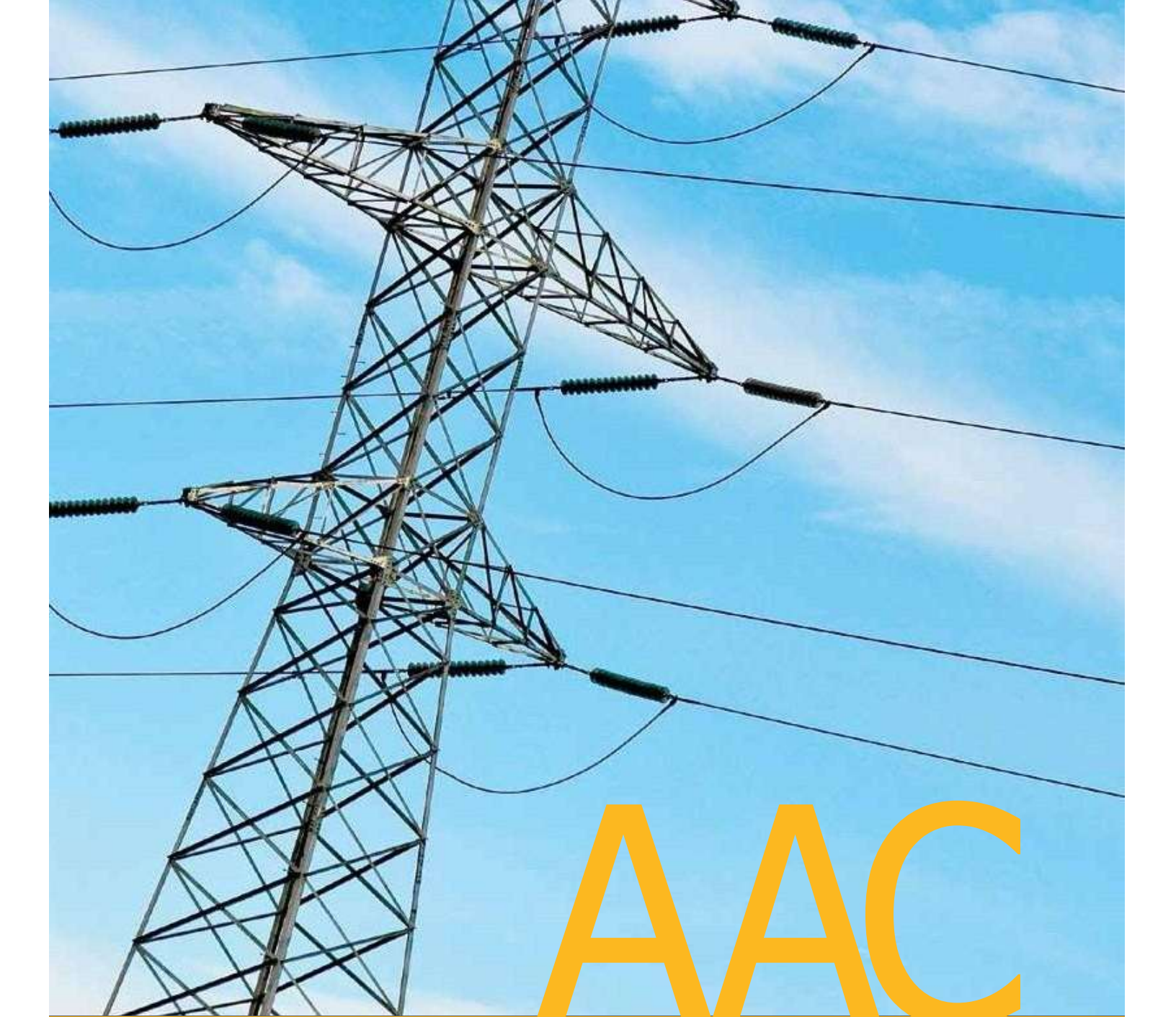
ACSR / AW



AAA



This conductor is also known as aluminium stranded conductor. It is manufactured from electrolytically refined aluminium, having a purity of minimum 99.7% AAC is used mainly in urban areas and the spacing is short and the supports are close. All aluminium conductors are made up of one or more strands of aluminium wire depending on the end usage. These conductors are also used extensively in costal areas as it has a very high degree of corrosion resistance.



AAC

All Aluminium Conductors



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TS EN 50182 Type AL1 Turkey / TS IEC 61089

Conductor Size		Code Words	No. of Wires	Diameter		Mass per Unit Length	Rated Strength	DC Resistance	Current Carrying Capacity	Packing	
				Wire	Conductor						
Kcmil or AWG	mm ²			mm	mm	kg/km	kg	Ω / km	A	Reel Type	Length
4	21.14	Rose	7	1.96	5.88	57.8	403	1.356	145	R-100	10.000
3	26.6	Lily	7	2.2	6.6	72.8	495	1.077	160	R-100	8.000
1	42.49	Pansy	7	2.78	8.34	116.4	725	0.674	225	R-100	5.000
1/0	53.48	Poppy	7	3.12	9.36	146.4	888	0.535	260	R-100	4.000
2/0	67.14	Aster	7	3.5	10.5	184.4	1115	0.425	305	R-100	3.000
3/0	84.91	Phlox	7	3.93	11.79	232.5	1369	0.337	350	R-100	2.400
4/0	107.38	Oxlip	7	4.42	13.26	294	1732	0.266	410	R-100	1.900

ASTM - B 231 METRIC UNITS

Conductor Size		Code Words	No. of Wires	Diameter		Mass per Unit Length	Rated Strength	DC Resistance
				Wire	Conductor			
Kcmil or AWG	mm ²			mm	mm	kg/km	kN	Ω / km
4	21.1	Rose	7	1.96	5.88	58.2	3.91	1.364
2	33.6	Iris	7	2.47	7.41	92.6	5.99	0.858
1	42.4	Pansy	7	2.78	8.34	116.6	7.3	0.680
1/0	53.5	Poppy	7	3.12	9.36	147.2	8.84	0.539
2/0	67.4	Aster	7	3.5	10.5	185.7	11.1	0.428
3/0	85	Phlox	7	3.93	11.79	233.9	13.5	0.339
4/0	107.2	Oxlip	7	4.42	13.26	295.2	17	0.269
250	126.7	Valerian	19	2.91	14.55	348.6	20.7	0.228
250	126.7	Sneezewort	7	4.8	14.4	348.8	20.1	0.228
266.8	135.2	Laurel	19	3.01	15.05	372.2	22.1	0.213
266.8	135.2	Daisy	7	4.96	14.88	372.3	21.4	0.213
300	152	Peony	19	3.19	15.95	418.3	24.3	0.190
336.4	170.5	Tulip	19	3.38	16.9	469.5	27.3	0.169
350	177.3	Daffodil	19	3.45	17.25	487.9	28.4	0.163
397.5	201.4	Canna	19	3.67	18.35	554.9	31.6	0.143
450	228	Goldentul	19	3.91	19.55	627.6	35	0.126
477	241.7	Syringa	37	2.88	20.16	664.8	38.6	0.119
477	241.7	Cosmos	19	4.02	20.1	664.8	37	0.119
500	253.3	Hyacinth	37	2.95	20.65	696.8	40.5	0.114
500	253.3	Zinnia	19	4.12	20.6	697.1	38.9	0.114
556.5	282	Mistletoe	37	3.12	21.84	775.7	44.3	0.102
556.5	282	Dahlia	19	4.35	21.75	775.8	43.3	0.102
600	304	Meadowsweet	37	3.23	22.61	836.3	47.5	0.095
636	322.3	Orchid	37	3.33	23.31	886.9	50.4	0.089

ASTM - B 231 METRIC UNITS

Conductor Size		Code Words	No. of Wires	Diameter		Mass per Unit Length	Rated Strength	DC Resistance
				Wire	Conductor			
Kcmil or AWG	mm ²			mm	mm	kg/km	kN	Ω / km
650	329.4	Heuchera	37	3.37	23.59	907.4	51.7	0.088
700	354.7	Flag	61	2.72	24.48	975.8	57.1	0.081
700	354.7	Verbena	37	3.49	24.43	975.7	55.4	0.081
715.5	362.6	Nasturtium	61	2.75	24.75	998.5	58.4	0.080
715.5	362.6	Violet	37	3.53	24.71	998.5	56.7	0.080
750	380	Cattail	61	2.82	25.38	1046	60.3	0.076
750	380	Petunia	37	3.62	25.34	1046	58.6	0.076
795	402.8	Lilac	61	2.9	26.1	1110	63.8	0.072
795	402.8	Arbutus	37	3.72	26.04	1109	61.8	0.072
900	456	Snapdragon	61	3.09	27.81	1256	70.8	0.063
900	456	Cockscomb	37	3.96	27.72	1256	68.4	0.063
954	483.4	Goldenrod	61	3.18	28.62	1331	75	0.060
954	483.4	Magnolia	37	4.08	28.56	1331	72.6	0.060
1000	506.7	Camellia	61	3.25	29.25	1394	78.3	0.057
1000	506.7	Hawkweed	37	4.18	29.26	1395	76.2	0.057
1033.5	523.7	Larkspur	61	3.31	29.79	1442	81.3	0.055
1033.5	523.7	Bluebell	37	4.25	29.75	1441	78.8	0.055
1113	564	Marigold	61	3.43	30.87	1553	87.3	0.051
1192.5	604.2	Howthorn	61	3.55	31.95	1662	93.5	0.048
1272	644.5	Narcissus	61	3.67	33.03	1774	98.1	0.045
1351	694.8	Columbine	61	3.78	34.02	1884	104	0.041
1431	725.1	Carnation	61	3.89	35.01	1997	108	0.040
1510.5	765.4	Gladiolus	61	4	36	2108	114	0.038
1590	805.7	Coreopsis	61	4.1	36.9	2216	120	0.036
1750	886.7	Jessamine	61	4.3	38.7	2442	132	0.033
2000	1013	Cowslip	91	3.77	41.47	2787	153	0.028
2250	1140	Sagebrush	91	3.99	43.89	3166	167	0.026
2500	1267	Lupine	91	4.21	46.31	3519	186	0.023
2750	1393	Bitterroot	91	4.42	48.62	3872	205	0.021



ASTM - B 231

Code	Size (AWG / Kcmil)	Stranding		Diameter (ins.)		Cross Sectional Area (Sq. ins.)	Weight per 1000 ft. (lbs.)	Rated Strength (lbs.)	Resistance OHMS / 1000 ft.		Allowable Ampacity + (Amps)
		No. of Wires	Class	Individual Wire	Overall Diameter				D.C.@ 20° C	A.C.@ 75° C	
Rose	4	7	A	0.077	0.232	0.033	39	881	0.414	0.506	138
Iris	2	7	AAA	0.097	0.292	0.052	62	1.350	0.26	0.318	185
Pansy	1	7	AAA	0.109	0.328	0.066	78	1.640	0.207	0.252	214
Poppy	1/0	7	AAA	0.123	0.368	0.083	99	1.990	0.164	0.2	247
Aster	2/0	7	AAA	0.138	0.414	0.105	125	2.510	0.13	0.159	286
Pholox	3/0	7	AAA	0.155	0.464	0.132	157	3.040	0.103	0.126	331
Oxlip	4/0	7	AAA	0.174	0.522	0.66	198	6.830	0.082	0.100	393
Sneezewort	250	7	A	0.189	0.567	0.196	234	4.520	0.069	0.085	425
Valerian	250	19	A	0.115	0.574	0.196	234	4.660	0.069	0.085	425
Daisy	266.8	7	AA	0.195	0.586	0.210	250	4.830	0.065	0.079	443
Laurel	266.8	19	A	0.119	0.593	0.210	250	4.970	0.065	0.079	444
Peony	300	19	A	0.126	0.629	0.233	281	5.480	0.058	0.071	478
Tulip	336.4	19	A	0.133	0.666	0.264	316	6.150	0.514	0.063	513
Daffrodil	350	19	A	0.136	0.679	0.275	328	6.390	0.494	0.061	526
Canna	397.5	19	AAA	0.145	0.724	0.312	373	7.110	0.044	0.053	570
Goldentu1	450	19	AA	0.154	0.769	0.353	422	7.890	0.038	0.043	616
Cosmos	477	19	AA	0.158	0.793	0.375	447	8.360	0.036	0.045	639
Syringa	477	37	A	0.114	795	0.375	447	8.690	0.036	0.045	639
Zinnia	500	19	AA	0.162	0.811	0.393	469	8.760	0.035	0.043	658
Hyacinith	500	37	A	0.116	0.813	0.393	468	9.110	0.035	0.043	958
Dahlia	556.5	19	AA	0.171	0.856	0.437	521	9.750	0.031	0.038	703
Misteltoe	556.5	37	AAA	0.123	0.858	0.437	521	9.940	0.031	0.308	704
Meadowsweet	600	37	AAA	0.127	0.891	0.471	562	10.700	0.029	0.036	738
Orchid	636	37	AAA	0.131	0.918	0.500	596	11.400	0.027	0.036	765
Heuchera	650	37	AA	0.133	0.928	0.510	610	11.600	0.027	0.033	775
Verbena	700	37	AA	0.138	0.963	0.550	656	12.500	0.025	0.031	812
Flag	700	61	A	0.107	0.964	0.550	656	12.400	0.025	0.031	812
Violet	715,5	37	AA	0.139	0.974	0.562	671	12.800	0.024	0.030	823
Nasturtium	715,5	61	A	0.108	0.975	0.562	671	13.100	0.024	0.030	823

ASTM - B 231

Code	Size (AWG / Kcmil)	Stranding		Diameter (ins.)		Cross Sectional Area (Sq. ins.)	Weight per 1000 ft. (lbs.)	Rated Strength (lbs.)	Resistance OHMS / 1000 ft.		Allowable Ampacity + (Amps)
		No. of Wires	Class	Individual Wire	Overall Diameter				D.C. @ 20° C	A.C. @ 75° C	
Petuna	750	37	AA	0.142	0.997	0.589	703	13.100	0.023	0.029	847
Cattair	750	61	A	0.111	0.998	0.589	703	13.500	0.023	0.029	847
Arbutus	795	37	AA	0.147	1.026	0.624	745	13.900	0.022	0.027	878
Lilac	795	61	A	0.114	1.028	0.624	746	14.300	0.022	0.027	879
Cockscomb	900	37	AA	0.156	1.093	0.707	844	15.400	0.019	0.024	948
Snapdragon	900	61	A	0.122	1.094	0.707	844	15.900	0.019	0.024	948
Magnoila	954	37	AA	0.161	1.124	0.749	895	16.400	0.018	0.023	982
Goldenrod	954	61	A	0.125	1.126	0.749	895	16.900	0.018	0.023	983
Hawkweed	1000	37	AA	0.164	1.15	0.785	937	17.200	0.017	0.022	1010
Camelia	1000	61	A	0.128	1.152	0.785	937	17.700	0.017	0.022	1011
Bluebell	1033.5	37	AA	0.167	1.17	0.812	968	17.700	0.017	0.021	1031
Larkspur	1033.5	61	A	0.130	1.172	0.812	969	18.300	0.017	0.021	1032
Marigold	1113	61	AAA	0.135	1.216	0.874	1044	19.700	0.016	0.020	1079
Hawthorn	1192.5	61	AAA	0.140	1.258	0.937	1117	21.100	0.015	0.018	1124
Naricssus	1272	61	AAA	0.144	1.3	0.999	1192	22.000	0.014	0.017	1169
Columbune	1351.5	61	AAA	0.149	1.34	1.061	1266	23.400	0.013	0.016	1212
Carnation	1431	61	AAA	0.153	1.379	1.124	1342	24.300	0.012	0.016	1253
Gladiolus	1510.5	61	AAA	0.157	1.417	1.186	1416	25.600	0.014	0.015	1294
Coreopsis	1590	61	AA	0.161	1.454	1.249	1489	27.000	0.011	0.014	1333
Jessamine	1750	61	AA	0.169	1.525	1.374	1641	29.700	0.010	0.013	1408
Cowslip	2000	91	A	0.148	1.63	1.271	1873	34.200	0.009	0.012	1518
Sagebrush	2250	91	A	0.157	1.729	1.767	2138	37.500	0.008	0.011	1612
Lupine	2500	91	A	0.166	1.823	1.964	2365	41.900	0.007	0.010	1706
Bittertroot	2750	91	A	0.174	1.913	2.16	2602	46.100	0.006	0.009	1793
Trilulium	3000	127	A	0.154	1.996	2.356	2687	50.300	0.006	0.008	1874
Bluebonnet	3500	127	A	0.166	2.158	2.749	3344	58.700	0.005	0.008	2024

EN 50182 Type AL1 Finland

Old Code	Code	Area	No. of Wires	Diameter		Mass per Unit Length	Rated Strength	DC Resistance
		Wire		Conductor				
		mm ²		mm	mm	kg/km		
AAC107	107-AL1	107.4	7	4.42	13.3	293.5	17.19	0.266
AAC132	132-AL1	131.6	19	2.97	14.9	361.8	22.38	0.218
AAC201	201-AL1	201	19	3.67	18.4	552.4	32.16	0.143
AAC638	638-AL1	368.3	61	3.65	32.9	1766	102.12	0.045
AAC1095	1095-AL1	1094.7	61	4.78	43	3028.7	175.14	0.026

Note: Direction of lay of external layer is right-hand(Z).

EN 50182 Type AL1 Germany / DIN 48201

Old Code	Code	Area	No. of Wires	Diameter		Mass per Unit Length	Rated Strength	DC Resistance	Final Modulus of Elasticity	Coefficient of Linear Expansion	Current Carrying Capacity
				Wire	Conductor						
		mm ²		mm	mm						
16	16-AL1	15.9	7	1.7	5.1	43.4	3.02	1.799	60000	2.30E-05	110
25	24-AL1	24.2	7	2.1	6.3	66.3	4.36	1.179	60000	2.30E-05	145
35	34-AL1	34.4	7	2.5	7.5	93.9	6.01	0.832	60000	2.30E-05	180
50	49-AL1	49.5	7	3	9	135.2	8.41	0.578	60000	2.30E-05	225
50	48-AL1	48.3	19	1.8	9	132.9	8.94	0.594	57000	2.30E-05	225
70	66-AL1	65.8	19	2.1	10.5	180.9	11.85	0.437	57000	2.30E-05	270
95	93-AL1	93.3	19	2.5	12.5	256.3	16.32	0.308	57000	2.30E-05	340
120	117-AL1	117	19	2.8	14	321.5	19.89	0.246	57000	2.30E-05	390
150	147-AL1	147.1	37	2.25	15.8	405.7	26.48	0.196	57000	2.30E-05	455
185	182-AL1	181.6	37	2.5	17.5	500.9	31.78	0.159	57000	2.30E-05	520
240	243-AL1	242.5	61	2.25	20.3	671.1	43.66	0.119	55000	2.30E-05	625
300	299-AL1	299.4	61	2.5	22.5	828.5	52.4	0.097	55000	2.30E-05	710
400	400-AL1	400.1	61	2.89	26	1107.1	68.02	0.072	55000	2.30E-05	855
500	500-AL1	499.8	61	3.23	29.1	1382.9	82.47	0.058	55000	2.30E-05	990
625	626-AL1	626.2	91	2.96	32.6	1739.7	106.45	0.046	55000	2.30E-05	1140
800	802-AL1	802.1	91	3.35	36.9	2228.3	132.34	0.036	55000	2.30E-05	1340
1000	1000-AL1	999.7	91	3.74	41.1	2777.3	159.95	0.029	55000	2.30E-05	1540

Note: Direction of lay of external layers is right-hand

EN 50182 Type AL1

Old Code	Code	Area mm ²	No. of Wires	Diameter		Mass per Unit Length kg/km	Rated Strength kN	DC Resistance Ω / km
				Wire mm	Conductor mm			
AL 16	25-AL1	25.4	7	2.15	6.45	69.5	4.57	1.125
AL 25	40-AL1	39.8	7	2.69	8.07	108.7	6.76	0.718
AL 35	55-AL1	55.6	7	3.18	9.54	151.9	9.17	0.514
AL 50	79-AL1	79.4	7	3.8	11.4	217	12.7	0.36
AL 70	111-AL1	111.3	7	4.5	13.5	304.3	17.81	0.257
AL 95	151-AL1	150.9	19	3.18	15.9	414.7	24.9	0.190
AL 120	191-AL1	191.3	19	3.58	17.9	525.6	30.6	0.150
AL 150	239-AL1	238.8	19	4	20	656.2	38.2	0.120
AL 185	294-AL1	293.9	37	3.18	22.3	810.4	48.49	0.098
AL 240	381-AL1	380.8	37	3.62	25.3	1050.2	60.93	0.076
AL 286	454-AL1	454.5	61	3.08	27.7	1257.5	74.99	0.064
AL 300	477-AL1	476.7	37	4.05	28.4	1314.5	76.26	0.061
AL 329 Bluebell	525-AL1	524.9	37	4.25	29.4	1447.6	83.98	0.055
AL 354 Marigold	564-AL1	563.6	61	3.43	30.9	1559.5	93	0.051
AL 380 Hawthorn	604-AL1	603.8	61	3.55	32	1670.5	96.6	0.048
AL 405 Narcissus	645-AL1	645.3	61	3.67	33	1785.4	103.25	0.045
AL 430 Columbine	685-AL1	684.5	61	3.78	34	1294	109.53	0.042
AL 456 Carnation	725-AL1	725	61	3.89	35	2005.8	115.99	0.040
AL 481 Gladiolus	767-AL1	766.5	61	4	36	2120.9	122.65	0.038
AL 506 Coreopsis	805-AL1	805.4	61	4.1	36.9	2228.2	128.86	0.036
AL 573 Solros	911-AL1	910.7	61	4.36	39.2	2519.8	145.72	0.032

Note : Direction of lay of external layers is right-hand

EN 50182:2001 Type AL1 Spain / UNE 21018

Old Code	Code	Area mm ²	No. of Wires	Diameter		Mass per Unit Length kg/km	Rated Strength kN	DC Resistance Ω / km
				Wire mm	Conductor mm			
L28	28-AL1	27.8	7	2.25	6.75	76.1	5.01	1.027
L40	43-AL1	43.1	7	2.8	8.4	117.8	7.33	0.663
L56	55-AL1	54.6	7	3.15	9.45	149.1	9	0.524
L80	76-AL1	75.5	19	2.25	11.3	207.6	13.6	0.380
L110	117-AL1	117	19	2.8	14	321.5	19.89	0.246
L145	148-AL1	148.1	19	3.15	15.8	407	24.43	0.194
L180	188-AL1	188.1	19	3.55	17.8	516.9	30.09	0.153
L280	279-AL1	279.3	37	3.1	21.7	770.2	46.08	0.103
L400	381-AL1	381	61	2.82	25.4	1054.1	64.77	0.076
L450	454-AL1	454.5	61	3.08	27.7	1257.5	74.99	0.064
L550	547-AL1	547.3	61	3.38	30.4	1514.4	90.31	0.053
L630	638-AL1	638.3	61	3.65	32.9	1766	102.12	0.045

Note: Direction of lay of external layer is right-hand(Z)

EN 50182:2001 Type AL1 Sweden

Old Code	Code	Area mm ²	No. of Wires	Diameter		Mass per Unit Length kg/km	Rated Strength kN	DC Resistance Ω / km
				Wire mm	Conductor mm			
Vitsippa	62-AL1	62.4	7	3.37	10.1	170.6	10.3	0.458
Kattfot	99-AL1	99.3	7	4.25	12.8	271.4	15.89	0.288
Gullviva	159-AL1	15.,6	19	3.26	16.3	435.9	26.17	0.181
Vallmo	241-AL1	241.2	19	4.02	20.1	662.8	38.58	0.119
Renfana	330-AL1	330	37	3.37	23.6	910.2	54.45	0.087
Akleja	454-AL1	454.5	61	3.08	27.7	1257.5	74.99	0.064
Hampdan	594-AL1	593.6	61	3.52	31.7	1624.4	94.98	0.049
Stormhatt	774-AL1	774.2	61	4.02	36.2	2142.1	123.88	0.037
Solros	911-AL1	910.7	61	4.36	39.2	2519.8	145.72	0.032

Note : Direction of lay of external layer is right-hand(Z)

EN 50182 Type AL1 United Kingdom / BS-215-Part 1

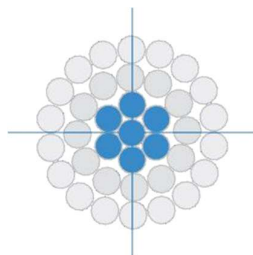
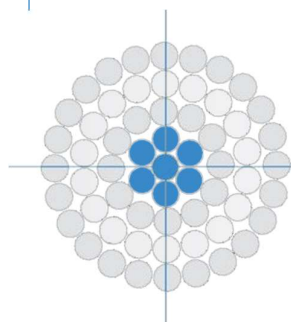
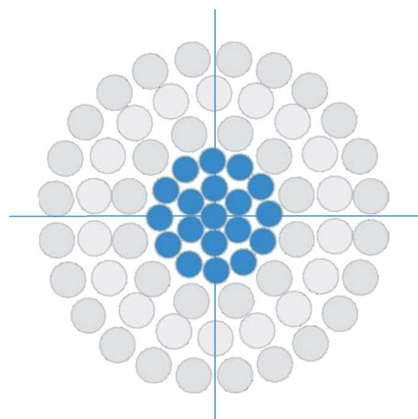
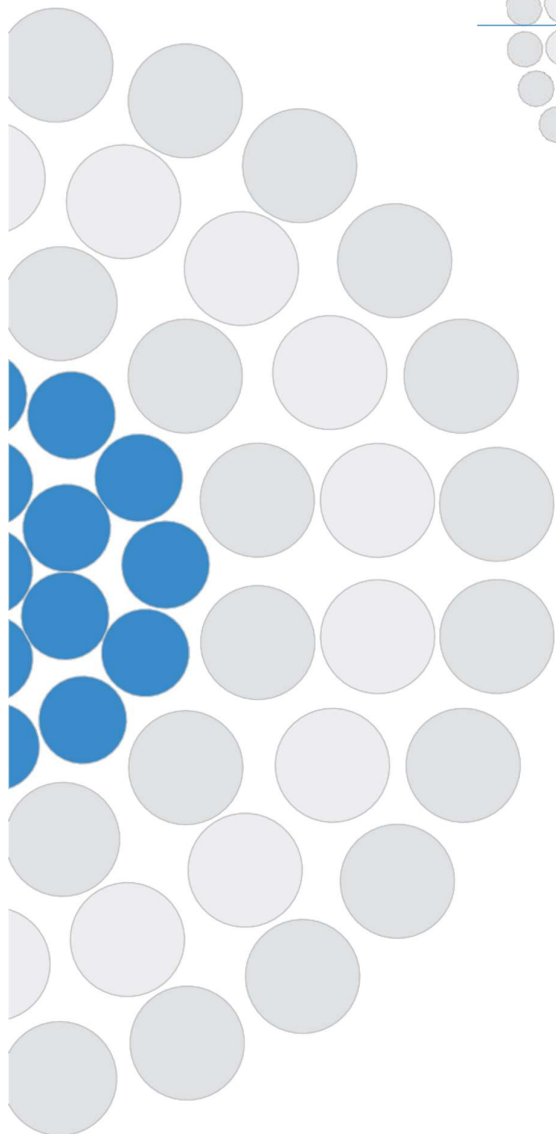
Old Code	Code	Area mm ²	No. of Wires	Diameter		Mass per Unit Length kg/km	Rated Strength kN	DC Resistance Ω / km
				Wire mm	Conductor mm			
Midge	23-AL1	23.3	7	2.06	6.18	63.8	4.2	1.225
Gnat	27-AL1	26.9	7	2.21	6.63	73.4	4.83	1.064
Mosquito	37-AL1	36.9	7	2.59	7.77	100.8	6.27	0.775
Ladybird	43-AL1	42.8	7	2.79	8.37	117	7.28	0.668
Ant	53-AL1	52.8	7	3.1	9.3	144.4	8.72	0.541
Fly	64-AL1	63.6	7	3.4	10.2	173.7	10.49	0.450
Bluebottle	74-AL1	73.6	7	3.66	11	201.3	11.78	0.388
Earwig	79-AL1	78.6	7	3.78	11.3	214.7	15.57	0.364
Grasshopper	84-AL1	84.1	7	3.91	11.7	229.7	13.45	0.34
Clegg	96-AL1	95.6	7	4.17	12.5	261.3	15.3	0.290
Wasp	106-AL1	106	19	4.39	13.2	289.6	16.95	0.270
Beetle	106-AL1	106..4	7	2.67	13.4	292.4	18.08	0.270
Bee	132-AL1	132	19	4.9	14.7	360.8	21.12	0.217
Hornet	158-AL1	157.6	19	3.25	16.3	433.2	26.01	0.182
Caterpillar	186-AL1	185.9	19	3.53	17.7	511.1	29.75	0.155
Chafer	213-AL1	213.2	19	3.78	18.9	586	34.12	0.135
Spider	238-AL1	237.6	19	3.99	20	652.9	38.01	0.121
Cockroach	266-AL1	265.7	19	4.22	21.1	730.4	42.52	0.108
Butterfly	323-AL1	322.7	19	4.65	23.3	886.8	51.63	0.089
Moth	373-AL1	373.1	19	5	25	1025.3	59.69	0.077
Drone	372-AL1	372.4	37	3.58	25.1	1027.1	59.59	0.077
Centipede	415-AL1	415.2	37	3.78	26.5	1045.1	66.43	0.070
Maybug	486-AL1	486.1	37	4.09	28.6	1340.6	77.78	0.059
Scorpion	530-AL1	529.8	37	4.27	29.9	1461.2	84.77	0.054
Cicada	628-AL1	628.3	37	4.65	32.6	1732.9	100.54	0.046

Note: Direction of lay of external layer is right-hand(Z).

GOST -839-80 Grade A

Code	Area mm ²	No. of Wires	Diameter		DC Resistance Ω / km	Rated Strength N	Mass per Unit Length kg/km
			Wire mm	Conductor mm			
(16)	15.9	7	1.7	5.1	1.801	3021	43
(25)	24.9	7	2.13	6.4	1.150	4500	68
(35)	34.3	7	2.5	7.5	0.835	5913	94
40	40	7	2.7	8.09	0.716	6800	109
(50)	49.5	7	3	9	0.578	8198	135
63	63	7	3.39	10.16	0.454	10390	172.3
(70)	69.3	7	3.55	10.7	0.413	11288	189
(95)	92.4	7	4.1	12.3	0.311	14784	252
100	100	19	2.59	12.94	0.288	17000	274.9
(120)	117	19	2.8	14	0.246	19890	321
125	125	19	2.89	14.47	0.230	21250	343.6
(150)	148	19	3.15	15.8	0.194	24420	406
160	160	19	3.27	16.37	0.180	26400	439.8
(185)	182.8	19	3.5	17.5	0.157	29832	502
200	200	19	3.66	18.3	0.144	32000	549.7
(240)	238.7	19	4	20	0.121	38192	655
250	250	19	4.09	20.47	0.115	40000	687.1
(300)	288.3	37	3.15	22.1	0.1	47569	794
315	315	37	3.29	23.05	0.092	51970	867.5
(350)	345.8	37	3.45	24.2	0.083	57057	952
(400)	389.2	37	3.66	25.6	0.074	63420	1072
(450)	449.1	37	3.9	27.3	0.064	71856	12060
(500)	500.4	37	4.15	29.1	0.058	80000	1378
(550)	544	61	3.37	30.3	0.053	89760	1500
560	560	37	4.39	30.73	0.053	89600	1542.2
(600)	586.8	61	3.5	31.5	0.049	95632	1618
630	630	61	3.63	32.64	0.046	100800	1738.4
(650)	641.7	61	3.66	32.9	0.045	104575	1771
(700)	691.7	61	3.8	34.2	0.042	112725	1902
710	710	61	3.85	34.65	0.041	113600	1959.2
(750)	747.4	61	3.95	35.6	0.039	119584	2062

Note : Direction of lay of external layer is right-hand(Z)



This conductor consists of a solid or stranded steel core surrounded by strands of aluminium. ACSR CONDUCTOR is available in a wide range of steel varying from 6% up to 40%. The higher strength ACSR CONDUCTORS are used for river crossings, overhead earth wires, installations involving extra long spans etc. against any given resistance of conductor, ACSR conductor may be manufactured for having a wide range of tensile strength as per requirement. The principal advantage of these conductors are high tensile strength and light weight with longer spans as well as with less supports. Due to the greater diameter of ACSR CONDUCTOR much higher corona limit can be obtained causing big advantages on high as well as extra high voltage overhead lines.



ACSR

Aluminium Conductors Steel Reinforced



OSWAL
CABLES

TS-EN-50182 (TS-IEC-61089)

Code	Canadian Standard		Areas			Diameter & No. of Wires				Overall Diameter		Rated Strength	D.C. Resistance	Mass per Unit Length
	Type	AWG	Al	Steel	Total	Al		Steel		Core	Conductor			
			mm ²			No. of Wires	Wire Diameter mm	No. of Wires	Wire Diameter mm	mm				
17/3	Tuhrus	5	16.83	2.80	19.63	6	1.89	1	1.89	1.89	5.67	665	1.075	68
21/4	Swan	4	21.18	3.53	24.71	6	2.12	1	2.12	2.12	6.36	831	1.355	85.6
27/4	Swallow	3	26.69	4.45	31.14	6	2.38	1	2.38	2.38	7.14	1.023	1.074	107.8
34/6	Sparrow	2	33.59	5.60	39.19	6	2.67	1	2.67	2.67	8.01	1.264	0.854	135.7
42/7	Robin	1	42.41	7.07	49.48	6	3.00	1	3.00	3.00	9.00	1.579	0.677	171.4
54/9	Rawen	1/0	53.52	8.92	62.44	6	3.37	1	3.37	3.37	10.11	1.945	0.536	216.2
67/11	Quail	2/0	67.33	11.22	78.55	6	3.78	1	3.78	3.78	11.34	2.420	0.426	272
85/14	Pigeon	3/0	85.12	14.18	99.30	6	4.25	1	4.25	4.25	12.75	3.035	0.337	343.9
135/7	Waxwing	266800	134.98	7.50	142.48	18	3.09	1	3.09	3.09	15.45	3.220	0.213	430.1
135/22	Partridge	266800	134.87	21.99	156.86	26	2.57	7	2.00	6.00	16.28	5.099	0.214	543.8
152/8	Pheobe	300000	152.09	8.45	160.54	18	3.28	1	3.28	3.28	16.40	3.628	0.189	484.6
152/25	Ostrich	300000	152.19	24.71	174.90	26	2.73	7	2.12	6.36	17.28	5.736	0.190	612.9
242/39	Hawk	477000	241.65	39.19	280.84	26	3.44	7	2.67	8.01	21.77	8.798	0.119	972.8
403/65	Drake	795000	402.56	65.44	468.00	26	4.44	7	3.45	10.35	28.11	14.165	0.072	1621.9
485/63	Cardinal	954000	484.53	62.81	547.34	54	3.38	7	3.38	10.14	30.42	15.589	0.060	1829.8
645/82	Pheasant	127200	645.08	81.71	726.79	54	3.90	19	2.34	11.70	35.10	20.383	0.045	2433.5

ASTM-B-232 METRIC UNITS

Code	Size	Stranding		Areas		Diameter	Mass per Unit Length				Rated Strength	Electrical Resistance			Current Carrying Capacity
		Al	Steel	Total	Al	Total	Core	Total	Al	Steel		D.C.@ 20°C	A.C.@ 25°C	A.C.@ 75°C	
	AWG-MCM	No. x Ømm	No. x Ømm	mm ²	mm ²	mm	mm	kg/km	kg/km	kg/km		Ω/km	Ω/km	Ω/km	1 (A)
Turkey	6	6x1.68	1x1.68	15.52	13.3	5.04	1.68	53.8	36.5	17.3	5.295	2.114	2.15	2.685	110
Swan	4	6x2.12	1x2.12	24.71	21.18	6.36	2.12	85.4	58	27.4	8.28	1.328	1.354	1.717	145
Swanate	4	7x1.96	1x2.61	26.53	21.12	6.53	2.61	99.7	58	41.7	10.5	1.131	1.339	1.738	145
Sparrow	2	6x2.67	1x2.67	39.2	33.6	8.01	2.67	135.9	92.3	43.6	12.68	0.834	0.853	1.108	195
Sparate	2	7x2.47	1x3.30	42.09	33.54	5.24	3.3	158.8	92.3	66.51	6.2	0.825	0.844	1.118	195
Robin	1	6x3.00	1x3.00	49.48	42.41	9	3	171.4	116.4	55	15.8	0.662	0.677	0.891	200
Raven	1/0	6x3.37	1x3.37	62.44	53.52	10.11	3.37	216.1	146.7	69.4	19.49	0.524	0.537	0.717	255
Quail	2/0	6x3.78	1x3.38	78.55	67.33	11.34	3.78	272.5	185	87.5	23.63	0.416	0.427	0.58	295
Pigeon	3/0	6x4.25	1x4.25	99.31	85.12	12.75	4.25	343.5	233.2	110.3	29.46	0.33	0.339	0.471	340
Penguin	4/0	6x4.77	1x4.77	125.09	107.22	14.31	4.77	433.2	294.2	139	37.16	0.261	0.27	0.383	390
Waxwing	266.8	18x3.09	1x3.09	142.5	135	15.45	3.09	431.6	372.9	58.7	30.62	0.212	0.217	0.26	480
Partridge	266.8	26x2.57	7x2.00	156.9	134.9	16.28	6	546.1	374.3	171.8	50.28	0.21	0.217	0.257	490

ASTM-B-232 METRIC UNITS

Code	Size	Stranding		Areas		Diameter	Mass per Unit Length				Rated Strength	Electrical Resistance			Current Carrying Capacity
		Al	Steel	Total	Al	Total	Core	Total	Al	Steel		D.C.@ 20°C	A.C.@ 25°C	A.C.@ 75°C	
		AWG-MCM	No. x Ømm	No. x Ømm	mm ²	mm ²	mm	kg/km	kg/km	kg/km		Ω/km	Ω/km	Ω/km	1 (A)
Ostrich	300	26x2.73	7x2.12	176.9	152.2	17.28	6.36	614.6	421.3	193.3	56.52	0.187	0.191	0.228	530
Merlin	336.4	18x3.47	1x3.47	179.7	170.2	17.35	3.47	543.2	469.7	73.5	38.36	0.168	0.172	0.206	560
Linnet	336.4	26x2.89	7x2.25	198.4	170.6	18.31	6.75	689	472.2	216.8	62.75	0.166	0.167	0.204	570
Oriole	336.4	30x2.69	7x2.69	210.3	170.5	18.83	8.07	784.3	473.2	311.1	76.98	0.165	0.169	0.202	575
Chickadee	397.5	18x3.77	1x3.77	212.1	200.9	18.85	3.77	642.9	555.5	87.4	44.23	0.122	0.146	0.174	620
Brant	397.5	24x3.27	7x2.18	227.7	201.6	19.62	6.54	762	558.1	203.9	64.97	0.142	0.145	0.173	630
Ibis	397.5	26x3.14	7x2.44	234	201.3	19.88	7.32	814	558.2	255.8	72.53	0.141	0.144	0.173	635
Lark	397.5	30x2.92	7x2.92	247.8	200.9	20.44	8.76	927.1	555.1	372	90.3	0.14	0.143	0.172	645
Pelican	477	18x4.14	1x4.14	255.8	242.3	20.7	4.14	770.9	666.4	104.5	52.51	0.118	0.122	0.145	700
Flicker	477	24x3.58	7x2.39	278	241.6	21.19	7.17	915.2	670.1	245.1	76.54	0.118	0.121	0.144	710
Hawk	477	26x3.44	7x2.67	280.8	241.6	21.77	8.01	977.7	669.7	308	86.77	0.117	0.12	0.144	715
Hen	477	30x3.20	7x3.20	297.6	241.3	22.4	9.6	1111.7	671	440.7	105.91	0.117	0.119	0.143	725
Osprey	556.5	18x4.47	1x4.47	298.2	282.5	22.35	4.47	898.9	777	121.9	60.96	0.101	0.104	0.125	775
Parakeet	556.5	24x3.87	7x2.58	318.9	282.3	23.22	7.74	1067	781.6	285.4	88.11	0.101	0.104	0.124	785
Dove	556.5	26x3.72	7x2.89	328.5	282.6	23.55	6.67	1140	781.3	358.7	105.57	0.101	0.103	0.124	790
Eagle	556.5	27x3.30	7x3.46	347.9	282.1	24.27	1.38	1297.7	983.2	514.5	123.71	0.1	0.103	0.123	800
Peacock	605	24x4.03	7x2.69	345.9	306.1	24.19	8.07	1160.8	849.8	311	96.12	0.093	0.095	0.114	830
Squab	605	26x3.87	7x3.01	355.6	305.8	24.51	9.03	1239.7	849.8	389.9	108.13	0.093	0.095	0.114	835
Wooduck	605	30x3.61	7x3.61	378.8	307.1	25.27	10.83	1410.8	851.2	559.6	128.6	0.032	0.094	0.113	845
Teal	605	30x3.61	19x2.16	376.1	307.1	25.24	10.8	1398.9	851.5	547.4	135.5	0.092	0.094	0.113	845
Kingbird	636	18x4.78	1x4.78	340.9	323	23.9	4.78	1026.9	887.4	139.5	69.83	0.089	0.092	0.109	845
Rook	636	24x4.14	7x2.76	365	323.1	24.84	8.28	1281.8	892.9	388.9	97.6	0.088	0.091	0.108	855
Grosbeak	636	26x3.97	7x3.09	321	325.15	9.27	9.27	1302.2	892.9	409.6	130.2	0.009	0.088	0.108	860
Scoter	636	30x3.70	7x3.70	397.9	322.6	25.9	11.1	1477.8	891.4	586.4	135.27	0.088	0.09	0.108	870
Egret	636	30x3.70	19x2.22	396.1	322.6	25.9	11.1	1470.3	895	575.3	140.17	0.088	0.899	0.108	870
Swi1	636	36x3.38	1.3x38	332	323	23.66	3.58	958.4	888.4	70	61.41	0.089	0.919	0.109	845
Flamingo	666,6	24x4.23	7x2.82	381	337.3	25.38	8.46	1276.9	935.2	341.7	105.46	0.084	0.856	0.104	880
Gannet	666,6	26x4.07	7x3.16	393.2	338.3	25.76	9.48	1364.7	936.1	428.6	117.48	0.084	0.085	0.103	885

ASTM-B-232 METRIC UNITS

Code	Size	Stranding		Areas		Diameter	Mass per Unit Length				Rated Strength	Electrical Resistance			Current Carrying Capacity
		Al	Steel	Total	Al	Total	Core	Total	Al	Steel		D.C. @ 20°C	A.C. @ 25°C	A.C. @ 75°C	
	AWG-MCM	No. x Ømm	No. x Ømm	mm²	mm²	mm	mm	kg/km	kg/km	kg/km	kN	Ω/km	Ω/km	Ω/km	1 (A)
Stilt	715.5	24x4.39	7x2.92	410.2	363.3	26.32	8.76	1372.1	1004.5	367.6	113.47	0.08	0.081	0.097	920
Starling	715.5	26x4.21	7x3.28	421	361.9	26.68	9.84	1465.9	1004.5	461.4	126.37	0.08	0.080	0.096	930
Redwing	715.5	30x3.92	19x2.35	444.5	362.1	27.43	11.75	1653.4	1007.1	646.3	153.96	0.08	0.080	0.095	940
Cuckoo	795.0	24x4.62	7x3.08	454.5	402.3	27.72	9.24	1522.4	1115.2	407.2	124.15	0.07	0.073	0.087	985
Drake	795.0	26x4.44	7x3.45	468	402.6	28.11	10.35	1628.1	1115.8	512.3	140.17	0.07	0.073	0.087	995
Coot	795.0	36x3.77	1x3.77	413.1	401.9	26.39	3.77	1198	1110.2	87.8	74.76	0.07	0.074	0.088	975
Tem	795.0	45x3.38	7x2.25	431.6	403.8	27.03	6.75	1333.4	1116.1	217.3	98.34	0.07	0.074	0.088	970
Condor	795.0	54x3.08	7x3.08	454.5	402.3	27.72	9.24	1513.9	1116.1	407.8	125.48	0.07	0.073	0.087	975
Mallard	795.0	30x4.14	19x2.48	495.6	403.8	28.96	12.4	1837.9	1118.7	719.2	170.87	0.07	0.072	0.086	1005
Ruddy	900.0	45x3.59	7x2.40	487.2	455.5	28.74	7.2	1510.5	1263.5	247	108.58	0.06	0.065	0.077	1050
Canary	900.0	54x3.28	7x3.28	515.4	456.3	29.52	9.84	1724.8	1263.5	461.3	141.95	0.06	0.065	0.077	1055
Catbird	954.0	36x4.14	1x4.14	498.1	484.6	28.98	4.14	1437.6	1333.4	104.2	8.11	0.06	0.062	0.074	1095
Rail	954.0	45x3.70	45x3.70	517.3	483.8	29.61	7.41	1599.8	1333.4	260.4	115.25	0.06	0.062	0.074	1090
Cardinal	954.0	54x3.38	54x3.38	547.3	484.5	30.42	10.14	1829	1339.8	489.2	150.4	0.06	0.061	0.073	1095
Tanager	1033.5	36x4.30	36x4.30	537.3	522.8	30.1	4.3	1556.6	1433.5	113.1	95.23	0.06	0.059	0.069	1130
Ortolan	1033.5	45x3.85	45x3.85	560.2	523.9	30.81	7.71	1733.7	1451	282.7	123.26	0.06	0.057	0.068	1150
Curlew	1033.5	54x3.52	54x3.52	593.6	525.5	31.68	10.56	1980.8	1451	529	162.86	0.05	0.057	0.068	1150
Bluejay	1113.0	45x4.00	45x4.00	604.4	565.5	31.98	7.98	1872	1562.6	305.1	132.6	0.05	0.053	0.064	1205
Finch	1113.0	54x3.65	54x3.65	636.6	565	32.85	10.95	2129.6	1570	559.6	174	0.05	0.053	0.063	1205
Bunting	1192.5	45x4.14	45x4.14	647.7	605.8	33.12	8.28	2000.1	1674.2	325.9	142.4	0.05	0.05	0.059	1255
Grackle	1192.5	54x3.77	54x3.77	679.7	602.8	33.97	11.35	2281.4	1681.7	599.8	186.45	0.05	0.05	0.059	1260
Skylark	1272.0	36x4.78	36x4.78	664	646	33.46	4.78	1916.8	1776.9	139.9	117.48	0.05	0.048	0.056	1310
Bittern	1272.0	45x4.27	45x4.27	489.1	644.4	34.17	8.55	2134.1	1785.8	384.3	151.74	0.05	0.047	0.056	1310
Pheasant	1272.0	54x3.90	54x3.90	726.8	645.1	35.1	11.7	2433.2	1794.2	639	194	0.04	0.047	0.055	1310
Dipperf	1351.5	45x4.40	45x4.40	731.4	684.2	35.19	8.79	2266.5	1898.5	368	161.08	0.04	0.045	0.053	1360
Martin	1351.5	54x4.02	54x4.02	772.1	685.4	36.17	12.05	2585	1906.4	678.6	206.03	0.04	0.044	0.052	1365
Bobolink	1431.0	45x4.53	45x4.53	775.4	725.3	36.24	9.06	2400.4	2009.1	391.3	170.43	0.04	0.043	0.05	1410
Plover	1431.0	54x4.14	54x4.14	818.7	726.9	37.24	12.4	2738.3	2019	719.3	218.48	0.04	0.042	0.05	1415
Nuthatch	1510.5	45x4.65	45x4.65	817	764.2	37.2	9.3	2532.9	2120.7	412.2	178.44	0.04	0.04	0.048	1455
Parrot	1510.5	54x4.25	54x4.25	863.1	766.1	38.25	12.75	2890.1	2131.1	759	230.05	0.04	0.04	0.047	1460
Lapwing	1590.0	45x4.78	45x4.78	863.1	807.5	38.22	9.54	2666.8	2232.3	434.5	187.78	0.04	0.039	0.046	1505
Falcon	1590.0	54x4.36	54x4.36	908.6	806.2	39.26	13.1	3041.9	2242.7	799.2	242.51	0.04	0.038	0.045	1510
Chukar	1780.0	84x3.70	84x3.70	976.7	903.2	42.7	11.1	3086.5	2510.6	575.9	226.94	0.03	0.035	0.041	1620
Bluebird	2156.0	84x4.07	84x4.07	1181.6	1092.8	44.76	12.2	3737.8	3040.4	697.4	268.32	0.03	0.03	0.034	1815
Kiwi	2167.0	72x4.41	72x4.41	1147.3	1099.8	44.1	8.82	3427.3	3056.7	370.6	221.6	0.03	0.03	0.035	1795
Thrasher	2312.8	76x4.43	76x4.43	1235.3	1711.4	45.79	10.35	3760.7	3262.1	498.6	252.3	0.03	0.028	0.033	1875

ASTM-B-232 METRIC UNITS

Code	Size	Stranding		Areas		Diameter	Mass per Unit Length				Rated Strength	Electrical Resistance			Current Carrying Capacity
		Al	Steel	Total	Al	Total	Core	Total	Al	Steel		D.C. @ 20°C	A.C. @ 25°C	A.C. @ 75°C	
	AWG-MCM	No. x Ømm	No. x Ømm	mm ²	mm ²	mm	mm	kg/km	kg/km	kg/km	kN	Ω/km	Ω/km	Ω/km	1 (A)
Grouse	80	8x2.54	1 x4.24	54.66	40.54	9.32	4.24	221.7	111.8	109.9	23.14	0.68	0.696	0.963	200
Petrel	101.8	12x2.34	7x2.34	81.71	51.61	11.7	7.02	378.11	142.9	235.2	42.28	0.522	0.529	0.784	250
Minorca	110.8	12x2.44	7x2.44	88.84	56.11	12.2	7.32	411.6	155.5	256.1	50.28	0.479	0.498	0.742	265
Leghorn	134.6	12x2.69	7x2.69	108	68.2	13.45	8.07	500	189	311	60.52	0.395	0.401	0.618	300
Guinea	159	12x2.92	7x2.92	127.23	80.36	14.6	8.76	590.5	223.2	367.3	68.08	0.334	0.34	0.537	330
Dotterel	176.9	12x3.08	7x3.08	141.56	89.41	15.4	9.25	656.9	248.4	408.4	76.78	0.3	0.308	0.492	350
Dorking	190.8	12x3.20	7x3.20	152.81	96.51	16	9.6	708.8	267.9	440.9	83.21	0.278	0.284	0.462	370
Brahma	203.2	16x2.86	19x2.48	194.57	102.79	18.12	12.4	1007.2	285.3	721.9	126.37	0.252	0.256	0.430	380
Cochin	211.3	12x3.37	7x3.37	169.47	107.04	16.85	10.11	785	296.6	488.4	92.11	0.251	0.256	0.425	390

ASTM-B-232

Code	Size		Diameter (ins)				Mass per Unit Length			Rated Strength	Electrical Resistance		Allow Ampacity
	Stranding		Individual Wire		Core	Conductor	Al	Steel	Total		D.C.@ 75°C	A.C.@ 75°C	
	AWG-Kcmil	Al/St	Al	Steel			1000 ft. (lbs.)	1000 ft. (lbs.)	1000 ft. (lbs.)		Ω/1000ft	Ω/1000ft	+ (Amps)
Bluejay	1113.0	45/7	0.157	0.105	0.315	1.259	1050	205	1254	29.8	0.016	0.019	1092
Finch	1113	54/19	0.144	0.086	0.431	1.293	1055	376	1430	39.1	0.014	0.02	1093
Bunting	1192.5	45/7	0.163	0.109	0.326	1.302	1125	219	1342	32	0.014	0.018	1139
Grackle	1192.5	54/19	0.149	0.089	0.446	1.333	1130	403	1531	41.9	0.014	0.018	1140
Bittern	1272.0	45/7	0.168	0.112	0.336	1.345	1200	234	1432	34.1	0.014	0.017	1184
Pheasant	1272.0	54/19	0.154	0.092	0.461	1.382	1206	429	1634	34.6	0.014	0.017	1187
Dipper	1351.5	45/7	0.173	0.116	0.347	1.386	1275	247	1521	36.2	0.013	0.016	1229
Martin	1351.5	54/19	0.158	0.095	0.475	1.424	1281	456	1735	46.3	0.013	0.016	1232
Bobolink	1431.0	45/7	0.178	0.119	0.357	1.427	1350	263	1611	38.3	0.012	0.015	1272
Plover	1431.0	54/19	0.163	0.098	0.489	1.465	1357	483	1838	49.1	0.012	0.016	1275
Nuthatch	1510.5	45/7	0.183	0.122	0.366	1.466	1425	277	1700	40	0.011	0.015	1313
Parrot	1510.5	54/19	0.167	0.1	0.502	1.505	1432	510	1938	51.7	0.011	0.015	1318
Lapwing	1590.0	45/7	0.188	0.253	0.376	1.504	1500	292	1790	42.2	0.011	0.014	1354
Falcon	1590.0	54/19	0.172	0.105	0.515	1.545	1507	537	2042	54.5	0.011	0.014	1359
Chukar	1780.0	84/19	0.146	0.087	0.437	1.602	1687	387	2072	51	0.01	0.013	1453
Bluebird	2156.0	84/19	0.16	0.096	0.481	1.762	2044	468	2508	60.3	0.008	0.011	1623
Kiwi	2167.0	72/7	0.174	0.116	0.347	1.735	2054	249	2300	49.8	0.008	0.011	1607

HIGH MECHANICAL STRENGTH

Grouse	80.0	8/1	0.1	0.167	0.167	0.367	75.1	73.9	149	5.2	0.207	0.294	204
Petrel	101.8	12/7	0.092	0.092	0.276	0.461	158	158	254	10.4	0.158	0.25	237
Minarco	110.8	12/7	0.096	0.096	0.288	0.481	172.1	172.1	276	11.3	0.145	0.235	248
Leghorn	134.6	12/7	0.106	0.106	0.318	0.53	208.9	208.9	336	13.6	0.12	0.204	273
Guinea	159.0	12/7	0.115	0.115	0.345	0.576	249.8	246.8	396	16	0.101	0.181	297
Dotterel	176.9	12/7	0.121	0.125	0.364	0.607	274.6	274.6	441	17.3	0.091	0.169	312
Dorking	190.8	12/7	0.126	0.126	0.378	0.631	296.3	296.3	476	18.7	0.085	0.16	324
Brahma	203.2	16/19	0.113	0.098	0.489	0.714	485	485	675	20.7	0.076	0.155	341
Cochin	211.3	12/7	0.133	0.133	0.398	0.664	328.2	328.2	527	28.4	0.076	0.15	340

EN-50182 - Germany / DIN-48204

Code	New Code	Areas			No. of Wires		Wire Diameter		Diameter		Mass per Unit Length	Rated Strength	DC Resistance	Final Modulus of Elasticity	Coefficient of Linear Expansion	Current Carrying Capacity
		Al	Steel	Total			Al	Steel	Core	Conductor						
		mm ²	mm ²	mm ²	Al	Steel	mm	mm	mm	mm	kg/km	kN	Ω / km	N/mm ²	1/k	A
16/2.5	15-AL1/3-ST1A	15.3	2.54	17.8	6	1	1.8	1.8	1.8	5.4	61.6	5.8	1.8769	81.000	1,92E-05	105
25/4	24-AL1/4-ST1A	23.9	3.98	27.8	6	1	2.25	2.25	2.25	6.75	96.3	8.95	1.2012	81.000	1,92E-05	140
35/6	34-AL1/6-ST1A	34.4	5.73	40.1	6	1	2.7	2.7	2.7	8.1	138.7	12.37	0.8342	81.000	1,92E-05	170
44/32	44-AL1/32-ST1A	44	31.7	75.6	14	7	2	2.4	7.2	11.2	369.3	44.24	0.6574	110.000	1,50E-05	-
50/8	48-AL1/8-ST1A	48.3	8.04	56.3	6	1	3.2	3.2	3.2	9.6	194.8	16.81	0.5939	81.000	1,92E-05	210
50/30	51-AL1/30-ST1A	51.2	29.8	81	12	7	2.33	2.33	6.99	11.7	374.7	42.98	0.5644	107.000	1,53E-05	-
70/12	70-AL1/11-ST1A	69.9	11.4	81.3	26	7	1.85	1.44	4.32	11.7	282.2	26.27	0.1432	77.000	1,89E-05	290
95/15	94-AL1/15-ST1A	94.4	15.3	109.7	26	7	2.15	1.67	5.01	13.6	380.6	34.93	0.3060	77.000	1,89E-05	350
95/55	97-AL1/56-ST1A	96.5	56.3	152.8	12	7	3.2	3.2	9.6	16	706.8	77.85	0.2992	107.000	1,53E-05	-
105/75	106-AL1/76-ST1A	105.7	75.5	181.2	14	19	3.1	2.25	11.3	17.5	885.3	105.82	0.2742	110.000	1,50E-05	-
120/20	122-AL1/20-ST1A	121.6	19.8	141.4	26	7	2.44	1.9	5.7	15.5	491	44.5	0.2376	77.000	1,89E-05	410
120/70	122-AL1/71-ST1A	122.1	71.3	193.4	12	7	3.6	3.6	10.8	18	894.5	97.92	0.2364	107.000	1,53E-05	-
125/30	128-AL1/30-ST1A	127.9	29.8	157.8	30	7	2.33	2.33	6.99	16.3	587	56.41	0.2260	82.000	1,78E-05	425
150/25	149-AL1/24-ST1A	148.9	24.2	173.1	26	7	2.7	2.1	6.3	17.1	600.8	53.67	0.1940	77.000	1,89E-05	470
170/40	172-AL1/40-ST1A	171.8	40.1	211.8	30	7	2.7	2.7	8.1	18.9	788.2	74.89	0.1683	82.000	1,78E-05	520
185/30	184-AL1/30-ST1A	183.8	29.8	213.6	26	7	3	2.33	6.99	19	741	65.27	0.1571	77.000	1,89E-05	535
210/35	209-AL1/34-ST1A	209.1	34.1	243.2	26	7	3.2	2.49	7.47	20.3	844.1	73.36	0.1381	77.000	1,89E-05	590
210/50	212-AL1/49-ST1A	212.1	49.5	261.5	30	7	3	3	9	21	973.1	92.46	0.1363	82.000	1,78E-05	610
230/30	231-AL1/30-ST1A	230.9	29.8	260.8	24	7	3.5	2.33	6.9	21	870.9	72.13	0.1250	74.000	1,96E-05	630
240/40	243-AL1/39-ST1A	243.1	39.5	282.5	26	7	3.45	2.68	8.04	21.8	980.1	85.12	0.1188	77.000	1,89E-05	645
265/35	264-AL1/34-ST1A	263.7	34.1	297.7	24	7	3.74	2.49	7.47	22.4	994.4	81.04	0.1095	70.000	1,93E-05	680
300/50	304-AL1/49-ST1A	304.3	49.5	353.7	26	7	3.86	3	9	24.4	1,227.3	105.09	0.0949	62.000	2,05E-05	740
305/40	305-AL1/39-ST1A	304.6	39.5	344.1	54	7	2.68	2.68	8.04	24.1	1,151.2	96.8	0.0949	70.000	1,93E-05	740
340/30	339-AL1/30-ST1A	339.3	29.8	369.1	48	7	3	2.33	6.99	25	1,171.2	91.71	0.0852	62.000	2,05E-05	790
380/50	382-AL1/49-ST1A	381.7	49.5	431.2	54	7	3	3	9	27	1,442.5	121.3	0.0758	70.000	1,93E-05	840
385/35	386-AL1/34-ST1A	386	34.1	420.1	48	7	3.2	2.49	7.47	26.7	1,333.6	102.56	0.0749	62.000	2,05E-05	850
435/55	434-AL1/56-ST1A	434.3	56.3	490.6	54	7	3.2	3.2	9.6	28.8	1,641.3	133.59	0.0666	70.000	1,93E-05	900
450/40	449-AL1/39-ST1A	448.7	39.5	488.2	48	7	3.45	2.68	8.04	28.7	1,549.1	119.05	0.0644	62.000	2,05E-5	920
490/65	490-AL1/64-ST1A	490.3	63.6	553.8	54	7	3.4	3.4	10.2	30.6	1,852.9	150.81	0.0590	70.000	1,93E-05	960
494/35	494-AL1/34-ST1A	494.4	34.1	528.4	45	7	3.74	2.49	7.47	29.9	1,632.6	117.96	0.0584	61.000	2,09E-05	985
510/45	511-AL1/45-ST1A	510.5	45.3	555.8	48	7	3.68	2.87	8.61	30.7	1,765.3	133.31	0.0566	62.000	2,05E-05	995
550/70	550-AL1/71-ST1A	549.7	71.3	620.9	54	7	6.6	3.6	10.8	32.4	2,077.2	166.32	0.0526	70.000	1,93E-05	1,020
560/50	562-AL1/49-ST1A	561.7	49.5	611.2	48	7	6.86	3	9	32.2	1,939.5	146.28	0.0515	62.000	2,05E-05	1,040
570/40	571-AL1/39-ST1A	571.2	39.5	610.6	45	7	4.02	2.68	8.04	32.2	1,887.1	136.4	0.0506	61.000	2,09E-05	1,050
650/45	653-AL1/45-ST1A	653.5	45.3	698.8	45	7	4.3	2.87	8.61	34.4	2,159.9	156.18	0.0442	61.000	2,09E-05	1,120
680/85	679-AL1/86-ST1A	678.6	86	764.5	54	19	4	2.4	12	36	2,549.7	206.56	0.0426	68.000	1,94E-05	1,150
1045/45	1046-AL1/45-ST1A	1,045.6	45.3	1090.9	72	7	4.3	2.87	8.61	43	3,248.2	218.92	0.0277	60.000	2,17E-05	1,580

EN-50182 United Kingdom / BS-215 Part 2

Code	New Code	Areas			No. of Wires		Wire Diameter		Diameter		Mass per Unit Length	Rated Strength	DC Resistance
		Al	Steel	Total			Al	Steel	Core	Conductor			
		mm ²	mm ²	mm ²	Al	Steel	mm	mm	mm	mm	kg/km	kN	Ω / km
Mole	11-AL1/2-ST1A	10.6	1.77	12.4	6	1	1.50	1.50	1.50	4.50	42.8	4.14	2.7027
Squirrel	21-AL1/3-ST1A	21	3.5	24.5	6	1	2.11	2.11	2.11	3.66	84.7	7.87	1.3659
Gopher	26-AL1/4-ST1A	26.2	4.37	30.6	6	1	2.36	2.36	2.36	7.08	106	9.58	1.0919
Weasle	32-AL1/5-ST1A	31.6	5.27	36.9	6	1	2.59	2.59	2.59	7.77	127.6	11.38	0.9065
Fox	37-AL1/6-ST1A	36.7	6.11	42.8	6	1	2.79	2.79	2.79	8.37	148.1	13.21	0.7812
Ferret	42-AL1/7-ST1A	42.4	7.07	49.5	6	1	3.00	3.00	3.00	9.00	171.2	15.27	0.6757
Rabbit	53-AL1/9-ST1A	52.9	8.81	61.7	6	1	3.35	3.35	3.35	10.10	213.5	18.42	0.5419
Mink	63-AL1/11-ST1A	63.1	10.5	73.6	6	1	3.66	3.66	3.66	11.00	254.9	21.67	0.4540
Skunk	63-AL1/37-ST1A	63.2	36.9	100.1	12	7	2.59	2.59	7.77	13.00	463	52.79	0.4568
Beaver	75-AL1/13-ST1A	75	12.5	87.5	6	1	3.99	3.99	3.99	1.00	302.9	25.76	0.3820
Horse	73-AL1/43-ST1A	73.4	42.8	116.2	12	7	2.79	2.79	8.37	14.00	537.3	61.26	0.3936
Raccoon	79-AL1/13-ST1A	78.8	13.1	92	6	1	4.09	4.09	4.09	12.30	318.3	27.06	0.3635
Otter	84-AL1/14-ST1A	83.9	14	97.9	6	1	4.22	4.22	4.22	12.70	338.8	28.81	0.3415
Cat	95-AL1/16-ST1A	95.4	15.9	111.3	6	1	4.50	4.50	4.50	13.50	385.3	32.76	0.3003
Hare	105-AL1/17-ST1A	105	17.5	122.5	6	1	4.72	4.72	4.72	14.20	423.8	36.04	0.2730
Dog	105-AL1/14-ST1A	105	13.6	118.5	6	7	4.72	1.57	4.71	14.20	394	32.65	0.2733
Coyote	132-AL1/20-ST1A	131.7	20.1	151.8	26	7	2.54	1.91	5.73	15.90	520.7	45.86	0.2192
Cougar	132-AL1/7-ST1A	131.5	7.31	138.8	18	1	3.05	3.05	3.05	15.30	418.8	29.74	0.2188
Tiger	131-AL1/31-ST1A	131.2	30.6	161.9	30	7	2.36	2.36	7.08	16.50	602.2	57.87	0.2202
Wolf	158-AL1/37-ST1A	158.1	36.9	194.9	30	7	2.59	2.59	7.77	18.10	725.3	68.91	0.1829
Dingo	159-AL1/9-ST1A	158.7	8.81	167.5	18	1	3.35	3.35	3.35	16.80	505.2	35.87	0.1814
Lynx	183-AL1/43-ST1A	183.4	42.8	226.2	30	7	2.79	2.79	8.37	19.50	841.6	79.97	0.1576
Caracal	184-AL1/10-ST1A	184.2	10.2	194.5	18	1	3.61	3.61	3.61	18.10	586.7	40.74	0.1562
Panther	212-AL1/49-ST1A	212.1	49.5	261.5	30	7	3.00	3.00	9.00	21.00	973.1	92.46	0.1363
Jaguar	211-AL1/12-ST1A	210.6	11.7	222.3	18	1	3.86	3.86	3.86	19.30	670.8	46.57	0.1366
Lion	238-AL1/56-ST1A	238.3	55.6	293.9	30	7	3.18	3.18	9.54	22.30	109.4	100.47	0.1213
Bear	264-AL1/62-ST1A	264.4	61.7	326.1	30	7	3.35	3.35	10.10	23.50	1213.4	111.5	0.1093
Goat	324-AL1/76-ST1A	324.3	75.7	400	30	7	3.71	3.71	11.10	26.00	1488.2	135.13	0.0891
Sheep	375-AL1/88-ST1A	375.1	87.5	462.6	30	7	3.99	3.99	12.00	27.90	1721.3	156.3	0.0771
Antelope	374-AL1/68-ST1A	374.1	48.5	422.6	54	7	2.97	2.97	8.91	26.70	1413.8	118.88	0.0773
Bison	382-AL1/49-ST1A	381.7	49.5	431.2	54	7	3.00	3.00	9.00	27.00	1442.5	121.3	0.0758
Deer	430-AL1/100-ST1A	429.6	100.2	529.8	30	7	4.27	4.27	12.80	29.90	1971.4	179	0.0673
Zebra	429-AL1/56-ST1A	428.9	55.6	484.5	54	7	3.18	3.18	9.54	28.60	1620.8	131.92	0.0674
Elk	477-AL1/111-ST1A	477.1	111.3	588.5	30	7	4.50	4.50	13.50	31.50	2189.5	198.8	0.0606
Camel	476-AL1/62-ST1A	476	61.7	537.7	54	7	3.35	3.35	10.10	30.20	1798.8	146.4	0.0608
Moose	528-AL1/69-ST1A	528.5	68.5	597	54	7	3.35	3.35	10.60	31.80	1997.3	159.92	0.0547

EN-50182 Type AL1/ST1A - Finland

Code	New Code	Areas			No. of Wires		Wire Diameter		Diameter		Mass per Unit Length	Rated Strength	DC Resistance
		Al	Steel	Total			Al	Steel	Core	Conductor			
		mm ²	mm ²	mm ²	Al	Steel	mm	mm	mm	mm			
Sparrow	34-AL1/6-ST1A	33.8	5.64	39.5	6	1	2.68	2.68	2.68	8.04	136.6	12.18	0.847
Raven	54-AL1/9-ST1A	53.5	8.92	62.4	6	1	3.37	3.37	3.37	10.1	216.1	18.64	0.5355
Pigeon	85-AL1/14-ST1A	85.1	14.2	99.3	6	1	4.25	4.25	4.25	12.8	343.6	29.22	0.3367
Suursavo	106-AL1/25-ST1A	105.9	24.7	130.6	30	7	2.12	2.12	6.36	14.84	485.9	47.97	0.273
Ostrich	152-AL1/25-ST1A	152.2	24.7	176.9	26	7	2.73	2.12	6.36	17.28	613.6	54.78	0.190
Duck	305-AL1/39-ST1A	304.6	39.5	344.1	54	7	2.68	2.68	8.04	24.12	1151.2	96.8	0.095
Finch	565-AL1/72-ST1A	565	71.6	636.6	54	19	3.65	2.19	10.95	32.85	2123.0	174.14	0.051
Savo	42-AL1/25-ST1A	42.4	24.7	67.1	12	7	2.12	2.12	6.36	10.6	310.2	36.53	0.682
Dotterel	89-AL1/52-ST1A	89.4	52.2	141.6	12	7	3.08	3.08	9.24	15.40	654.8	72.12	0.3230
Imatra	93-AL1/39-ST1A	92.9	39.5	132.4	10	7	3.44	2.68	8.04	14.92	656.1	60.35	0.310
Kuopio	148-AL1/67-ST1A	143.3	67.1	215.3	42	19	2.12	2.12	10.6	19.08	937.3	105.16	0.196

EN-50182 Type AL2/ST1A - Finland

Code	New Code	Areas			No. of Wires		Wire Diameter		Diameter		Mass per Unit Length	Rated Strength	DC Resistance
		Al	Steel	Total			Al	Steel	Core	Conductor			
		mm ²	mm ²	mm ²	Al	Steel	mm	mm	mm	mm			
AACSR 106/25	106-AL2/25-ST1A	105.9	24.7	130.6	30	7	2.12	2.12	6.36	14.8	485.6	63.33	0.3171

EN-50182 Type AL1/ST1A - Sweden

Code	New Code	Areas			No. of Wires		Wire Diameter		Diameter		Mass per Unit Length	Rated Strength	DC Resistance
		Al	Steel	Total			Al	Steel	Core	Conductor			
		mm ²	mm ²	mm ²	Al	Steel	mm	mm	mm	mm	kg/km	kN	Ω / km
Raven	54-AL1/9-ST1A	53.5	8.92	62.4	6	1	3.37	3.37	3.37	10.1	216.1	18.64	0.5355
Pigeon	85-AL1/14-ST1A	85.1	14.2	99.3	6	1	4.25	4.25	4.25	12.8	343.6	29.22	0.3367
Partridge	135-AL1/22-ST1A	134.9	22	156.9	26	7	2.57	2	6	16.3	544.5	48.66	0.2141
Ibis	201-AL1/33-ST1A	201.3	32.7	234.1	26	7	3.14	2.44	7.32	19.9	812.1	70.53	0.1434
Dove	283-AL1/46-ST1A	282.6	45.9	328.5	26	7	3.72	2.89	8.67	23.6	1 139.6	97.56	0.1022
Condor	402-AL1/52-ST1A	402.3	52.2	454.5	54	7	3.08	3.08	9.24	27.7	1 520.5	123.75	0.0719
Curlew	525-AL1/68-ST1A	525.5	68.1	593.6	54	7	3.52	3.52	10.6	31.7	1 986.0	159.01	0.0550
Skata	685-AL1/89-ST1A	685.4	88.1	774.2	54	7	4.02	4.02	12.1	36.2	2 590.2	207.39	0.0422
Falcon	806-AL1/102-ST1A	806.2	102.4	908.7	54	19	4.36	2.62	13.1	39.9	3 031.7	245.77	0.0358
Morkulla	563-AL1/29-ST1A	562.7	29.3	592	42	7	4.13	2.31	6.93	31.7	1 783.7	123.47	0.0513
Ripa	735-AL1/38-ST1A	734.9	38	772.9	42	7	4.72	2.63	7.89	36.2	2 327.5	160.93	0.0393
Orre	865-AL1/44-ST1A	864.7	44	908.8	42	7	5.12	2.83	8.49	39.2	2 773.1	188.55	0.0334
Dotterel	89-AL1/52-ST1A	89.4	52.2	141.6	12	7	3.08	3.08	9.24	15.4	654.8	72.12	0.3230
Oden	117-AL1/68-ST1A	116.8	68.1	184.9	12	7	3.52	3.52	10.6	17.6	855.2	93.62	0.2473
Atle	152-AL1/89-ST1A	152.3	88.8	241.2	12	7	4.02	4.02	12.1	20.1	1 115.4	122.1	0.1896
Ymer	251-AL1/65-ST1A	251	64.7	315.6	32	7	3.16	3.43	10.3	22.8	1 119.8	112.56	0.1152

EN-50182 Type AL1/ST1A - Spain / UNE-21018

Code	New Code	Areas			No. of Wires		Wire Diameter		Diameter		Mass per Unit Length	Rated Strength	DC Resistance
		Al	Steel	Total			Al	Steel	Core	Conductor			
		mm ²	mm ²	mm ²	Al	Steel	mm	mm	mm	mm	kg/km	kN	Ω / km
LA 30	24-AL1/4-ST1A	26.7	4.45	31.1	6	1	2.38	2.38	2.38	7.14	107.8	9.74	1.0736
LA 56	47-AL1/8-ST1A	46.8	7.79	54.6	6	1	3.15	3.15	3.15	9.45	188.8	16.29	0.6129
LA 78	67-AL1/11-ST1A	67.3	11.20	78.6	6	1	3.78	3.78	3.78	11.30	271.8	23.12	0.4256
LA 110	94-AL1/22-ST1A	94.2	22.00	11.2	30	7	2.00	2	6.00	14.00	432.5	43.17	0.3067
LA 145	119-AL1/28-ST1A	119.3	27.80	147.1	30	7	2.25	2.25	6.75	15.80	547.4	54.03	0.2423
LA 185	147-AL1/34-ST1A	147.3	34.40	181.6	30	7	2.50	2.50	7.50	17.50	675.8	64.94	0.1963
LA 280 Hawk	242-AL1/39-ST1A	241.6	39.50	281.1	26	7	3.44	2.68	8.04	21.80	976.2	84.89	0.1195
LA 380 Gull	337-AL1/44-ST1A	337.3	43.70	381.0	54	7	2.82	2.82	8.46	25.40	1274.6	107.18	0.0857
LA 455 Condor	402-AL1/52-ST1A	402.3	52.2	454.5	54	7	3.08	3.08	9.24	27.70	1520.5	123.75	0.0719
LA 545 Cardinal	485-AL1/63-ST1A	484.5	62.8	547.3	54	7	3.38	3.38	10.10	30.40	1831.1	149.04	0.0597
LA 635 Finch	565-AL1/72-ST1A	565.0	71.6	636.6	54	19	3.65	2.19	11.00	32.90	2123.0	174.14	0.0512

EN-50182 Type AL1/ST1A - France / NF-C-34125

Code	New Code	Areas			No. of Wires		Wire Diameter		Diameter		Mass per Unit Length	Rated Strength	DC Resistance	Final Modulus of Elasticity	Coefficient of Linear Expansion	Direction of External Lay
		Al	Steel	Total			Al	Steel	Core	Conductor						
		mm ²	mm ²	mm ²	Al	Steel	mm	mm	mm	mm	kg/km	kN	Ω / km	N/mm ²	1/k	
Canna 37.7	28-AL1/9-ST1A	28.3	9.42	37.7	9	3	2	2	4,3	8.3	151.5	16.26	1.0187	88.000	1,71E-05	S
Canna 59.7	38-AL1/22-ST1A	37.7	22	59.7	12	7	2	2	6	10	276.1	32.7	0.7660	103.500	1,54E-05	S
Canna 75.5	48-AL1/28-ST1A	47.7	27.8	75.5	12	7	2.25	2.25	6.75	11.3	349.4	41.15	0.6052	103.500	1,54E-05	S
Canna 93.3	59-AL1/34-ST1A	58.9	34.4	93.3	12	7	2.5	2.5	7.5	12.5	431.4	49.48	0.4902	103.500	1,54E-05	Z
Canna 116.2	94-AL1/22-ST1A	94.2	22	116.2	30	7	2	2	6	14	432.5	43.17	0.3067	75.500	1,80E-05	S
Canna 147.1	119-AL1/28-ST1A	119.3	27.8	147.1	30	7	2.25	2.25	6.75	15.8	547.4	54.03	0.2423	75.500	1,80E-05	S
Canna 181.6	147-AL1/34-ST1A	147.3	34.4	181.6	30	7	2.5	2.5	7.5	17.5	675.8	64.94	0.1963	75.500	1,80E-05	S
Canna 228	185-AL1/43-ST1A	184.7	43.1	227.8	30	7	2.8	2.8	8.4	19.6	847.7	80.54	0.1565	75.500	1,80E-05	S
Canna 288	234-AL1/55-ST1A	233.8	54.6	288.3	30	7	3.15	3.15	9.45	22.1	1 072.8	98.58	0.1236	75.500	1,80E-05	S

EN-50182 Type AL1/ST1A - France / NF-C-34125

Code	New Code	Areas			No. of Wires		Wire Diameter		Diameter		Mass per Unit Length	Rated Strength	DC Resistance	Final Modulus of Elasticity	Coefficient of Linear Expansion	Direction of External Lay
		Al	Steel	Total			Al	Steel	Core	Cond.						
		mm ²	mm ²	mm ²	Al	Steel	mm	mm	mm	mm	kg/km	kN	Ω / km	N/mm ²	1/k	
Canna 37.7	28-AL1/9-ST1A	28.3	9.42	37.7	9	3	2	2	4.3	8,3	151.5	16.26	1.0187	88.000	1.71E-05	S
Canna 59.7	38-AL1/22-ST1A	37.7	22	59.7	12	7	2	2	6	10	276.1	32.7	0.7660	103.500	1.54E-05	S
Canna 75.5	48-AL1/28-ST1A	47.7	27.8	75.5	12	7	2.25	2.25	6.75	11.3	349.4	41.15	0.6052	103.500	1.54E-05	S
Canna 93.3	59-AL1/34-ST1A	58.9	34.4	93.3	12	7	2.5	2.5	7.5	12.5	431.4	49.48	0.4902	103.500	1.54E-05	Z
Canna 116.2	94-AL1/22-ST1A	94.2	22	116.2	30	7	2	2	6	14	432.5	43.17	0.3067	75.500	1.80E-05	S
Canna 147.1	119-AL1/28-ST1A	119.3	27.8	147.1	30	7	2.25	2.25	6.75	15.8	547.4	54.03	0.2423	75.500	1.80E-05	S
Canna 181.6	147-AL1/34-ST1A	147.3	34.4	181.6	30	7	2.5	2.5	7.5	17.5	675.8	64.94	0.1963	75.500	1.80E-05	S
Canna 228	185-AL1/43-ST1A	184.7	43.1	227.8	30	7	2.8	2.8	8.4	19.6	847.7	80.54	0.1565	75.500	1.80E-05	S
Canna 288	234-AL1/55-ST1A	233.8	54.6	288.3	30	7	3.15	3.15	9.45	22.1	1 072.8	98.58	0.1236	75.500	1.80E-05	S

Crocus 297	222-AL1/76-ST6C	221.7	75.5	297.2	36	19	2.8	2.25	11.3	22.5	1206.8	147.22	0.131	79000	1.69E-5	Z
Crocus 412	326-AL1/86-ST6C	325.7	89	414.7	32	19	3.6	2.4	12	26.4	1576.1	173.31	0.089	72000	1.76E-5	Z
Crocus 612	508-AL1/105-ST6C	507.8	104.8	612.6	66	19	3.13	2.65	13.3	32	2226.5	231.55	0.057	66500	1.83E-5	S
Crocus 865	717-AL1/148-ST6C	717.3	148.1	865.4	66	19	3.72	3.15	15.8	38.1	3145.4	319.11	0.040	66500	1.83E-5	S
Crocus 1185	957-AL1/228-ST6C	956.7	227.8	1184.5	54	37	2.8	2.8	19.6	44.7	4433.6	480.75	0.030	63000	1.83E-5	S

GOST -839-80 Grade AC

Code	Areas	No. of Wires		Wire Diameter		Diameter		DC Resistance	Rated Strength	Mass per Unit Length		
				Al	Steel	Core	Conductor			Al	Steel	Total
	Al/St	Al	Steel	mm	mm	mm	mm	Ω / km	N	kg/km	kg/km	kg/km
(16/2.7)	16/2.69	6	1	1.85	1.85	1.9	5.6	1.782	6220	44	20.9	64.9
(25/4.2)	24.9/4.15	6	1	2.3	2.3	2.3	6.9	1.152	9296	67.9	32.4	100.3
(35/6.2)	36.9/6.15	6	1	2.8	2.8	2.8	8.4	0.777	13524	100	48	148
40/6.7	40/6.7	6	1	2.91	2.91	2.91	8.74	0.717	14400	-	-	161.3
(50/8.0)	48.2/8.04	6	1	3.2	3.2	3.2	9.6	0.595	17112	132	63	195
63/10.5	63/10.5	6	1	3.66	3.66	3.66	10.97	0.455	21630	-	-	254
(70/11)	68/11.3	6	1	3.8	3.8	3.8	11.4	0.422	24130	188	88	276
(70/72)	68.4/72.2	18	19	2.2	2.2	11	15.4	0.419	96826	188	567	755
(95/16)	95.4/15.9	6	1	4.5	4.5	4.5	13.5	0.301	33369	261	124	385
(95/141)	91.2/141	24	37	2.2	2.2	15.4	19.8	0.315	180775	251	1106	1357
100/16.7	100/16.7	6	1	4.61	4.61	4.61	13.82	0.287	34333	-	-	4032
(120/19)	118/18.8	26	7	2.4	1.85	5.6	15.2	0.244	41521	324	147	471
(120/27)	114/26.6	30	7	2.2	2.2	6.6	15.4	0.253	49465	320	208	528
125/6.9	125/6.9	18	1	2.97	2.97	2.97	14.67	0.230	29167	-	-	397.9
125/20.4	125/20.4	26	7	2.47	1.92	5.77	15.67	0.231	45694	-	-	503.5
(150/19)	148/18.8	24	7	2.8	1.85	5.6	16.8	0.202	46307	407	147	554
(150/24)	149/24.2	26	7	2.7	2.1	6.3	17.1	0.204	52279	409	190	599
(150/34)	147/34.3	30	7	2.5	2.5	7.5	17.5	0.206	62643	106	269	675
160/8.9	160/8.9	18	1	3.36	3.36	3.36	16.82	0.18	36178	-	-	509.4
160/26.1	160/26.1	26	7	2.8	2.18	6.53	17.73	0.180	57689	-	-	644.5
(185/24)	187/24.2	24	7	3.15	2.1	6.3	18.9	0.154	58075	515	190	705
(185/29)	181/29	26	7	2.98	2.3	6.9	18.8	0.159	62055	500	228	728
(185/43)	185/43.1	30	7	2.8	2.8	8.4	19.6	0.156	77767	509	337	816
(185/128)	187/128	54	37	2.1	2.1	14.7	23.1	0.154	188816	517	1008	1525
200/11.1	200/11.1	18	1	3.76	3.76	3.76	18.81	0.144	44222	-	-	636.7
200/32.6	200/32.6	26	7	3.13	2.43	7.3	19.82	0.144	70134	-	-	805.6
(205/27)	205/26.6	24	7	3.3	2.2	6.6	19.8	0.141	63740	566	280	774
(240/32)	244/31.7	24	7	3.6	2.4	7.2	21.6	0.118	75050	673	248	921
(240/39)	236/38.6	26	7	3.4	2.65	8	21.6	0.122	80895	650	302	952
(240/56)	211/56.3	30	7	3.2	3.2	9.6	22.4	0.120	98253	665	441	1106
(300/39)	301/38.6	24	7	4	2.65	8	24	0.096	90574	830	302	1132
(300/48)	295/47.8	26	7	3.8	2.95	8.9	24.1	0.098	100623	812	374	1186
(300/66)	288.5/65.8	30	19	3.5	2.1	10.5	24.5	0.1	117520	796	517	1313
(300/67)	288.5/67.3	30	7	3.5	3.5	10.5	24.5	0.1	126270	796	527	1323
(300/204)	298/204	54	37	2.65	2.65	18.6	29.2	0.097	284579	823	1605	2428
315/21.8	315/21.8	45	7	2.99	1.99	5.97	23.83	0.092	79030	-	-	1039.2
315/51.3	315/51.3	26	7	3.93	3.05	9.16	24.87	0.092	106834	-	-	1268.9
(330/30)	335/29.1	48	7	2.98	2.3	6.9	24.8	0.086	88848	924	228	1152
(330/43)	332/43.1	54	7	2.8	2.8	8.4	25.2	0.087	103784	918	337	1255
400/27.7	400/27.7	45	7	3.36	2.24	6.73	26.91	0.072	983.56	-	-	1319.7

GOST -839-80 Grade AC

Code	Areas	No. of Wires		Wire Diameter		Diameter		DC Resistance	Rated Strength	Mass per Unit Length		
				Al	Steel	Core	Conductor			Al	Steel	Total
		Al/St	Al	Steel	mm	mm	mm			kg/km	kg/km	kg/km
400/51.9	400/51.9	54	7	3.07	3.07	9.21	27.64	0.072	123037	-	-	1509.7
(400/18)	381/18.8	42	7	3.4	1.85	5.6	26	0.076	85600	1052	147	1199
(400/22)	394/22	76	7	2.57	2	6	26.6	0.073	95115	1089	172	1261
(400/51)	394/51.1	54	7	3.05	3.05	9.2	27.5	0.073	120481	1090	400	1490
(400/64)	390/63.5	26	7	4.37	3.4	10.2	27.7	0.074	129183	1074	498	1572
(400/93)	406/93.2	30	19	4.15	2.5	12.5	29.1	0.071	173715	1119	732	1851
450/31.1	450/31.1	45	7	3.57	2.38	7.14	28.55	0.065	107467	-	-	1484.6
450/58.3	450/58.3	54	7	3.26	3.26	9.77	29.32	0.064	138417	-	-	1698.4
(450/56)	434/56.3	54	7	3.2	3.2	9.6	28.8	0.067	131370	1199	441	1610
500/34.6	500/34.6	45	7	3.76	2.51	7.52	30.09	0.058	119407	-	-	1649.6
500/64.8	500/64.8	54	7	3.43	3.43	10.3	30.9	0.058	153796	-	-	1887.1
(500/26)	502/26.6	42	7	3.9	2.2	6.6	30	0.058	112548	1384	208	1592
(500/27)	481/26.6	76	7	2.84	2.2	6.6	29.4	0.06	112188	1329	208	1537
(500/64)	490/6.5	54	7	3.4	3.4	10.2	30.6	0.059	148257	1354	498	1852
(550/71)	549/71.2	54	7	3.6	3.6	10.8	32.4	0.053	166164	1518	558	2076
560/38.7	560/38.7	45	7	3.98	2.65	7.96	31.84	0.052	133736	-	-	1847.5
560/70.9	560/70.9	54	19	3.63	2.18	10.9	32.7	0.052	172592	-	-	2102.2
(600/72)	580/72.2	54	19	3.7	2.2	11	33.2	0.050	183835	1603	567	2170
630/43.6	630/43.6	45	7	4.22	2.81	8.44	33.79	0.046	150453	-	-	2078.5
630/79.8	630/79.8	54	19	3.85	2.31	11.56	34.69	0.046	191772	-	-	2365
710/49.1	710/49.1	45	7	4.48	2.99	8.96	35.86	0.041	169559	-	-	2342.4
710/89.9	710/89.9	54	19	4.09	2.45	12.27	36.82	0.041	216124	-	-	2665.3
800/34.6	800/34.6	72	7	3.76	2.51	7.52	37.61	0.036	167407	-	-	2479.6
800/66.7	800/66.7	84	7	3.48	3.48	10.45	38.3	0.036	205433	-	-	2732.3
800/101.3	800/101.3	54	19	4.34	2.61	13.03	39.09	0.036	243520	-	-	3003.2
900/38.9	900/38.9	72	7	3.99	2.66	7.98	39.89	0.032	188333	-	-	2789.5
900/75	900/75	84	7	3.69	3.69	11.08	40.63	0.032	226500	-	-	3073.9
1.000/43.2	1.000/43.2	72	7	4.21	2.8	8.41	42.05	0.029	209259	-	-	3099.4
(1.000/56)	1.003,2/56.3	76	7	4.1	3.2	9.6	42.4	0.029	224047	2769	441	3210
1.120/47.3	1.120/47.3	72	19	4.45	1.78	8.9	44.5	0.026	23428	-	-	3463.9
1.120/91.2	1.120/91.2	81	19	4.12	2.47	12.36	45.32	0.025	283168	-	-	3810.7
1.250/52.8	1.250/52.8	72	19	4.7	1.88	9.4	47.02	0.023	261750	-	-	3865.9
1.250/101,8	1.250/101,8	81	19	4.35	2.61	13.06	47.88	0.023	316036	-	-	4253

ACSR/AW

Aluminum Conductor Aluminum Clad Steel Reinforced

ACSR/AW

Aluminum Conductor Aluminum Clad Steel Reinforced

The advantages of aluminum clad steel wires are;

Higher corrosion resistance

Higher ampacity

These conductors should be used in such places where transmission line has to be constructed in high atmospheric corrosion and air pollution.

EN-50182 / NF-C-34-125 UNE-21018

Code	Areas			No. of Wires & Diameter		Overall Diameter	Mass per Unit Length			Rated Strength	DC Resistance
	Al	ACS	Total	Al	ACS		Al	ACS	Total		
	mm ²	mm ²	mm ²	No. x Ømm	No. x Ømm		kg/km	kg/km	kg/km		
Larl-30	26.7	4.4	31.1	6x2.38	1x2.38	7.14	73.2	29.3	102.5	10.2	1.018
Larl-56	46.8	7.8	54.6	6x3.15	1x3.15	9.45	128.3	51.4	179.7	17.2	0.581
Larl-78	67.4	11.2	78.6	6x3.78	1x3.78	11.34	185	74	259	23	0.403
Larl-145	119.3	27.8	147.1	30x2.25	7x2.25	15.75	330	184	514	55.1	0.224
Larl-180	147.3	34.3	181.6	20x2.50	7x2.50	17.5	407	227	634	66.3	0.182
Larl-280	241.7	39.4	281.1	26x3.44	7x2.68	21.8	667	262	929	87.6	0.113
Larl-380	337.3	43.7	381	54x2.82	7x2.82	25.38	932	290	1222	109.6	0.082
Larl-455	402.3	52.2	454.4	54x3.08	7x3.08	27.72	1112	345	1457	129.4	0.069
Larl-516	483.4	33.4	516.8	45x3.70	7x2.47	29.61	1339	221	1560	117.4	0.059
Larl-545	484.5	62.8	547.3	54x3.38	7x3.38	30.42	1339	416	1755	153.2	0.057
Larl-635	565	71.6	636.6	54x3.65	19x2.19	32.85	1562	475	2037	177.5	0.49

IEC-61089 A1/SA1A

Code	Steel Ratio	Areas			No. of Wires & Diameter		Overall Diameter	Mass per Unit Length	Rated Strength	DC Resistance
		Al	SA1A	Total	Al	SA1A				
		mm ²	mm ²	mm ²	No. x Ømm	No. x Ømm				
25	16.7	24	4	28	6x2.26	1x2.26	6.78	92.1	9	1.147
40	16.7	38	6.4	44.8	6x2.85	1x2.85	8.55	147.4	14.21	0.717
63	16.7	60	10.08	70.6	6x3.58	1x3.58	10.7	232.2	21.17	0.455
100	16.7	96	16	112	6x4.51	1x4.51	13.5	368.6	31.84	0.287
125	5.6	123	6.85	130	18x2.95	1x2.95	14.8	384.3	29.18	0.230
160	5.6	158	8.77	167	18x3.34	1x3.34	16.7	491.9	36.38	0.18
160	16.3	154	25	179	26x2.74	7x2.13	17.4	589.8	56.18	0.180
200	5.6	197	10.96	208	18x3.74	1x3.74	18.7	614.9	43.62	0.144
200	16.3	192	31.3	223	26x3.07	7x2.39	19.4	737.2	69.27	0.144
250	9.8	244	24	268	22x3.76	7x2.09	21.3	830.9	67.8	0.115
250	16.3	240	39.1	279	26x3.43	7x2.67	21.7	921.5	86.58	0.115
315	6.9	310	21.4	331	45x2.96	7x1.97	23.7	996.4	78.33	0.092
315	16.3	303	49.3	352	26x3.85	7x2.99	24.4	1161.1	107.58	0.092
400	6.9	393	27.2	420	45x3.34	7x2.22	26.7	1265.3	97.5	0.072
400	13	387	50.2	438	54x3.02	7x3.02	27.2	1402.9	124.2	0.072
450	6.9	442	30.6	473	45x3.54	7x2.36	28.3	1423.4	107.48	0.064
450	13	436	56.5	492	54x3.21	7x3.21	28.9	1578.2	139.72	0.064
500	6.9	492	34	525	45x3.73	7x2.49	29.8	1581.6	119.42	0.058
500	13	484	62.8	547	54x3.38	7x3.38	30.4	1753.6	153.99	0.058
560	6.9	550	38.1	589	45x3.95	7x2.63	31.6	1771.4	133.75	0.052
560	12.7	543	68.8	612	54x3.58	19x2.15	32.2	1956.3	169.36	0.052
630	6.9	619	42.8	662	45x4.19	7x2.79	33.5	1992.8	150.07	0.046
630	12.7	611	77.3	688	54x3.79	19x2.28	34.2	2200.9	190.52	0.046
710	6.9	698	48.3	746	45x4.44	7x2.96	35.6	2245.8	169.57	0.041
710	12.7	688	87.2	775	54x4.03	19x2.42	36.3	2480.3	214.72	0.041
800	4.3	791	34.2	826	72x3.74	7x2.49	37.4	2412.8	167.67	0.036
800	8.3	784	65.3	849	84x3.45	7x3.45	37.9	2598.9	206.37	0.036
800	12.7	775	98.2	874	54x4.28	19x2.57	38.5	2794.7	241.94	0.036
900	4.3	890	38.5	929	72x3.97	7x2.65	39.7	2714.4	188.63	0.032
900	8.3	882	73.5	955	84x3.66	7x3.66	40.2	2923.8	224.82	0.032
1000	4.3	989	42.7	1032	72x4.18	7x2.79	41.8	3016	209.59	0.029
1120	8.1	1098	89.4	1187	84x4.08	19x2.45	44.9	3628.4	282.88	0.026
1250	8.1	1225	99.8	1325	84x4.31	19x2.59	47.4	4049.5	315.72	0.023

ACSR/AW

ASTM-B-549

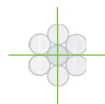
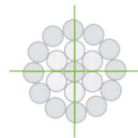
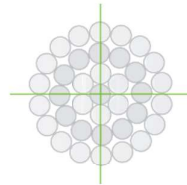
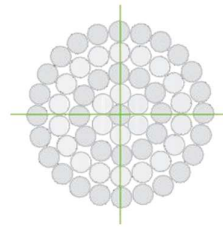
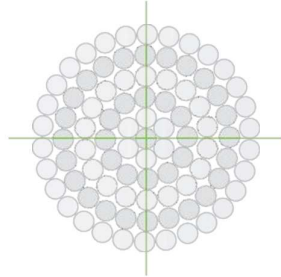
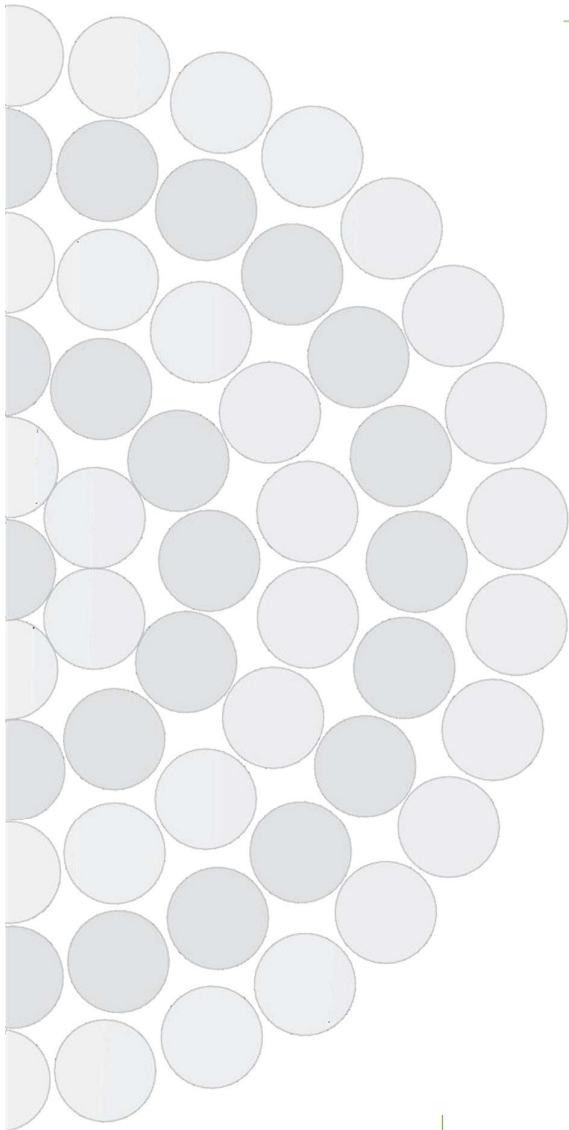
Code	Areas				No. of Wires & Diameter		Overall Diameter	Mass per Unit Length	Rated Strength	DC Resistance
	AWG-MCM	Al	ACS	Total	Al	ACS				
		mm ²	mm ²	mm ²	No. x Ømm	No. x Ømm				
Swan	4	21.18	3.53	24.71	6x2.12	1x2.12	6.36	81.1	7.93	1.282
Swanate	4	21.12	5.35	26.47	7x1.96	1x2.61	6.53	93.3	10.1	1.251
Sparrow	2	33.59	5.599	39.19	6x2.67	1x2.67	8.01	129	12.3	0.808
Sparate	2	33.54	8.553	42.09	7x2.47	1x3.30	8.24	149	15,6	0.787
Robin	1	42.41	7.069	49.48	6x3.00	1x3.00	9	163	15.3	0.640
Raven	1/0	53.52	8.92	62.44	6x3.37	1x3.37	10.11	205	18.9	0.507
Quail	2/0	67.33	11.22	78.55	6x3.78	1x3.78	11.34	259	22.8	0.403
Pigeon	3/0	85.12	14.19	99.3	6x4.25	1x4.25	12.75	326	28	0.319
Penguin	4/0	107.22	17.87	125.1	6x4.77	1x4.77	14.31	411	34.2	0.253
Waxwing	266.8	134.98	7.499	142.5	18x3.09	1x3.09	15.45	421	30.3	0.210
Partridge	266.8	134.87	21.99	156.9	26x2.57	7x2.00	16.28	520	48	0.204
Ostrich	300	152.19	24.71	176.9	26x2.73	7x2.12	17.28	584	54	0.180
Merlin	336.4	170.22	9.457	179.7	18x3.47	1x3.47	17.35	532	38	0.166
Linnet	336.4	170.55	27.83	198.4	26x2.89	7x2.25	18.31	654	60	0.161
Oriole	336.4	170.5	39.78	210.3	30x2.69	7x2.69	18.83	736	74,5	0.158
Chickadee	397.5	200.93	11.16	212.1	18x3.77	1x3.77	18.85	628	43,5	0.141
Brant	397.5	201.56	26.13	227.7	24x3.27	7x2.18	19.62	730	62.5	0.138
Ibis	397.5	201.34	32.73	234.1	26x3.14	7x2.44	19.88	773	70.2	0.136
Lark	397.5	200.9	46.88	247.8	30x2.92	7x2.92	20.44	869	87.34	0.134
Pelican	477	242.31	13.46	255.8	18x4.14	1x4.14	20.7	754	51	0.117
Flicker	477	241.58	31.4	273	24x3.58	7x2.39	21.49	876	74.3	0.115
Hawk	477	241.65	39.19	280.8	26x3.44	7x2.67	21.77	928	84.3	0.114
Hen	477	241.27	56.3	297.6	30x3.20	7x3.20	22.4	1043	104	0.112
Osprey	556.5	282.47	15.69	298.2	18x4.47	1x4.47	22.35	879	58.9	0.100
Parakeet	556.5	282.31	36.6	318.9	24x3.87	7x2.58	23.22	1022	85.7	0.098
Dove	556,5	282.59	45.92	328.5	26x3.72	7x2.89	23.55	1084	97.5	0.097
Eagle	556,5	282.07	65.82	347.9	30x3.46	7x3.46	24.22	1217	119	0.095
Peacock	605	306.13	39.78	345.9	24x4.03	7x2.69	24.19	1111	93.3	0.091
Squab	605	305.83	49.81	355.6	26x3.87	7x3.01	24.51	1178	105	0.090
Woodduck	605	307.06	71.65	378.7	30x3.61	7x3.61	25.27	1323	126	0.088
Teal	605	307.06	69.62	376.7	30x3.61	19x2.16	25.24	1313	126.6	0.088
Kingbird	636	323.01	17.95	341	18x4.78	1x4.78	23.9	1005	66.8	0.088
Irook	636	323.07	41.88	365	24x4.14	7x2.76	24.84	1168	98	0.086
Grosbeak	636	321.84	52.49	374.3	26x3.97	7x3.09	25.15	1238	110	0.085
Scoter	636	322.56	75.26	397.8	30x3.70	7x3.70	25.9	1391	130	0.083
Egret	636	322.56	73.54	396.1	30x3.70	19x2.22	25.9	1381	133	0.084
Swi1	636	323.02	8.973	332	36x3.38	1x3.38	23.66	946	60.6	0.088
Flamingo	666.6	337.27	43.72	381	24x4.23	7x2.82	25.38	1224	103	0.082
Gannet	666.6	338.26	54.9	393.2	26x4.07	7x3.16	25.76	1298	116	0.081
Stilt	715.5	363.27	46.88	410.1	24x4.39	7x2.92	26.32	1314	110	0.076
Starling	715.5	361.93	59.15	421.1	26x4.21	7x3.28	26.68	1393	122	0.076
Redwing	715.5	362.06	82.41	444.5	30x3.92	19x.,35	27.43	1552	148	0.074
Tern	795	403.77	27.83	431.6	45x3.38	7x2.25	27.03	1298	95,4	0.070
Condor	795	402.33	52.15	454.5	54x3.08	7x3.08	27.72	1459	124	0.069
Cuckoo	795	402.33	52.15	454,5	24x4.62	7x3.08	27.74	1459	122	0.069
Drake	795	402.56	65.44	468	26x4.44	7x3.45	28.11	1549	136	0.068
Coot	795	401.86	11.16	413	36x3.77	1x3.77	26.41	1182	73,8	0.071
Mallard	795	403.84	91.78	495.6	30x4.14	19x2.48	28.96	1726	165	0.067

ASTM-B-549

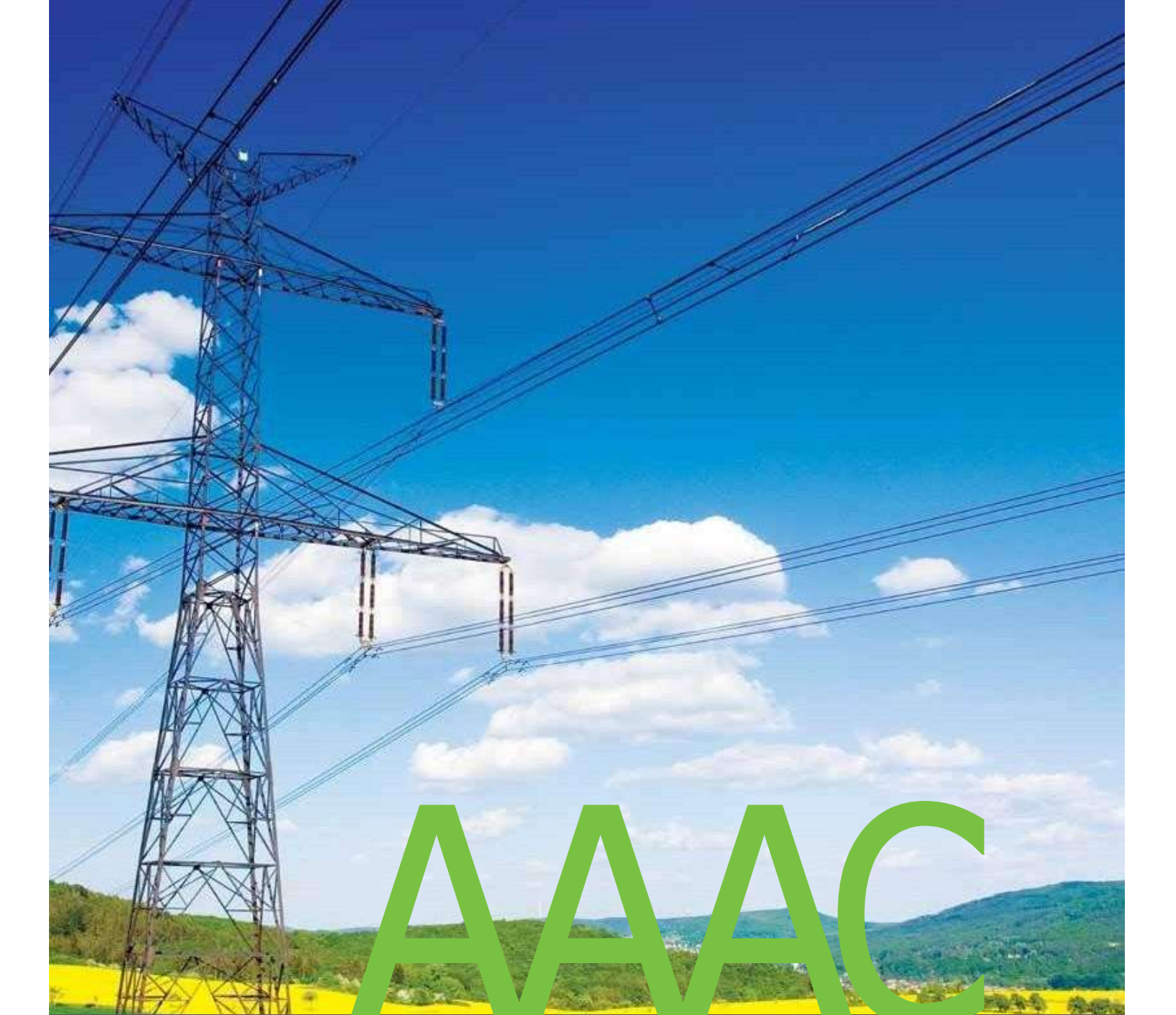
Code	Areas				No. of Wires & Diameter		Overall Diameter	Mass per Unit Length	Rated Strength	DC Resistance
	AWG-MCM	Al	ACS	Total	Al	ACS				
		mm ²	mm ²	mm ²	No. x Ømm	No. x Ømm				
Ruddy	900	455.5	31.67	487.2	45x3.59	7x2.40	28.73	1470	107	0.062
Canary	900	456.28	59.15	515.4	54x3.28	7x3.28	29.52	1653	138	0.061
Rail	954	483.84	33.54	517.4	45x3.70	7x2.47	29.61	1558	113	0.059
Catbird	954	484.61	13.46	498.1	36x4.14	1x4.14	28.95	1419	86,6	0.059
Cardinal	954	484.53	62.81	547.3	54x3.38	7x3.38	30.42	1751	146	0.057
Ortlan	1033.5	523.87	36.31	560.2	45x3.85	7x2.57	30.81	1687	121	0.054
Tanager	1033.5	522.79	14.52	537.3	36x4.30	1x4.30	30.12	1537	93,7	0.055
Curlew	1033.5	525.5	68.12	593.6	54x3.52	7x3.52	31.68	1896	158	0.053
Bluejay	1113	565.49	38.9	604.4	45x4.00	7x2.66	31.98	1819	121	0.05
Finch	1113	565.03	71.57	636.6	54x3.65	19x2.19	32.85	2043	167	0.049
Bunting	1192.5	605.76	41.88	647.6	45x4.14	7x2.76	33.12	1948	139	0.047
Crackle	1192.5	602.79	76.89	679.7	54x3.77	19x2.27	33.97	2187	179	0.046
Bittern	1272	644.4	44.66	689.1	45x4.27	7x2.85	34.17	2077	149	0.044
Pheasant	1272	645.4	81.71	726.8	54x3.90	19x2.34	35.1	2333	189	0.043
Skylark	1272	645.02	17.93	664	36x4.78	1x4.78	33.42	1893	114	0.044
Dipper	1351.5	684.24	46.88	731.1	45x4.40	7x2.92	35.16	2207	158	0.041
Martin	1351.5	685.39	86.67	772.1	54x4.02	19x2.41	36.17	2478	200	0.041
Bobolink	1431	725.27	50.14	775.4	45x4.53	7x3,2	36.24	2337	167	0.039
Plover	1431	726.92	91.78	818.7	54x4.14	19x2.48	37.24	2625	212	0.038
Nuthach	1510.5	764.2	52.83	817	45x4.65	7x3.10	37.2	2467	176	0.037
Parrot	1510.5	766.06	97.03	863.1	54x4.25	19x2.55	38.25	2788	224	0.036
Lapwing	1590	804.15	55.6	859.7	45x4.77	7x3.18	38.16	2598	186	0.035
Falcon	1590	806.23	102.4	908.7	54x4.36	19x2.62	39.26	2917	236	0.035
Chukar	1780	903.2	73.5	976.7	84x3.70	19x2.22	42.7	2995	220	0.031
Bluebird	2156	1092.8	88.8	1181.6	84x4.07	19x2.44	44.76	3626	262	0.026
Kiwi	2167	1099.8	47.5	1147.3	72x4.41	7x2.94	44.1	3367	219	0.026
Thrasher	2312	1171.4	63.9	1235.3	76x4.43	19x2.07	45.79	3678	246	0.024

HIGH MECHANICAL STRENGTH

Grouse	80	40.52	14.3	54.82	8x2.54	1x4.24	9.32	205	21.7	0.635
Petrel	101.8	51.61	30.06	81.67	12x2.34	7x2.24	11.71	342	44.1	0.469
Minorca	110.8	56.13	32.77	88.9	12x2.44	7x2.44	12.22	372	48	0.431
Leghorn	134.6	68.19	39.81	108	12x2.69	7x2.69	13.46	452	57.8	0.354
Guinea	159	80.58	46.97	127.6	12x2.92	7x2.92	14.63	534	68	0.3
Dotterel	176.9	89.48	52.19	141.7	12x3.08	7x3.08	15.42	594	75.4	0.270
Dorking	190.8	96.71	56.39	153.1	12x3.20	7x3.20	16.03	641	81.3	0.25
Brahma	203.2	102.97	91.87	194.8	16x2.86	19x2.48	18.14	894	120	0.216
Cochin	211.8	107.1	62.45	169.6	12x3.37	7x3.37	16.84	709	88	0.226



Used as a bare overhead conductor for power transmission and distribution lines on aerial circuits that require a larger mechanical resistance than AAC, and a better corrosion resistance than the one produced by the ACSR. The sag characteristics and the strength-to-weight ratio is better than AAC / ACSR.



AAAC

All Aluminium Alloy Conductors



OSWAL
CABLES

EN 50182 Type AL2 Finland

Old Code	Code	Area	No. of Wires	Diameter		Mass per Unit Length	Rated Strength	DC Resistance
		Wire		Conductor				
		mm ²		mm	mm			
AAAC 178	178-AL2	177.6	19	3.45	17.3	487.6	57.73	1.188
AAAC 346	346-AL2	345.9	37	3.45	24.2	952.8	112.41	0.097
AAAC 638	638-AL2	638.3	61	3.65	32.9	1764	201.06	0.053

Note: Direction of lay of external layer is right-hand(Z).

IEC 61089 Type A3

Code	Area	No. of Wires	Diameter		Mass per Unit Length	Rated Strength	DC Resistance
			Wire	Conductor			
	mm ²		mm	mm	kg/km	kN	Ω / km
16	18.6	7	1.84	5.52	50.8	6.04	1.790
25	29	7	2.3	6.9	79.5	9.44	1.145
40	46.5	7	2.91	8.72	127.1	15.1	0.716
63	73.2	7	3.65	10.9	200.2	23.06	0.455
100	116	19	2.79	14	319.3	37.76	0.288
125	145	19	3.12	15.6	399.2	47.2	0.230
160	186	19	3.53	17.6	511	58.56	0.180
200	232	19	3.95	19.7	638.7	73.2	0.144
250	290	19	4.41	22.1	798.4	91.5	0.115
315	366	37	3.55	24.8	1008.4	115.29	0.092
400	465	37	4	28	1280.5	146.4	0.072
450	523	37	4.24	29.7	1440.5	164.7	0.064
500	581	37	4.47	31.3	1600.6	183	0.058
560	651	61	3.69	33.2	1795.3	204.96	0.052
630	732	61	3.91	35.2	2019.8	230.58	0.046
710	825	61	4.15	37.3	2276.2	259.86	0.041
800	930	61	4.4	39.6	2564.8	292.8	0.036
900	1046	91	3.83	42.1	2888.3	329.4	0.032
1000	1162	91	4.03	44.4	3209.3	366	0.029
1120	1301	91	4.27	46.9	3594.4	409.92	0.026

EN 50182 Type AL3 Germany

Old Code	Code	Area mm ²	No. of Wires	Diameter		Mass per Unit Length kg/km	Rated Strength kN	DC Resistance Ω / km	Final Modulus of Elasticity N/mm ²	Coefficient of Linear Expansion 1/k	Current Carrying Capacity A
				Wire mm	Conductor mm						
16	16-AL3	15.9	7	1.7	5.1	43.4	4.69	2.070	60000	2.30E-05	105
25	24-AL3	24.2	7	2.1	6.3	66.2	7.15	1.357	60000	2.30E-05	135
35	34-AL3	34.4	7	2.5	7.5	93.8	10.14	0.957	60000	2.30E-05	170
50	49-AL3	49.5	7	3	9	135.1	14.6	0.665	60000	2.30E-05	210
50	48-AL3	48.3	19	1.8	9	132.7	14.26	0.684	57000	2.30E-05	210
70	66-AL3	65.8	19	2.1	10.5	180.7	19.41	0.503	57000	2.30E-05	255
95	93-AL3	93.3	19	2.5	12.5	256	27.51	0.355	57000	2.30E-05	320
120	117-AL3	117	19	2.8	14	321.2	34.51	0.283	57000	2.30E-05	365
150	147-AL3	147.1	37	2.25	15.8	405.3	43.4	0.226	57000	2.30E-05	425
185	182-AL3	181.6	37	2.5	17.5	500.3	53.58	0.183	57000	2.30E-05	490
240	243-AL3	242.5	61	2.25	20.3	670.3	71.55	0.137	55000	2.30E-05	585
300	299-AL3	299.4	61	2.5	22.5	827.5	88.33	0.111	55000	2.30E-05	670
400	400-AL3	400.1	61	2.89	26	1105.9	118.04	0.083	55000	2.30E-05	810
500	500-AL3	499.8	61	3.23	29.1	1381.4	147.45	0.067	55000	2.30E-05	930
625	626-AL3	626.2	91	2.96	32.6	1737.7	184.73	0.053	55000	2.30E-05	1075
800	802-AL3	802.1	91	3.35	36.9	2225.8	236.62	0.042	55000	2.30E-05	1255
1000	1000-AL3	999.7	91	3.74	41.1	2774.3	294.91	0.033	55000	2.30E-05	1450

Note: Direction of lay of external layer is right-hand(Z).

EN 50182 Type AL4 France

Old Code	Code	Area mm ²	No. of Wires	Diameter		Mass per Unit Length kg/km	Rated Strength kN	DC Resistance Ω / km	Final Modulus of Elasticity N/mm ²	Coefficient of Linear Expansion 1/k	Direction Lay of External Layer
				Wire mm	Conductor mm						
22	22-AL4	22	7	2	6	60	7.15	1.499	62000	0.000	S
34.4	34-AL4	34.4	7	2.5	7.5	93.8	11.17	0.959	62000	0.000	S
54.6	55-AL4	54.6	7	3.15	9.45	148.9	17.73	0.604	62000	0.000	S
75.5	76-AL4	75.5	19	2.25	11.3	207.4	24.55	0.439	60000	0.000	S
117	117-AL4	117	19	2.8	14	321.2	38.02	0.283	60000	0.000	S
148	148-AL4	148.1	19	3.15	15.8	406.5	48.12	0.224	60000	0.000	S
181.6	182-AL4	181.6	37	2.5	17.5	500.3	59.03	0.183	57000	0.000	S
228	228-AL4	227.8	37	2.8	19.6	627.6	74.04	0.146	57000	0.000	S
288	288-AL4	288.3	37	3.15	22.1	794.3	93.71	0.115	57000	0.000	S
366	366-AL4	366.2	37	3.55	24.9	1008.9	115.36	0.091	57000	0.000	S
570	570-AL4	570.2	61	3.45	31.1	1576	185.33	0.059	54000	0.000	S
851	851-AL4	850.7	91	3.45	38	2360.7	276.48	0.039	52500	0.000	S
1144	1144-AL4	1143.5	91	4	44	3173.4	360.22	0.029	52500	0.000	S
1600	1596-AL4	1595.9	127	4	52	4427.5	502.72	0.021	50500	0.000	S

EN 50182 Type A7 Norway

Old Code	Code	Area	No. of Wires	Diameter		Mass per Unit Length	Rated Strength	DC Resistance
				Wire	Conductor			
		mm ²		mm	mm			
AL58 - 46	46 - AL7	46.2	7	2.9	8.7	126.2	13.41	0.656
AL58 - 65	65 - AL7	65.1	7	3.44	10.3	177.6	17.89	0.466
AL58 - 93	93 - AL7	92.9	7	4.11	12.3	253.5	23.68	0.327
AL58 - 130	130 - AL7	129.9	7	4.86	14.6	354.5	33.11	0.234
AL58 - 167	167 - AL7	167.5	19	3.35	16.8	459.8	46.05	0.182
AL58 - 178	178 - AL7	177.6	19	3.45	17.3	487.6	48.84	0.172
AL58 - 210	210 - AL7	209.8	19	3.75	18.8	576.1	55.61	0.145
AL58 - 225	225 - AL7	224.7	19	3.88	19.4	616.7	59.53	0.136
AL58 - 263	263 - AL7	263.2	19	4.2	21	722.7	67.12	0.116
AL58 - 280	280 - AL7	279.8	19	4.3	21.7	768.1	71.34	0.109
AL58 - 322	322 - AL7	322.2	37	3.33	23.3	887.1	88.62	0.095
AL58 - 342	342 - AL7	341.9	37	3.43	24	941.8	94.02	0.090
AL58 - 444	444 - AL7	444.3	37	3.91	27.4	1223.9	117.73	0.069
AL58 - 484	484 - AL7	454.5	61	3.08	27.7	1256.1	124.98	0.068
AL58 - 594	594 - AL7	593.6	61	3.52	31.7	1640.6	157.31	0.052
AL58 - 685	685 - AL7	684.5	61	3.78	34	1891.9	181.4	0.045
AL58 - 865	865 - AL7	865.4	61	4.25	38.3	2391.6	220.67	0.036

Note: Direction of lay of external layer is right-hand(Z).

EN 50182 Type AL2 Spain

Old Code	Code	Area	No. of Wires	Diameter		Mass per Unit Length	Rated Strength	DC Resistance
		Wire		Conductor				
		mm ²		mm	mm			
D 28	28-AL2	27.8	7	2.25	6.75	76	9.05	1.193
D 40	43-AL2	43.1	7	2.8	8.4	117.7	14.01	0.770
D 56	55-AL2	54.6	7	3.15	9.45	148.9	17.73	0.609
D 80	76-AL2	75.5	19	2.25	11.3	207.4	24.55	0.442
D 110	117-AL2	117	19	2.8	14	321.2	38.02	0.285
D 145	148-AL2	148.1	19	3.15	15.8	406.5	48.12	0.226
D 180	188-AL2	188.1	19	3.55	17.8	516.3	59.24	0.178
D 280	279-AL2	279.3	37	3.1	21.7	769.3	90.76	0.12
D 400	381-AL2	381	61	2.82	25.4	1053	123.82	0.088
D 450	454-AL2	454.5	61	3.08	27.7	1256.1	147.71	0.074
D 550	547-AL2	547.3	61	3.38	30.4	1512.7	177.88	0.061
D 630	638-AL2	638.3	61	3.65	32.9	1764	201.06	0.053

Note: Direction of lay of external layer is right-hand(Z).

EN 50182 Type AL7 Sweden

Old Code	Code	Area mm ²	No. of Wires	Diameter		Mass per Unit Length kg/km	Rated Strength kN	DC Resistance Ω / km
				Wire mm	Conductor mm			
AlMgSi-62	62-AL7	62.4	7	3.37	10.1	170.5	17.17	0.486
AlMgSi-99	99-AL7	99.3	7	4.25	12.8	271.1	25.32	0.306
AlMgSi-157	159-AL7	158.6	19	3.26	16.3	435.4	43.61	0.192
AlMgSi-241	241-AL7	241.2	19	4.02	20.1	662.1	61.49	0.127
AlMgSi-329	330-AL7	330	37	3.37	23.6	909.2	90.76	0.093
AlMgSi-454	454-AL7	454.5	61	3.08	27.7	1256.1	124.98	0.068
AlMgSi-593	594-AL7	593.6	61	3.52	31.7	1640.6	157.31	0.052
AlMgSi-774	774-AL7	774.2	61	4.02	36.2	2139.8	197.43	0.040
AlMgSi-910	911-AL7	910.7	61	4.36	39.2	2517	232.24	0.034

Note: Direction of lay of external layer is right-hand(Z).

EN 50182 Type AL3 United Kingdom

Old Code	Code	Area mm ²	No. of Wires	Diameter		Mass per Unit Length kg/km	Rated Strength kN	DC Resistance Ω / km
				Wire mm	Conductor mm			
Box	19-AL3	18.8	7	1.85	5.6	51.4	5.55	1.748
Acacia	24-AL3	23.7	7	2.08	6.2	64.9	7.02	1.383
Almond	30-AL3	30.1	7	2.34	7	82.2	8.88	1.093
Cedar	35-AL3	35.5	7	2.54	7.6	96.8	10.46	0.927
Deodar	42-AL3	42.2	7	2.77	8.3	115.2	12.44	0.780
Fir	48-AL3	47.8	7	2.95	8.9	130.6	14.11	0.688
Hazel	60-AL3	59.9	7	3.3	9.9	163.4	17.66	0.549
Pine	72-AL3	71.6	7	3.61	10.8	195.6	21.14	0.459
Holly	84-AL3	84.1	7	3.91	11.7	229.5	24.79	0.391
Willow	90-AL3	89.7	7	4.04	12.1	245	26.47	0.367
Oak	119-AL3	118.9	7	4.65	14	324.5	35.07	0.277
Mulberry	151-AL3	150.9	19	3.18	15.9	414.3	44.52	0.219
Ash	181-AL3	180.7	19	3.48	17.4	496.1	53.31	0.183
Elm	211-AL3	211	19	3.76	18.8	579.2	62.24	0.157
Poplar	239-AL3	239.4	37	2.87	20.1	659.4	70.61	0.139
Sycamore	303-AL3	303.2	37	3.23	22.6	835.2	89.4	0.110
Upas	362-AL3	362.1	37	3.53	24.7	997.5	106.82	0.092
Yew	479-AL3	479	37	4.06	28.4	1319.6	141.31	0.069
Totara	498-AL3	498.1	37	4.14	29	1372.1	146.93	0.067
Rubus	587-AL3	586.9	61	3.5	31.5	1622	173.13	0.057
Sorbus	659-AL3	659.4	61	3.71	33.4	1822.5	194.53	0.051
Araucaria	821-AL3	821.1	61	4.14	37.3	2269.4	242.24	0.041
Redwood	996-AL3	996.2	61	4.56	41	2753.2	293.88	0.033

Note: Direction of lay of external layer is right-hand(Z).

EN 50182 Type AL5 United Kingdom

Old Code	Code	Area mm ²	No. of Wires	Diameter		Mass per Unit Length kg/km	Rated Strength kN	DC Resistance Ω / km
				Wire mm	Conductor mm			
Poplar	239 - AL5	239.4	37	2.87	20.1	659.4	70.61	0.133
Sycamore	303 - AL5	303.2	37	3.23	22.6	835.2	89.44	0.105
Upas	362 - AL5	362.1	37	3.53	24.7	997.5	106.82	0.088
Yew	479 - AL5	479	37	4.06	28.4	1319.6	141.31	0.067
Totara	498 - AL5	498.1	37	4.14	29	1372.1	146.93	0.064
Rubus	587 - AL5	586.9	61	3.5	31.5	1622	173.13	0.054
Sorbus	659 - AL5	659.4	61	3.71	33.4	1822.5	194.53	0.048
Araucaria	821 - AL5	821.1	61	4.14	37.3	2269.4	242.24	0.039
Redwood	996 - AL5	996.2	61	4.56	41	2753.2	293.88	0.032

Note: Direction of lay of external layer is right-hand(Z).

EN 50182 Type AL7 Norway

Old Code	Code	Area mm ²	No. of Wires	Diameter		Mass per Unit Length kg/km	Rated Strength kN	DC Resistance Ω / km
				Wire mm	Conductor mm			
AL58 - 46	46 - AL7	46.2	7	2.9	8.7	126.2	13.41	0.656
AL58 - 65	65 - AL7	65.1	7	3.44	10.3	177.6	17.89	0.466
AL58 - 93	93 - AL7	92.9	7	4.11	12.3	253.5	23.68	0.327
AL58 - 130	130 - AL7	129.9	7	4.86	14.6	354.5	33.11	0.234
AL58 - 167	167 - AL7	167.5	19	3.35	16.8	459.8	46.05	0.182
AL58 - 178	178 - AL7	177.6	19	3.45	17.3	487.6	48.84	0.172
AL58 - 210	210 - AL7	209.8	19	3.75	18.8	576.1	55.61	0.145
AL58 - 225	225 - AL7	224.7	19	3.88	19.4	616.7	59.53	0.136
AL58 - 263	263 - AL7	263.2	19	4.2	21	722.7	67.12	0.116
AL58 - 280	280 - AL7	279.8	19	4.33	21.7	768.1	71.34	0.109
AL58 - 322	322 - AL7	322.2	37	3.33	23.3	887.1	88.62	0.095
AL58 - 342	342 - AL7	341.9	37	3.43	24	941.8	94.02	0.090
AL58 - 444	444 - AL7	444.3	37	3.91	27.4	1223.9	117.73	0.069
AL58 - 484	484 - AL7	454.5	61	3.08	27.7	1256.1	124.98	0.068
AL58 - 594	594 - AL7	593.6	61	3.52	31.7	1640.6	157.31	0.052
AL58 - 685	685 - AL7	684.5	61	3.78	34	1891.9	181.4	0.045
AL58 - 865	865 - AL7	865.4	61	4.25	38.3	2391.6	220.67	0.036

Note: Direction of lay of external layer is right-hand(Z).

EN 50182 Type AL3 Italy

Old Code	Code	Area mm ²	No. of Wires	Diameter		Mass per Unit Length kg/km	Rated Strength kN	DC Resistance Ω / km
				Wire mm	Conductor mm			
35/7	35-AL3	34.9	7	2.52	7.56	95.3	10.3	0.942
50/7	49-AL3	49.5	7	3	9	135.1	14.6	0.665
70/19	68-AL3	68.3	19	2.14	10.7	187.6	20.16	0.484
95/19	95-AL3	94.8	19	2.52	12.6	260.2	27.96	0.349
120/19	125-AL3	125.5	19	2.9	14.5	344.5	37.02	0.264
150/37	147-AL3	147.1	37	2.25	15.8	405.3	43.4	0.226
185/37	185-AL3	184.5	37	2.52	17.6	508.4	54.44	0.180
200/37	196-AL3	196.4	37	2.6	18.2	541.2	57.95	0.169
240/37	244-AL3	244.4	37	2.9	20.3	673.3	72.1	0.136
300/61	304-AL3	304.2	61	2.52	22.7	840.8	87.95	0.109
400/61	403-AL3	402.9	61	2.9	26.1	1113.6	118.86	0.083

Note: Direction of lay of external layers is right-hand

ASTM-B-399

Conductor Size		Code Words	No. of Wires	Diameter		Mass per Unit Length kg/km	Rated Strength kN	DC Resistance Ω / km
				Wire mm	Conductor mm			
Kcmil or AWG	mm ²							
30.58	15.5	Akron	7	1.68	5.04	42.58	4.92	2.159
48.69	24.7	Alton	7	2.12	6.36	67.8	7.83	1.356
77.47	39.2	Ames	7	2.67	8.02	107.5	12.4	0.855
123.3	62.4	Azusa	7	3.37	10.11	171.3	18.9	0.537
155.4	78.6	Anahem	7	3.78	11.35	215.6	23.8	0.426
195.7	99.3	Amherst	7	4.25	12.75	272.5	30	0.337
246.9	125	Alliance	7	4.77	14.31	343.2	37.8	0.268
312.8	159	Butte	19	3.26	16.3	435.1	46.5	0.211
394.5	200	Canton	19	3.66	18.3	548.5	58.6	0.168
465.4	236	Cairo	19	3.98	19.88	648.6	69.2	0.142
559.5	284	Darien	19	4.36	21.79	778.3	83.1	0.118
652.4	331	Elgin	19	4.71	23.54	908.3	97	0.101
740.8	375	Flint	37	3.59	25.16	1028	107	0.089
927.2	470	Greeley	37	4.02	28.14	1289	135	0.071

CONDUCTOR GREASING CASES

Conductor greasing may be needed in order to reduce the risk of corrosion in some environments.

Case 1 / Durum 1

Steel core only greased

Case 2 / Durum 2

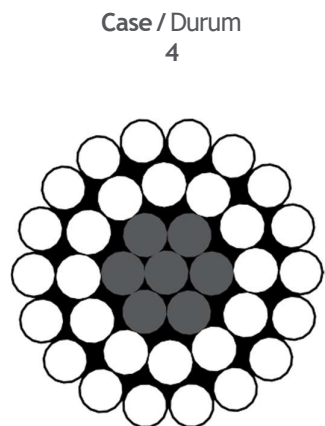
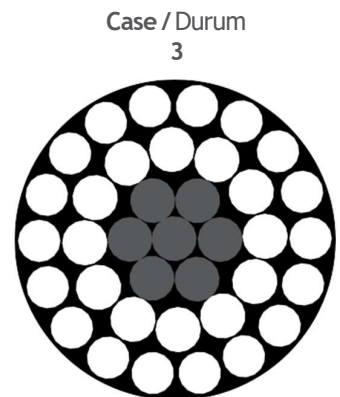
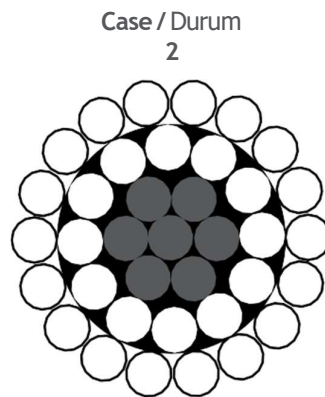
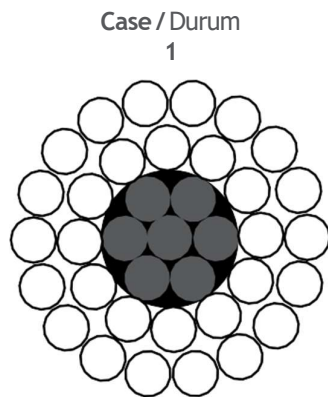
All the conductor is greased except the outer layer

Case 3 / Durum 3

All the conductor is greased including the outer layer

Case 4 / Durum 4

All the conductor is greased except the outer surface of the outer layer

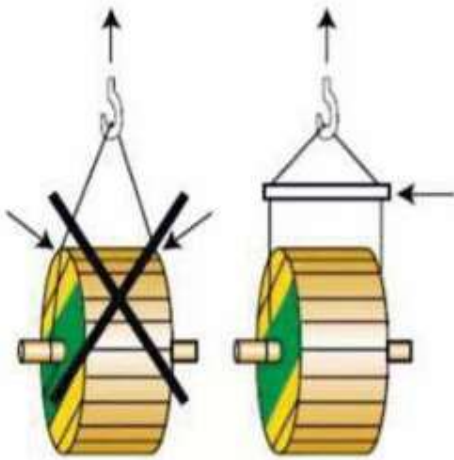


DRUM HANDLING INSTRUCTIONS

(Packing, Transportation, Storage, Unwinding)

Following Instructions should be followed for handling conductor drums:

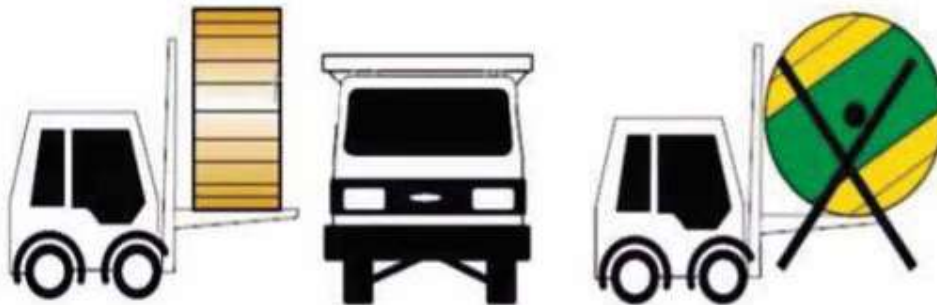
1. Generally conductor ends should be available for inspection and testing.
2. During unloading operation drums must not be thrown or dropped from a height from trailers, trucks or ships. A ramp, forklift or crane may be used for unloading operation. If neither is available a temporary ramp may be arranged.
3. The drums should be rolled in the direction indicated by the arrow mark on the drum. Rolling in the opposite direction will result in the conductor unwinding and becoming loose.
4. The drums should be stored on a firm surface (preferably a concrete surface). Storage of drums on a soft surface may result in drums sinking, making it extremely difficult to move the drums later on.
5. The drums should never be stored flat i.e. the flanges being kept horizontal to the ground. The conductor should also never be unwound from this position, as this may result in the conductor getting twisted which is not rectifiable.
6. If for some reason it is necessary to rewind the conductor on a different drum, the barrel of the new drum should not be less than the existing drum.



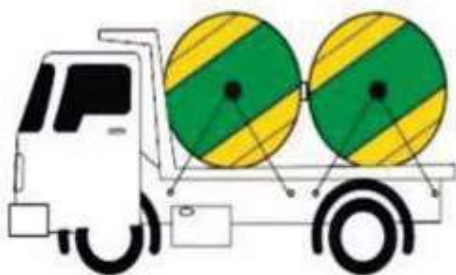
Lifting Cable Drums Using Crane



Do Not Lay Drums Flat On Their Sides, Use Proper Wedges To Prevent Drums Rolling



Lift drums on fork trucks correctly



Secure drums adequately before transportation



Roll in the direction shown by the arrow



OSWAL CABLES

Registered Office:
Gulab Niwas, 1st -302001

Telangana

Unit-2

Plot No.05, Sy No.228/9, IP
Kucharam (V), Toopran (M),
Medak (D) - 502336

Jaipur-Rajasthan

Unit-1

A-165-166 Industrial Area BAGRU
Phase II

Call: +91-141-400-2062