BAHRA CABLES بحرة كابلات

OVERHEAD TRANSMISSION LINE

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Real Companies, Real Growth, Real Success

OVER HEAD TRANSMISSION LINE BARE CONDUCTORS

CONTENTS


Kinectrics Certificate of
Type Test No. 056-2015

Bahra Advanced Cable
Manufacturer Co. Ltd.

Jeddah, Kingdom of Saudi Arabia


Kinectrics Certificate of
Type Test No. 055-2015

Bahra Advanced Cable
Manufacturer Co. Ltd.

Jeddah, Kingdom of Saudi Arabia

GENERAL
INTRODUCTION

Bahra Cables Company was established in 2008 to serve Saudi & GCC Markets. It is based in Bahra industrial city located 37km from Jeddah. Bahra Cables Factory occupies over 500,000 square meters of prime manufacturing space together with associated design offices, laboratories and storage area. It specializes in Manufacturing and Distributing Electric Cables.

Bahra Cables Company is committed to the production of the best product quality and service, utilizing cutting edge European Technology in manufacturing. The core technologies in production processes, material applications and logistic procedures were provided German experts and the key functions are being managed by German engineers.

The organization has a lean vertical management structure which is designed to integrate with a highly developed IT-based structure. This partnership allows the rapid flow of information through the management chain and facilities timely response in the best traditions of 'hands on' management. Bahra Cables Company has the flexibility to provide a versatile product range to serve the construction, electric utilities, distribution, industrial, oil & gas and petrochemical sectors. The cables produced comply with both American standards (CSA, ANSI and ICEA) and European standards (IEC, BS, NF and VDE Specifications.)

The scope of this catalogue is to provide an in depth view of the technical information of the Overhead line conductors (AAC, AAAC, ACSR, ACSR/AW & ACAR).

Bahra Cables Company Catalogues is about Control & Auxiliary cables, Power and control Tray Cables to UL 1277, cables having low emission of smoke and corrosive gases, zero halogens (LSZH) to IEC60502-1 or BS 6724 are available upon request.

AREA

Bahra Cables Company has a total land area of about 500,000 sqm at disposal.
The built-up area, including offices and manufacturing plants, is more than 97,500 sqm.
The factory extension currently under construction measures over 47,000 sqm.
The allocated area for material and products' storage is more than 89,000 sqm.

FACTORY MACHINERY

All production machines are top of the line of the cables machinery suppliers. From start up with wire drawing lines to extrusion lines, to assembly machines up to the laboratories and the final test fields , all technical equipment is provided with the highest European standards of electronic control equipment and measuring devices which insures that the requirements of different quality standards are met.

All machines/production lines are prepared for data communication and data exchange bottom up and top down using the most modern decentralized control software at the lines (PLC) combined with an efficient central steering and a planning system focused on the demand of cable manufacturers. This way, full traceability will be guaranteed from production start to end, by being able to follow up the machines involved and the material used.

LOGISTICS

All material flow in BCC from incoming raw material up to outgoing cables will be planned and controlled by a complete software system. Herein a classical ERP system will be enhanced and completed by the most modern MES (Manufacturing Executive System) which has a unique focus on the specific problematic issues of cables manufacturing with longitudinal products being winded up and winded off.

THE MANUFACTURING EXECUTIVE SYSTEM- MES- COVERS: PLANNING

The planning system is active on several levels. For the proper function, all master data (material properties, dimensions, etc.) are saved and permanently maintained in the central database based on;

- Cable design
- Planning of Sales Orders
- Planning of Production Orders

DATA COMMUNICATION

The exchange of data is important in several areas

- Incoming inspection
- Raw Materials – Status quo of production orders
- Finished goods
- Shipping status

QUALITY IS OUR MAIN TARGET

Bahra Cable Company is born to be one of the leading Power Cables Manufacturers in Saudi Arabia and the GCC area. We are working in different axes to completely fulfill customers satisfaction which is the milestone of our business, such axes are:

1. Product quality complying with the local and international standards.

2. Product Reliability is starting from the time of product design to fit for the intended application and environmental conditions, to the selection of the raw material from only the highest class suppliers with internationally trusted reputation. Our state of art testing equipments and the strict quality procedures ensure the product quality and integrity so we can guarantee that our cables are defect free and suitable for the intended application through the cable service lifetime.

3. High performance of the product and service through cooperation between experienced staff from Germany and local experts who are aware of the local market requirements and the highest international standards of cables manufacturing. Such cooperation in knowhow is invested to provide our customer with the best service and support.

4. Bahra Cables Company's Quality Management System conforms to the ISO 9001: 2008 International Management Quality System Standard with scope of Design and Manufacturing of Electrical Power Cables and Wires. BCC is certified by American Systems Registrar (ASR), ANAB Accredited.

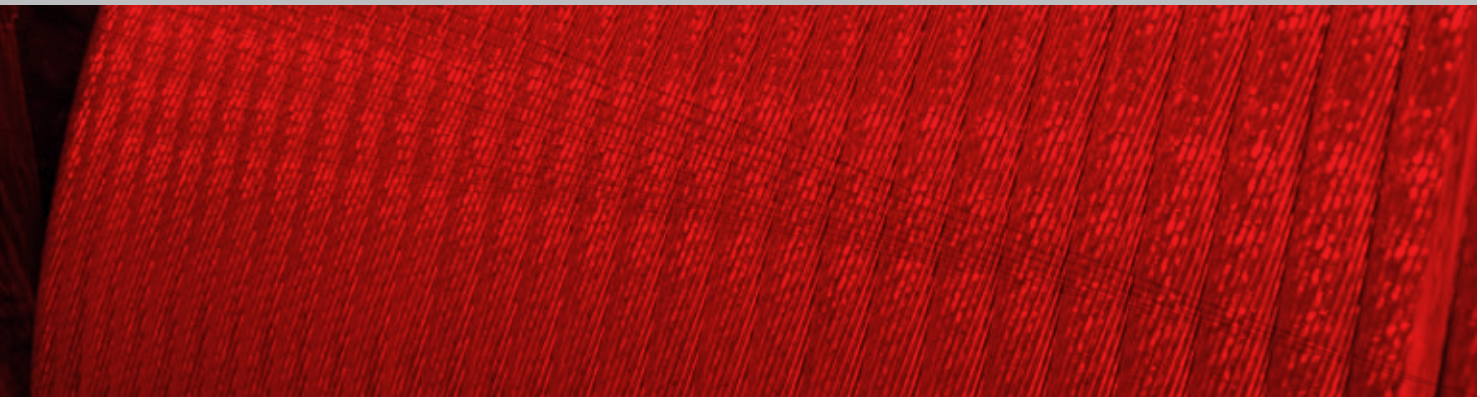
TECHNICAL INFORMATION

GENERAL

An overhead power line is an electric power transmission line suspended by towers or utility poles. Since most of the insulation is provided by air, overhead power lines are generally the lowest-cost method of transmission for large quantities of electric energy. Towers for support of the lines are made of wood (as-grown or laminated), steel (either lattice structures or tubular poles), concrete, aluminum, and occasionally reinforced plastics. The bare wire conductors on the line are generally made of aluminum (either plain or reinforced with steel, or sometimes composite materials), though some copper wires are used in medium-voltage distribution and low-voltage connections to customer premises. A major goal of overhead power line design is to maintain adequate clearance between energized conductors and the ground so as to prevent dangerous contact with the line. Today overhead lines are routinely operated at voltages exceeding 765,000 volts between conductors, with even higher voltages possible in some cases.

In recent years, the evolution of underground cables with extruded insulations, like cross linked polyethylene (XLPE), and their enhanced performance has shifted the focus of attention from the installation of ordinary overhead lines to the installation of underground Extra-High Voltage (EHV) and High Voltage (HV) transmission circuits. The liberalization of the energy market and the need to connect new power plants to grids has stimulated growing requirements to extend existing transmission systems.

However, the choice of whether to use overhead line (OHL) or underground cable (UGC) must be consistent with safety, reliability and operational constraints to ensure that the capacity of the transmission grid efficiently matches the supply and demand of electrical energy. The choice between OHL and UGC is driven by technical, environmental and economic considerations. Today's transmission system is being operated at power flow levels that reach the voltage, stability and thermal limits of cables and conductors. Transmission constraints and instabilities can cause negative impacts on the entire power system. Transmission lines require endurance against higher electrical and mechanical stresses in order to maintain the reliability of system operations. Overhead transmission networks are an essential part of a country's infrastructure and are generally massive undertakings implemented in the developing regions.



TECHNICAL INFORMATION
GENERAL

Overhead conductors are classified by the types of materials used for conductors, types of reinforcing cores used, and either it is bare or insulated. This catalogue contains design, construction and technical data of 's whole range of overhead conductors including bare soft or hard drawn copper conductors; aluminum conductors; aluminum-alloy conductors; aluminum conductors, steel reinforced; aluminum conductors, aluminum-clad steel reinforced; aluminum conductors, aluminum-alloy reinforced; and weather-resistant XLPE insulated service drop cables. The conductors designs detailed in this catalogue are in accordance with the relevant DIN, IEC, ASTM, BS and BS EN standards. However, can also supply a range of alternative designs to meet customer specified requirements. It is essential that the type of conductor ordered is suitable for its intended use. Conductor choice will be based on the whole range of factors including transmission voltages, installation specifications, environmental conditions in the project terrain, and the performance characteristics of appropriate conductor types. It is therefore not possible to provide a conclusive guide to conductor selection. Contact us for specialist advice on suitable conductor designs that meet your specific needs. Approximate conductor diameters are provided in this catalogue in order to give you an idea for selecting appropriate installation accessories. However, as finished diameters may sometimes vary, please contact our technical department for actual dimensions of all finished products. Similarly, conductor weights may vary and the data supplied in this catalogue should be considered approximate.

What are Aluminium Conductors used for ?

Aluminium Conductors are predominantly used in Overhead Line applications and for primary and secondary power distribution. The higher strength ACSR conductors are used for river crossings, overhead earth wires, and installations involving extra long spans. The advantage of ACSR is that it has high tensile strength and is lightweight, which means over longer spans it needs less supports. ACSR is available with varying percentages of steel core to achieve different strengths. One of the advantages of this conductor in particular is that the desired strength can be achieved without a loss of ampacity.
AAC is used mainly in urban areas where the spacing is short and the supports are closer together. The advantage of AAC conductors is that they have a high degree of corrosion resistance; for this reason they are used extensively in coastal areas. AAC Conductors were developed as a consequence of the galvanic corrosion that ACSR conductors are susceptible to.

AAAC is used as bare overhead conductor for power transmission and distribution lines on aerial circuits that require larger mechanical resistance than AAC. AAAC also has better sag characteristics and a better strength to weight ratio than AAC. AAAC Cables have lower weight per unit length and slightly lower resistance per unit length than ACSR.
The biggest difference between AAC, AAAC, and ACSR conductors are the materials they are constructed from. AAC is manufactured from electrolytically refined aluminium with a 99.7% minimum purity, AAAC is made from an Aluminium alloy, and ACSR contains a combination of Aluminium reinforced with Steel.

The second factor that differentiates the three cables is their resistance to corrosion, which is important for the longevity of the cable. ACSR has a poorer resistance to corrosion, as it contains steel, which is prone to rust. AAAC and AAC have a better corrosion resistance, due to the fact that they are largely or completely aluminium.

In an ACSR the galvanised steel core carries the mechanical load and the high purity aluminium carries the current. These utilise the lower thermal expansion coefficient of steel compared to aluminium, which the aluminium based conductors AAC and AAAC are unable to do.
ACSR, AAC and AAAC are all used in overhead line applications, and although for different specific applications, they are all involved in power distribution.

ALL ALUMINUM CONDUCTORS

AAC

Conductor is also known as aluminium stranded conductor. It is manufactured from electrolytically refined aluminium, with a minimum purity of 99.7%. AAC is used mainly in urban areas where 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. AAC is also used extensively in coastal regions because it has a high degree of corrosion resistance.

Standards:

ASTM - B 231
TS IEC 1089
DIN 48201
BS 215,part1
BS EN 50182

Conductor: Aluminium

Construction:

- Stranded
- Aluminum conductor

Applications

- AAC Conductor is widely used in Transmission and distribution of electric power having medium breaking load & span runs,and it is one of the main products to form electrified wire network.
- For use in overhead transmission and distribution systems, and as bus connections in substations and switchyards. Solid conductors used for mechanical and grounding applications.

ALL ALUMINUM CONDUCTORS
AAC

Overhead Line Conductors
All Aluminium Conductors (AAC)- AL1 Conductors - United Kingdom

Table 1

Standard: BS EN 50182

Conductor Code	Code	Old Code	Conductor							Packaging
			"Cross Sectional Area Nominal"	Number of Wires	Approx single wire diameter	Approx overall diameter	Approx overall weight	Max. DC resistance at 20°C	Rated Strength	"Standard Length"
			mm^2	No	mm	mm	kg/km	Ohm/km	KN	m +/- 5%
71011001	23-AL1	MIDGE	23.30	7	2.06	6.18	63.8	1.225	4.20	3000
71011002	27-AL1	GNAT	26.90	7	2.21	6.63	73.4	1.064	4.83	3000
71011003	37-AL1	MOSQUITO	36.90	7	2.59	7.77	100.8	0.775	6.27	3000
71011004	43-AL1	LADYBIRD	42.80	7	2.79	8.37	117.0	0.668	7.28	3000
71011005	53-AL1	ANT	52.80	7	3.10	9.30	144.4	0.541	8.72	3000
71011006	64-AL1	FLY	63.60	7	3.40	10.20	173.7	0.4497	10.49	3000
71011007	74-AL1	BLUEBOTTLE	73.60	7	3.66	11.00	201.3	0.388	11.78	3000
71011008	79-AL1	EARWIG	78.60	7	3.78	11.30	214.7	0.364	12.57	3000
71011009	84-AL1	GRASSHOPPER	84.10	7	3.91	11.70	229.7	0.34	13.45	3000
71011010	96-AL1	CLEGG	95.60	7	4.17	12.50	261.3	0.299	15.30	3000
71011011	106-AL1	WASP	106.00	7	4.39	13.20	289.6	0.2697	16.95	3000
71011012	106-AL1	BEETLE	106.40	19	2.67	13.40	292.4	0.2701	18.08	3000
71011013	132-AL1	BEE	132.00	7	4.90	14.70	360.8	0.217	21.12	3000
71011014	158-AL1	HORNET	157.60	19	3.25	16.30	433.2	0.182	26.01	3000
71011015	186-AL1	CARTERPILLAR	185.90	19	3.53	17.70	511.1	0.155	29.75	3000
71011016	213-AL1	CHAFER	213.20	19	3.78	18.90	586	0.135	34.12	3000
71011017	238-AL1	SPIDER	237.60	19	3.99	20.00	652.9	0.121	38.01	3000
71011018	266-AL1	COCKROACH	265.70	19	4.22	21.10	730.4	0.108	42.52	3000
71011019	323-AL1	BUTTERFLY	322.70	19	4.65	23.30	886.8	0.089	51.63	3000
71011020	373-AL1	MOTH	373.10	19	5.00	25.00	1025.3	0.077	59.69	3000
71011021	372-AL1	DRONE	372.40	37	3.58	25.10	1027.1	0.0774	59.59	3000
71011022	415-AL1	CENTIPEDE	415.20	37	3.78	26.50	1145.1	0.0695	66.43	3000
71011023	486-AL1	MAYBUG	486.10	37	4.09	28.60	1340.6	0.0593	77.78	3000
71011024	530-AL1	SCORPION	529.80	37	4.27	29.90	1461.2	0.0544	84.77	3000
71011025	628-AL1	CICADA	628.30	37	4.65	32.60	1732.9	0.0459	100.54	2500

The above data is approximate and subject to manufacturing tolerance & it can be change as a result of product development and/or changes in standard

ALL ALUMINUM CONDUCTORS
AAC

Overhead Line Conductors
All Aluminium Conductors (AAC)- AL1 Conductors - Germany

Table2

Standard: BS EN 50182

Conductor Code	Code	Old Code	Conductor							Packaging
			"Cross Sectional Area Nominal"	Number of Wires	Approx single wire diameter	Approx overall diameter	Approx overall weight	Max. DC resistance at 20°C	Rated Strength	"Standard Length"
			mm²	No	mm	mm	kg/km	Ohm/km	KN	m +/- 5%
71011026	16-AL1	16	15.9	7	1.7	5.10	43.4	1.799	3.02	3000
71011027	24-AL1	25	24.2	7	2.1	6.30	66.3	1.179	4.36	3000
71011028	34-AL1	35	34.4	7	2.5	7.50	93.9	0.832	6.01	3000
71011029	49-AL1	50	49.5	7	3	9.00	135.2	0.578	8.41	3000
71011030	48-AL1	50	48.3	19	1.8	9.00	132.9	0.594	8.94	3000
71011031	66-AL1	70	65.8	19	2.1	10.50	180.9	0.437	11.85	3000
71011032	93-AL1	95	93.3	19	2.5	12.50	256.3	0.308	16.32	3000
71011033	117-AL1	120	117	19	2.8	14.00	321.5	0.246	19.89	3000
71011034	147-AL1	150	147.1	37	2.25	15.80	405.7	0.196	26.48	3000
71011035	182-AL1	185	181.6	37	2.5	17.50	500.9	0.159	31.78	3000
71011036	243-AL1	240	242.5	61	2.25	20.30	671.1	0.119	43.66	3000
71011037	299-AL1	300	299.4	61	2.5	22.50	828.5	0.097	52.4	3000
71011038	400-AL1	400	400.1	61	2.89	26.00	1107.1	0.072	68.02	3000
71011039	500-AL1	500	499.8	61	3.23	29.10	1382.9	0.58	82.47	3000
71011040	626-AL1	625	626.2	91	2.96	32.60	1739.7	0.046	106.45	2500
71011041	802-AL1	800	802.1	91	3.35	36.90	2228.3	0.0362	132.34	2000
71011042	1000-AL1	1000	999.7	91	3.74	41.10	2777.3	0.029	159.95	1500

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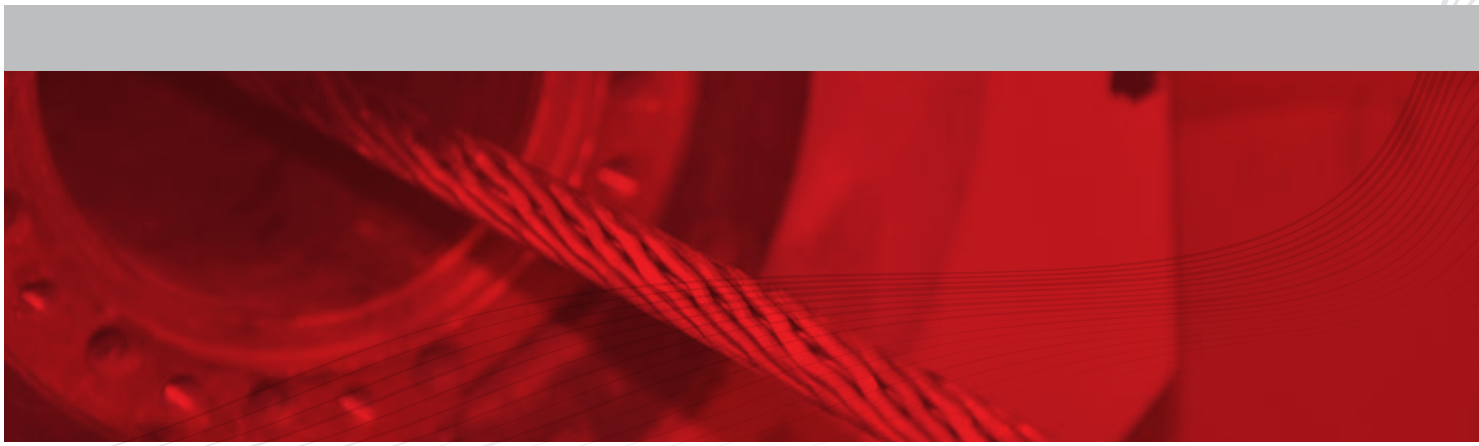

ALL ALUMINUM CONDUCTORS
AAC

Overhead Line Conductors
All Aluminium Conductors (AAC)-AL1 Conductors

Table3

Standard: IEC 61089

Conductor Code	Code	Conductor							Packaging
		"Cross Sectional Area Nominal"	Number of Wires	Approx single wire diameter	Approx overall diameter	Approx overall weight	Max. DC resistance at 20°C	Rated Strength	"Standard Length"
		mm²	No	mm	mm	kg/km	Ohm/km	KN	m +/- 5%
71012001	10	10	7	1.35	4.05	27.40	2.8633	1.95	3000
71012002	16	16	7	1.71	5.12	43.80	1.7896	3.04	3000
71012003	25	25	7	2.13	6.40	68.40	1.1453	4.50	3000
71012004	40	40	7	2.7	8.09	109.40	0.7158	6.80	3000
71012005	63	63	7	3.39	10.20	172.30	0.4545	10.39	3000
71012006	100	100	19	2.59	12.90	274.80	0.2877	17.00	3000
71012007	125	125	19	2.89	14.50	343.60	0.2302	21.25	3000
71012008	160	160	19	3.27	16.40	439.80	0.1798	26.40	3000
71012009	200	200	19	3.66	18.30	549.70	0.1439	32.00	3000
71012010	250	250	19	4.09	20.50	687.10	0.1151	40.00	3000
71012011	315	315	37	3.29	23.00	867.90	0.0916	51.97	3000
71012012	400	400	37	3.71	26.00	1102.00	0.0721	64.00	3000
71012013	450	450	37	3.94	27.50	1239.80	0.0641	72.00	3000
71012014	500	500	37	4.15	29.00	1377.60	0.0577	80.00	3000
71012015	560	560	37	4.39	30.70	1542.90	0.0515	89.60	3000
71012016	630	630	61	3.63	32.60	1738.30	0.0458	100.80	2500
71012017	710	710	61	3.85	34.60	1959.10	0.0407	113.60	2000
71012018	800	800	61	4.09	36.80	2207.40	0.0361	128.00	2000
71012019	900	900	61	4.33	39.00	2483.30	0.0321	144.00	1500
71012020	1000	1000	61	4.57	41.10	2759.20	0.0289	160.00	1500
71012021	1120	1120	91	3.96	43.50	3093.50	0.0258	179.20	1500
71012022	1250	1250	91	4.18	46.00	3452.60	0.0231	200.00	1000
71012023	1400	1400	91	4.43	48.70	3866.90	0.0207	224.00	1000
71012024	1500	1500	91	4.58	50.40	4143.10	0.0193	240.00	1000
71011025	628-AL1	628.30	37	4.65	32.60	1732.9	0.0459	100.54	2500

The above data is approximate and subject to manufacturing tolerance & it can be change as a result of product development and/or changes in standard

ALL ALUMINUM CONDUCTORS
AAC

Overhead Line Conductors
All Aluminium Conductors (AAC)- AL1

Table4

Standard: BS 215, Part 1

Conductor Code	"Cross Sectional Area Nominal"	Conductor							Packaging
		Sectional Area	Number of Wires	Approx single wire diameter	Approx overall diameter	Approx overall weight	Calculated DC resistance at 20°C	Calculated breaking load	"Standard Length"
	mm^2	mm^2	No	mm	mm	kg/km	Ohm/km	KN	m +/- 5%
71013001	22	23.33	7	2.06	6.18	64.0	1.227	3.99	3000
71013002	50	52.83	7	3.1	9.3	145.0	0.5419	8.28	3000
71013003	60	63.55	7	3.4	10.2	174.0	0.4505	9.90	3000
71013004	100	106.00	7	4.39	13.17	290.0	0.2702	16.00	3000
71013005	150	157.60	19	3.25	16.25	434.0	0.1825	25.70	3000
71013006	200	213.20	19	3.78	18.9	587.0	0.1349	32.40	3000
71013007	250	265.70	19	4.22	21.1	731.0	0.1083	40.40	3000
71013008	300	322.70	19	4.65	23.25	888.0	0.08916	48.75	3000
71013009	400	415.20	37	3.78	26.46	1145.0	0.06944	63.10	3000

The above data is approximate and subject to manufacturing tolerance & it can be change as a result of product development and/or changes in standard

Overhead Line Conductors
All Aluminium Conductors (AAC)- AL1 Conductors - Germany

Table5-1

Standard: ASTM B231

Conductor Code	Code	Conductor								Packaging
		Cross Sectional Area		Number of Wires	Approx single wire diameter	Approx overall diameter	Approx overall weight	Max. DC resistance at 20°C	Rated Strength	"Standard Length"
		AWG/cmil	mm^2	No	mm	mm	kg/km	Ohm/km	KN	m +/- 5%
71014001	Peachbell	6	13.29	7	1.55	4.67	37.00	2.1692	2.49	3000
71014002	Rose	4	21.10	7	1.96	5.88	58.20	1.36505	3.91	3000
71014003	Iris	2	33.60	7	2.47	7.41	92.60	0.85954	5.99	3000
71014004	Pansy	1	42.40	7	2.78	8.34	116.60	0.67853	7.30	3000
71014005	Poppy	1/0	53.50	7	3.12	9.36	147.20	0.53871	8.84	3000
71014006	Aster	2/0	67.40	7	3.50	10.50	185.70	0.42808	11.10	3000
71014007	Phlox	3/0	85.00	7	3.93	11.79	233.90	0.33953	13.50	3000
71014008	Oxlip	4/0	107.20	7	4.42	13.26	295.20	0.26842	17.00	3000
71014009	Valerian	250.00	126.70	19	2.91	14.55	348.60	0.22815	20.70	3000

ALL ALUMINUM CONDUCTORS
AAC

Overhead Line Conductors
All Aluminium Conductors (AAC)- AL1 Conductors - Germany

Table5-2

Standard: ASTM B231

Conductor Code	Code	Conductor								Packaging
		Cross Sectional Area		Number of Wires	Approx single wire diameter	Approx overall diameter	Approx overall weight	Max. DC resistance at 20°C	Rated Strength	"Standard Length"
		AWG/cmil	mm²	No	mm	mm	kg/km	Ohm/km	KN	m +/- 5%
71014001	Peachbell	6	13.29	7	1.55	4.67	37.00	2.1692	2.49	3000
71014002	Rose	4	21.10	7	1.96	5.88	58.20	1.36505	3.91	3000
71014003	Iris	2	33.60	7	2.47	7.41	92.60	0.85954	5.99	3000
71014004	Pansy	1	42.40	7	2.78	8.34	116.60	0.67853	7.30	3000
71014005	Poppy	1/0	53.50	7	3.12	9.36	147.20	0.53871	8.84	3000
71014006	Aster	2/0	67.40	7	3.50	10.50	185.70	0.42808	11.10	3000
71014007	Phlox	3/0	85.00	7	3.93	11.79	233.90	0.33953	13.50	3000
71014008	Oxlip	4/0	107.20	7	4.42	13.26	295.20	0.26842	17.00	3000
71014009	Valerian	250.00	126.70	19	2.91	14.55	348.60	0.22815	20.70	3000
71014010	Sneezewort	250.00	126.70	7	4.80	14.40	348.80	0.2276	20.10	3000
71014011	Laurel	266.80	135.20	19	3.01	15.05	372.20	0.21324	22.10	3000
71014012	Daisy	266.80	135.20	7	4.96	14.88	372.30	0.21316	21.40	3000
71014013	Peony	300.00	152.00	19	3.19	15.95	418.30	0.18986	24.30	3000
71014014	Tulip	336.40	170.50	19	3.38	16.90	469.50	0.16911	27.30	3000
71014015	Daffodil	350.00	177.30	19	3.45	17.25	487.90	0.16232	28.40	3000
71014016	Canna	397.50	201.40	19	3.67	18.35	554.90	0.14344	31.60	3000
71014017	Goldentuft	450.00	228.00	19	3.91	19.55	627.60	0.12637	35.00	3000
71014018	Syringa	477.00	241.70	37	2.88	20.16	664.80	0.11961	38.60	3000
71014019	Cosmos	477.00	241.70	19	4.02	20.10	664.80	0.11955	37.00	3000
71014020	Hyacinth	500.00	253.30	37	2.95	20.65	696.80	0.114	40.50	3000
71014021	Zinnia	500.00	253.30	19	4.12	20.60	697.10	0.11382	38.90	3000
71014022	Mistletoe	556.50	282.00	37	3.12	21.84	775.70	0.10192	44.30	3000
71014023	Dahlia	556.50	282.00	19	4.35	21.75	775.80	0.1021	43.30	3000
71014024	Meadowsweet	600.00	304.00	37	3.23	22.61	836.30	0.09509	47.50	3000
71014025	Orchid	636.00	322.30	37	3.33	23.31	886.90	0.08947	50.40	3000
71014026	Heuchera	650.00	329.40	37	3.37	23.59	907.40	0.08736	51.70	3000
71014027	Flag	700.00	354.70	61	2.72	24.48	975.80	0.08134	57.10	3000
71014028	Verbena	700.00	354.70	37	3.49	24.43	975.70	0.08145	55.40	3000

ALL ALUMINUM CONDUCTORS
AAC

Overhead Line Conductors
All Aluminium Conductors (AAC)- AL1 Conductors - Germany

Table5-3

Standard: ASTM B231

Conductor Code	Code	Conductor								Packaging
		Cross Sectional Area		Number of Wires	Approx single wire diameter	Approx overall diameter	Approx overall weight	Max. DC resistance at 20°C	Rated Strength	"Standard Length"
		AWG/cmil	mm²	No	mm	mm	kg/km	Ohm/km	KN	m +/- 5%
71014029	Nasturtium	715.50	362.60	61	2.75	24.75	998.50	0.07959	58.40	3000
71014030	Violet	715.50	362.60	37	3.53	24.71	998.50	0.07962	56.70	3000
71014031	Cattail	750.00	380.00	61	2.82	25.38	1046.00	0.07567	60.30	3000
71014032	Petunia	750.00	380.00	37	3.62	25.34	1046.00	0.07571	58.60	3000
71014033	Lilac	795.00	402.80	61	2.90	26.10	1110.00	0.07155	63.80	3000
71014034	Arbutus	795.00	402.80	37	3.72	26.04	1109.00	0.07169	61.80	3000
71014035	Snapdragon	900.00	456.00	61	3.09	27.81	1256.00	0.06302	70.80	3000
71014036	Cockscomb	900.00	456.00	37	3.96	27.72	1256.00	0.06327	68.40	3000
71014037	Goldenrod	954.00	483.40	61	3.18	28.62	1331.00	0.05951	75.00	3000
71014038	Magnolia	954.00	483.40	37	4.08	28.56	1331.00	0.0596	72.60	3000
71014039	Camellia	1000.00	506.70	61	3.25	29.25	1394.00	0.05697	78.30	3000
71014040	Hawkweed	1000.00	506.70	37	4.18	29.26	1395.00	0.05678	76.20	3000
71014041	Larkspur	1033.50	523.70	61	3.31	29.79	1442.00	0.05493	81.30	3000
71014042	Bluebell	1033.50	523.70	37	4.25	29.75	1441.00	0.05493	78.80	3000
71014043	Marigold	1113.00	564.00	61	3.43	30.87	1553.00	0.05115	87.30	3000
71014044	Hawthorn	1192.50	604.20	61	3.55	31.95	1662.00	0.04775	93.50	2500
71014045	Narcissus	1272.00	644.50	61	3.67	33.03	1774.00	0.04468	98.10	2500
71014046	Columbine	1351.00	694.80	61	3.78	34.02	1884.00	0.04212	104.00	2000
71014047	Carnation	1431.00	725.10	61	3.89	35.01	1997.00	0.03977	108.00	2000
71014048	Gladiolus	1510.50	765.40	61	4.00	36.00	2108.00	0.03761	114.00	2000
71014049	Coreopsis	1590.00	805.70	61	4.10	36.90	2216.00	0.0358	120.00	2000
71014050	Jessamine	1750.00	886.70	61	4.30	38.70	2442.00	0.03255	132.00	1500
71014051	Cowslip	2000.00	1013.00	91	3.77	41.47	2787.00	0.02866	153.00	1500
71014052	Sagebrush	2250.00	1140.00	91	3.99	43.89	3166.00	0.02559	167.00	1500
71014053	Lupine	2500.00	1267.00	91	4.21	46.31	3519.00	0.02298	186.00	1000
71014054	Bitterroot	2750.00	1393.00	91	4.42	48.62	3872.00	0.02085	205.00	1000

The above data is approximate and subject to manufacturing tolerance & it can be change as a result of product development and/or changes in standard

ALL ALUMINUM ALLOY CONDUCTORS

AAAC

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 ACSR. The sag characteristics and the strength-to-weight ratio of AAAC is better than AAC / ACSR.

Standards:
ASTM - B 399
IEC 1089
DIN 48201
BS EN 50182

Conductor: All Aluminium Alloy

Construction:
- Stranded
- Aluminum Alloy conductor

Applications
- AAAC Conductor have been widely used in power transmission lines with various voltage levels, and also used in power lines across great rivers, heavy ice area, and other places special geographical characteristics. The conductor have excellent advantages of high strength, large current carrying capacity and good centenary property as well as wear-resistance,anti-crush and corrosion-proof with simple structure, convenient installation and maintenance, low cost for the line, large transmission capacity.

ALL ALUMINUM ALLOY CONDUCTORS
AAAC

Overhead Line Conductors
All Aluminium Alloy Conductors (AAAC)- AL3 Conductors - United Kingdom

Table6

Standard: BS EN 50182

Conductor Code	Code	Old Code	Cross Sectional Area Actual	Number of Wires	Approx single wire diameter	Approx overall diameter	Approx overall weight	Max. DC resistance at 20°C	Rated Strength	Packaging Standard Length
			mm²	No	mm	mm	kg/km	Ohm/km	KN	m +/- 5%
71021001	19-AL3	BOX	18.80	7	1.85	5.55	51.40	1.748	5.55	3000
71021002	24-AL3	ACACIA	23.80	7	2.08	6.24	64.90	1.3828	7.02	3000
71021003	30-AL3	ALMOND	30.10	7	2.34	7.02	82.20	1.0926	8.88	3000
71021004	35-AL3	CEDAR	35.50	7	2.54	7.62	96.80	0.9273	10.46	3000
71021005	42-AL3	DEODAR	42.20	7	2.77	8.31	115.20	0.7797	12.44	3000
71021006	48-AL3	FIR	47.80	7	2.95	8.85	130.60	0.6875	14.11	3000
71021007	60-AL3	HAZEL	59.90	7	3.30	9.90	163.40	0.5494	17.66	3000
71021008	72-AL3	PINE	71.60	7	3.61	10.80	195.60	0.4591	21.14	3000
71021009	84-AL3	HOLLY	84.10	7	3.91	11.70	229.50	0.3913	24.79	3000
71021010	90-AL3	WILLOW	89.70	7	4.04	12.10	245.00	0.3665	26.47	3000
71021011	119-AL3	OAK	118.90	7	4.65	14.00	324.50	0.2767	35.07	3000
71021012	151-AL3	MULBERRY	150.90	19	3.18	15.90	414.30	0.2192	44.52	3000
71021013	181-AL3	ASH	180.70	19	3.48	17.40	496.10	0.183	53.31	3000
71021014	211-AL3	ELM	211.00	19	3.76	18.80	579.20	0.1568	62.24	3000
71021015	239-AL3	POPLAR	239.40	37	2.87	20.10	659.40	0.1387	70.61	3000
71021016	303-AL3	SYCAMORE	303.20	37	3.23	22.60	835.20	0.1095	89.40	3000
71021017	362-AL3	UPAS	362.10	37	3.53	24.70	997.50	0.0917	106.82	3000
71021018	479-AL3	YEW	479.00	37	4.06	28.40	1319.60	0.0693	141.31	3000
71021019	498-AL3	TOTARA	498.10	37	4.14	29.00	1372.10	0.0666	146.93	3000
71021020	587-AL3	RUBUS	586.90	61	3.50	31.50	1622.00	0.0567	173.13	2500
71021021	659-AL3	SORBUS	659.40	61	3.71	33.40	1822.50	0.0508	194.53	2500
71021022	821-AL3	ARAUCARIA	821.10	61	4.14	37.30	2269.40	0.0406	242.24	2000
71021023	996-AL3	REDWOOD	996.20	61	4.56	41.00	2753.20	0.0334	293.88	1500

The above data is approximate and subject to manufacturing tolerance & it can be change as a result of product development and/or changes in standard

ALL ALUMINUM ALLOY CONDUCTORS
AAAC

Overhead Line Conductors
All Aluminium Alloy Conductors (AAAC)- AL3 Conductors - Germany

Table7

Standard: BS EN 50182

Conductor Code	Code	Old Code	Conductor							Packaging
			Cross Sectional Area Nomina	Number of Wires	Approx single wire diameter	Approx overall diameter	Approx overall weight	Max. DC resistance at 20°C	Rated Strength	Standard Length
			mm^2	No	mm	mm	kg/km	Ohm/km	KN	m +/- 5%
71021024	16-AL3	16	15.9	7	1.70	5.10	43.4	2.0701	4.69	3000
71021025	24-AL3	25	24.2	7	2.10	6.30	66.2	1.3566	7.15	3000
71021026	34-AL3	35	34.4	7	2.50	7.50	93.8	0.9572	10.14	3000
71021027	49-AL3	50	49.5	7	3.00	9.00	135.1	0.6647	14.6	3000
71021028	48-AL3	50	48.3	19	1.80	9.00	132.7	0.6841	14.26	3000
71021029	66-AL3	70	65.8	19	2.10	10.50	180.7	0.5026	19.41	3000
71021030	93-AL3	95	93.3	19	2.50	12.50	256.0	0.3546	27.51	3000
71021031	117-AL3	120	117	19	2.80	14.00	321.2	0.2827	34.51	3000
71021032	147-AL3	150	147.1	37	2.25	15.80	405.3	0.2256	43.4	3000
71021033	182-AL3	185	181.6	37	2.50	17.50	500.3	0.1827	53.58	3000
71021034	243-AL3	240	242.5	61	2.25	20.30	670.3	0.1373	71.55	3000
71021035	299-AL3	300	299.4	61	2.50	22.50	827.5	0.1112	88.33	3000
71021036	400-AL3	400	400.1	61	2.89	26.00	1105.9	0.0832	118.04	3000
71021037	500-AL3	500	499.8	61	3.23	29.10	1381.4	0.0666	147.45	3000
71021038	626-AL3	625	626.2	91	2.96	32.60	1737.7	0.0534	184.73	2500
71021039	802-AL3	800	802.1	91	3.35	36.90	2225.8	0.0417	236.62	2000
71021040	1000-AL3	1000	999.7	91	3.74	41.10	2774.3	0.0334	294.91	1500

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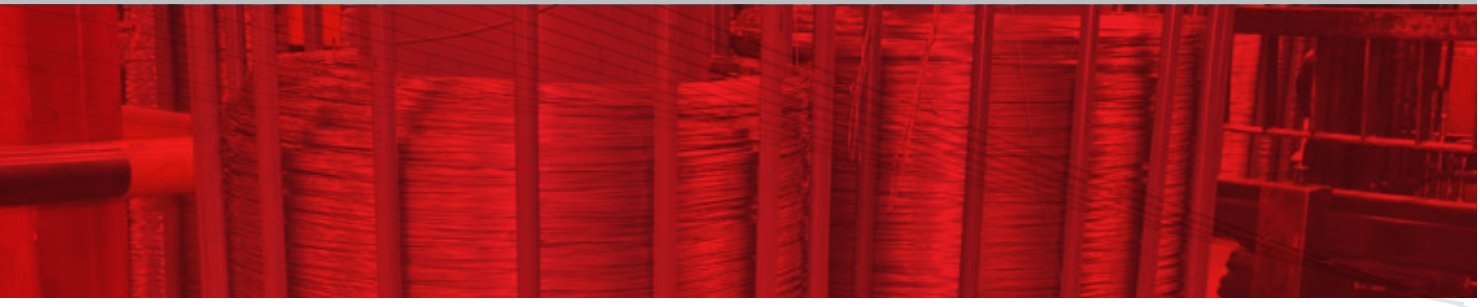


ALL ALUMINUM ALLOY CONDUCTORS
AAAC

Overhead Line Conductors
All Aluminium Alloy Conductors (AAAC)- AL3 Conductors

Table8

Standard: IEC 61089

Conductor Code	Code	Conductor							Packaging
		Cross Sectional Area Nomina	Number of Wires	Approx single wire diameter	Approx overall diameter	Approx overall weight	Max. DC resistance at 20°C	Rated Strength	Standard Length
		mm²	No	mm	mm	kg/km	Ohm/km	KN	m +/- 5%
71022001	16	18.40	7	1.83	5.49	50.40	1.7896	5.43	3000
71022002	25	28.80	7	2.29	6.86	78.70	1.1453	8.49	3000
71022003	40	46.00	7	2.89	8.68	125.90	0.7158	13.58	3000
71022004	63	72.50	7	3.63	10.90	198.30	0.4545	21.39	3000
71022005	100	115.00	19	2.78	13.90	316.30	0.2877	33.95	3000
71022006	125	144.00	19	3.10	15.50	395.40	0.2302	42.44	3000
71022007	160	184.00	19	3.51	17.60	506.10	0.1798	54.32	3000
71022008	200	230.00	19	3.93	19.60	632.70	0.1439	67.91	3000
71022009	250	288.00	19	4.39	22.00	790.80	0.1151	84.88	3000
71022010	315	363.00	37	3.53	24.70	998.90	0.0916	106.95	3000
71022011	400	460.00	37	3.98	27.90	1268.40	0.0721	135.81	3000
71022012	450	518.00	37	4.22	29.60	1426.90	0.0641	152.79	3000
71022013	500	575.00	37	4.45	31.20	1585.50	0.0577	169.76	2500
71022014	560	645.00	61	3.67	33.00	1778.40	0.0516	190.14	2500
71022015	630	725.00	61	3.89	35.00	2000.70	0.0458	213.9	2000
71022016	710	817.00	61	4.13	37.20	2254.80	0.0407	241.07	2000
71022017	800	921.00	61	4.38	39.50	2540.60	0.0361	271.62	1500
71022018	900	1036.00	91	3.81	41.80	2861.10	0.0321	305.53	1500
71022019	1000	1151.00	91	4.01	44.10	3179.00	0.0289	339.53	1000
71022020	1120	1289.00	91	4.25	46.70	3560.50	0.0258	380.27	1000
71022021	1250	1439.00	91	4.49	49.40	3973.70	0.0231	424.41	1000

The above data is approximate and subject to manufacturing tolerance & it can be change as a result of product development and/or changes in standard

ALL ALUMINUM ALLOY CONDUCTORS
AAAC

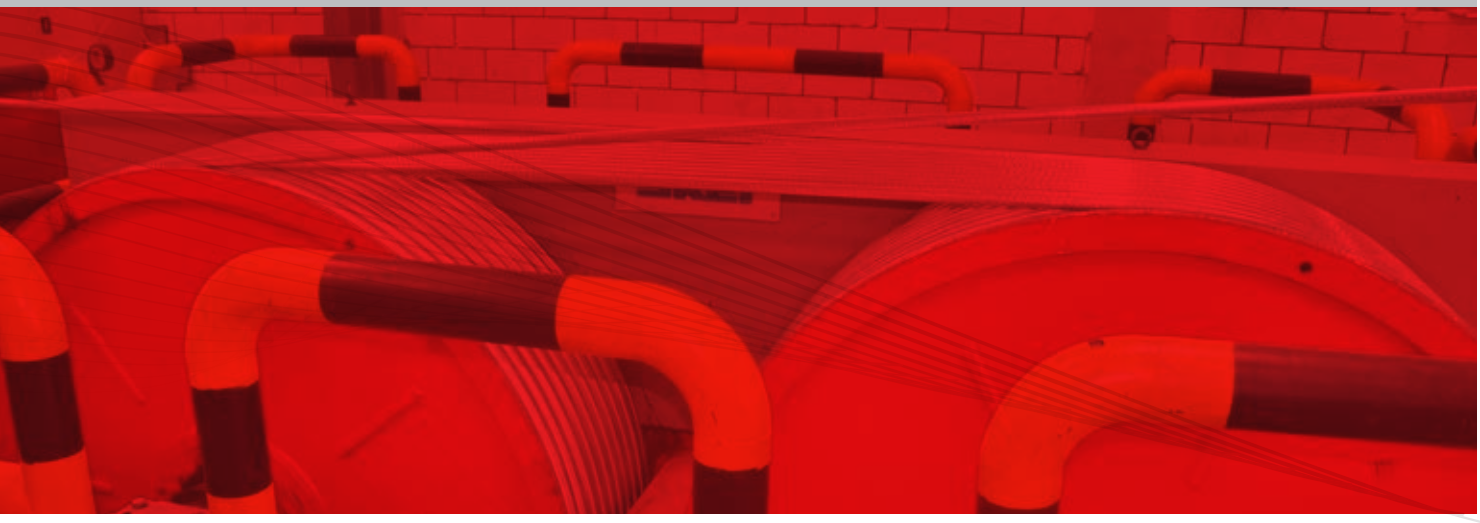
Overhead Line Conductors
All Aluminium Alloy Conductors (AAAC)

Table9

Standard: ASTM B399

Conductor Code	Code	Conductor								Packaging
		Cross Sectional Area		Number of Wires	Approx single wire diameter	Approx overall diameter	Approx overall weight	Max. DC resistance at 20°C	Rated Strength	"Standard Length"
		cmil	mm²	No	mm	mm	kg/km	Ohm/km	KN	m +/- 5%
71024001	Alton	48690	24.70	7	2.12	6.36	67.80	1.35568	7.83	3000
71024002	Ames	77470	39.20	7	2.67	8.02	107.50	0.85469	12.40	3000
71024003	Azusa	123300	62.40	7	3.37	10.11	171.30	0.5365	18.90	3000
71024004	Anaheim	155400	78.60	7	3.78	11.35	215.60	0.42643	23.80	3000
71024005	Amherst	195700	99.30	7	4.25	12.75	272.50	0.33733	30.00	3000
71024006	Alliance	246900	125.00	7	4.77	14.31	343.20	0.26779	37.80	3000
71024007	Butte	312800	159.00	19	3.26	16.30	435.10	0.21122	46.50	3000
71024008	Canton	394500	200.00	19	3.66	18.30	548.50	0.16758	58.60	3000
71024009	Cairo	465400	236.00	19	3.98	19.88	648.60	0.14171	69.20	3000
71024010	Darien	559500	284.00	19	4.36	21.79	778.30	0.11809	83.10	3000
71024011	Elgin	652400	331.00	19	4.71	23.54	908.30	0.10119	97.00	3000
71024012	Flint	740800	375.00	37	3.59	25.16	1028.00	0.08944	107.00	3000
71024013	Greeley	927200	470.00	37	4.02	28.14	1289.00	0.07133	135.00	3000

The above data is approximate and subject to manufacturing tolerance & it can be change as a result of product development and/or changes in standard



ALUMINUM CONDUCTOR STEEL REINFORCED

ACSR

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

Standards:
ASTM - B 232
IEC 1089
DIN 48201
BS 215, Part2
BS EN 50182

Conductor: Steel reinforced aluminium

Construction:
- Stranded
- Aluminum conductor, steel core

Applications
- ACSR Conductor used as bare overhead transmission cable and as primary and secondary distribution cable. ACSR offers optimal strength for line design. Variable steel core stranding enables desired strength to be achieved without sacrificing ampacity.

ALUMINUM CONDUCTOR STEEL REINFORCED
ACSR

Overhead Line Conductors
Aluminium Conductors, Steel Reinforced (ACSR)-Type AL1/ST1A - United Kingdom

Table10-1

Standard: BS EN 50182

Conductor Code	Code	Conductor									Packaging
		Area			Number of Wires/Wire diameter		Approx overall diameter	Approx overall weight	Max. DC resistance at 20°C	Rated Strength	Standard Length
		Aluminium	Steel	Total	Aluminium	Steel	mm	Total	Ohm/km	KN	m +/- 5%
		mm²	mm²	mm²	No/mm	No/mm		kg/km			
71031001	MOLE	10.60	1.77	12.37	6/1.50	1/1.50	4.50	42.8	2.7027	4.14	3000
71031002	SQUIRREL	21.00	3.50	24.50	6/2.11	1/2.11	6.33	84.7	1.3659	7.87	3000
71031003	GOPHER	26.20	4.37	30.57	6/2.36	1/2.36	7.08	105.9	1.0919	9.58	3000
71031004	WEASEL	31.60	5.27	36.87	6/2.59	1/2.59	7.77	127.6	0.9065	11.38	3000
71031005	FOX	36.70	6.11	42.81	6/2.79	1/2.79	8.37	148.1	0.7812	13.21	3000
71031006	FERRET	42.40	7.07	49.47	6/3.0	1/3.00	9.00	171.2	0.6757	15.27	3000
71031007	RABBIT	52.90	8.81	61.71	6/3.35	1/3.35	10.10	213.5	0.5419	18.42	3000
71031008	MINK	63.10	10.50	73.60	6/3.66	1/3.66	11.00	254.8	0.454	21.67	3000
71031009	SKUNK	63.20	36.90	100.10	12/2.59	7/2.59	13.00	463.0	0.4568	52.79	3000
71031010	BEAVER	75.00	12.50	87.50	6/3.99	1/3.99	12.00	302.9	0.382	25.76	3000
71031011	HORSE	73.40	42.80	116.20	12/2.79	7/2.79	14.00	537.3	0.3936	61.26	3000
71031012	RACOON	78.80	13.10	91.90	6/4.09	1/4.09	12.30	318.3	0.3635	27.06	3000
71031013	OTTER	83.90	14.00	97.90	6/4.22	1/4.22	12.70	338.8	0.3415	28.81	3000
71031014	CAT	95.40	15.90	111.30	6/4.50	1/4.50	13.50	385.3	0.3003	32.76	3000
71031015	HARE	105.00	17.50	122.50	6/4.72	1/4.72	14.20	423.8	0.273	36.04	3000
71031016	DOG	105.00	13.60	118.60	6/4.72	7/1.57	14.20	394.0	0.2733	32.65	3000
71031017	COYOTE	131.70	20.10	151.80	26/2.54	7/1.91	15.90	520.7	0.2192	45.86	3000
71031018	COUGAR	131.50	7.31	138.81	18/3.05	1/3.05	15.30	418.8	0.2188	29.74	3000
71031019	TIGER	131.20	30.60	161.80	30/2.36	7/2.36	16.50	602.2	0.2202	57.87	3000
71031020	WOLF	158.10	36.90	195.00	30/2.59	7/2.59	18.10	725.3	0.1829	68.91	3000
71031021	DINGO	158.70	8.81	167.51	18/3.35	1/3.35	16.80	505.2	0.1814	35.87	3000
71031022	LYNX	183.40	42.80	226.20	30/2.79	7/2.79	19.50	841.6	0.1576	79.97	3000
71031023	CARACAL	184.20	10.20	194.40	18/3.61	1/3.61	18.10	586.7	0.1562	40.74	3000
71031024	PANTHER	212.10	49.50	261.50	30/3.00	7/3.00	21.00	973.1	0.1363	92.46	3000
71031025	JAGUAR	210.60	11.70	222.30	18/3.86	1/3.86	19.30	670.8	0.1366	46.57	3000
71031026	LION	238.30	55.60	293.90	30/3.18	7/3.18	22.30	1093.4	0.1213	100.47	3000

ALUMINUM CONDUCTOR STEEL REINFORCED
ACSR

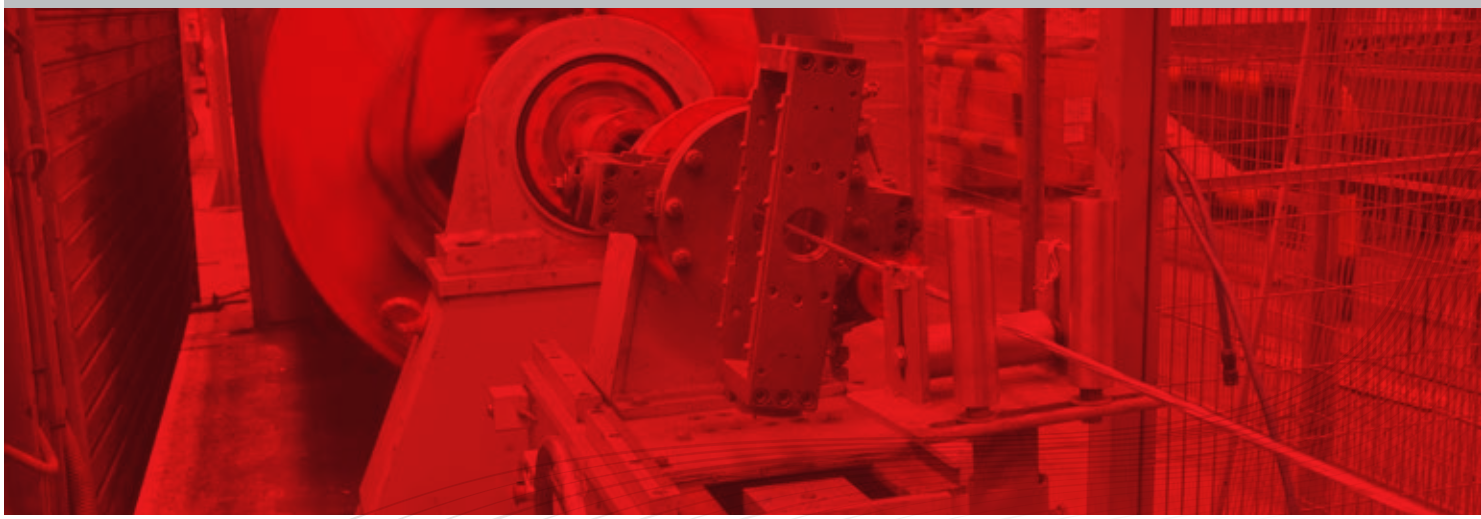
Overhead Line Conductors
Aluminium Conductors, Steel Reinforced (ACSR)-Type AL1/ST1A - United Kingdom

Table10-2

Standard: BS EN 50182

Conductor Code	Code	Conductor									Packaging
		Area			Number of Wires/Wire diameter		Approx overall diameter	Approx overall weight	Max. DC resistance at 20°C	Rated Strength	Standard Length
		Aluminium	Steel	Total	Aluminium	Steel	mm	Total	Ohm/km	KN	m +/- 5%
		mm^2	mm^2	mm^2	No/mm	No/mm		kg/km			
71031027	BEAR	264.40	61.70	326.10	30/3.35	7/3.35	23.50	1213.4	0.1093	111.50	3000
71031028	GOAT	324.30	75.70	400.00	30/3.71	7/3.71	26.00	1488.2	0.0891	135.13	3000
71031029	SHEEP	375.10	87.50	462.60	30/3.99	7/3.99	27.90	1721.3	0.0771	156.30	3000
71031030	ANTE-LOPE	374.10	48.50	422.60	54/2.97	7/2.97	26.70	1413.8	0.0773	118.88	3000
71031031	BISON	381.70	49.50	431.20	54/3.00	7/3.00	27.00	1442.5	0.758	121.30	3000
71031032	DEER	429.60	100.20	529.80	30/4.27	7/4.27	29.90	1971.4	0.0673	179.00	3000
71031033	ZEBRA	428.90	55.60	484.50	54/3.18	7/3.18	28.60	1620.8	0.0674	131.92	3000
71031034	ELK	477.10	111.30	588.40	30/4.50	7/4.50	31.50	2189.4	0.0606	198.80	2500
71031035	CAMEL	476.00	61.70	537.70	54/3.35	7/3.35	30.20	1798.8	0.0608	146.40	3000
71031036	MOOSE	528.50	68.50	597.00	54/3.53	7/3.53	31.80	1997.3	0.0547	159.92	2500

The above data is approximate and subject to manufacturing tolerance & it can be change as a result of product development and/or changes in standard



ALUMINUM CONDUCTOR STEEL REINFORCED
ACSR

Overhead Line Conductors
Aluminium Conductors, Steel Reinforced (ACSR)-Type AL1/ST1A - Germany

Table11-1

Standard: BS EN 50182

Conductor Code	Code	Conductor									Packaging
		Area			Number of Wires/Wire diameter		Approx overall diameter	Approx overall weight	Max. DC resistance at 20°C	Rated Strength	Standard Length
		Aluminium	Steel	Total	Aluminium	Steel	mm	Total	Ohm/km	KN	m +/- 5%
		mm²	mm²	mm²	No/mm	No/mm		kg/km			
71031037	15-AL1/3-ST1A	15.30	2.54	17.84	6/1.80	1/1.80	5.40	61.6	1.8769	5.80	3000
71031038	24-AL1/4-ST1A	23.90	3.98	27.88	6/2.25	1/2.25	6.75	96.3	1.2012	8.95	3000
71031039	34-AL1/6-ST1A	34.40	5.73	40.13	6/2.70	1/2.70	8.10	138.7	0.8342	12.37	3000
71031040	44-AL1/32-ST1A	44.00	31.70	75.70	14/2.0	7/2.40	11.20	369.3	0.6574	44.24	3000
71031041	48-AL1/8-ST1A	48.30	8.04	56.34	6/3.20	1/3.20	9.60	194.8	0.5939	16.81	3000
71031042	51-AL1/30-ST1A	51.20	29.80	81.00	12/2.33	7/2.33	11.70	374.7	0.5644	42.98	3000
71031043	70-AL1/11-ST1A	69.90	11.40	81.30	26/1.85	7/1.44	11.70	282.2	0.4132	26.27	3000
71031044	94-AL1/15-ST1A	94.40	15.30	109.70	26/2.15	7/1.67	13.60	380.6	0.306	34.93	3000
71031045	97-AL1/56-ST1A	96.50	56.30	152.80	12/3.20	7/3.20	16.00	706.8	0.2992	77.85	3000
71031046	106-AL1/76-ST1A	105.70	75.50	181.20	14/3.10	19/2.25	17.50	885.3	0.2742	105.82	3000
71031047	122-AL1/20-ST1A	121.60	19.80	141.40	26/2.44	7/1.90	15.50	491.0	0.2376	44.50	3000
71031048	122-AL1/71-ST1A	122.10	71.30	193.40	12/3.60	7/3.60	18.00	894.5	0.2364	97.92	3000
71031049	128-AL1/30-ST1A	127.90	29.80	157.70	30/2.33	7/2.33	16.30	587.0	0.226	56.41	3000
71031050	149-AL1/24-ST1A	148.90	24.20	173.10	26/2.70	7/2.10	17.10	600.8	0.194	53.67	3000

ALUMINUM CONDUCTOR STEEL REINFORCED
ACSR

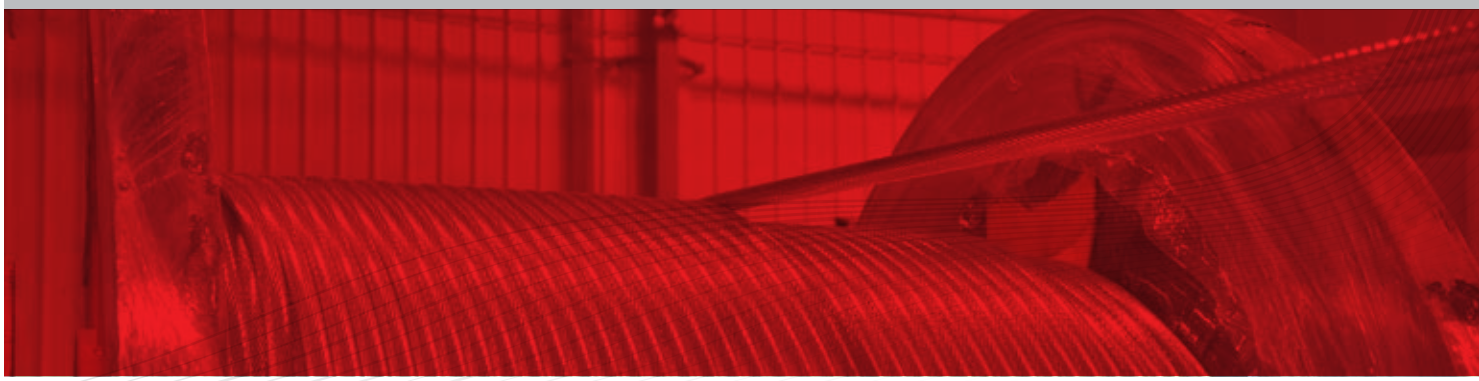
Overhead Line Conductors
Aluminium Conductors, Steel Reinforced (ACSR)-Type AL1/ST1A - Germany

Table11-2

Standard: BS EN 50182

Conductor Code	Code	Conductor									Packaging
		Area			Number of Wires/Wire diameter		Approx overall diameter	Approx overall weight	Max. DC resistance at 20°C	Rated Strength	Standard Length
		Aluminium	Steel	Total	Aluminium	Steel	mm	Total	Ohm/km	KN	m +/- 5%
		mm²	mm²	mm²	No/mm	No/mm		kg/km			
71031051	172-AL1/40-ST1A	171.80	40.10	211.90	30/2.70	7/2.70	18.90	788.2	0.1683	74.89	3000
71031052	184-AL1/30-ST1A	183.80	29.80	213.60	26/3.00	7/2.33	19.00	741.0	0.1571	65.27	3000
71031053	209-AL1/34-ST1A	209.10	34.10	243.20	26/3.20	7/2.49	20.30	844.1	0.1381	73.36	3000
71031054	212-AL1/49-ST1A	212.10	49.50	261.60	30/3.00	7/3.00	21.00	973.1	0.1363	92.46	3000
71031055	231-AL1/30-ST1A	230.90	29.80	260.70	24/3.50	7/2.33	21.00	870.9	0.125	72.13	3000
71031056	243-AL1/39-ST1A	243.10	39.50	282.60	26/3.45	7/2.68	21.80	980.1	0.1188	85.12	3000
71031057	264-AL1/34-ST1A	263.70	34.10	297.80	24/3.74	7/2.49	22.40	994.4	0.1095	81.04	3000
71031058	304-AL1/49-ST1A	304.30	49.50	353.80	26/3.86	7/3.00	24.40	1227.3	0.0949	105.09	3000
71031059	305-AL1/39-ST1A	304.60	39.50	344.10	54/2.68	7/2.68	24.10	1151.2	0.0949	96.80	3000
71031060	339-AL1/30-ST1A	339.30	29.80	369.10	48/3.00	7/2.33	25.00	1171.4	0.0852	91.71	3000
71031061	382-AL1/49-ST1A	381.70	49.50	431.20	54/3.00	7/3.00	27.00	1442.5	0.0758	121.30	3000
71031062	386-AL1/34-ST1A	386.00	34.10	420.10	48/3.20	7/2.49	26.70	1333.6	0.0749	102.56	3000
71031063	434-AL1/56-ST1A	434.30	56.30	490.60	54/3.20	7/3.20	28.80	1641.3	0.0666	133.59	3000
71031064	449-AL1/39-ST1A	448.70	39.50	488.20	48/3.45	7/2.68	28.70	1549.1	0.0644	119.05	3000
71031065	490-AL1/64-ST1A	490.30	63.60	553.90	54/3.40	7/3.40	30.60	1852.9	0.059	150.81	3000
71031066	494-AL1/34-ST1A	494.40	34.10	528.50	45/3.74	7/2.49	29.90	1632.6	0.0584	117.96	3000

The above data is approximate and subject to manufacturing tolerance & it can be change as a result of product development and/or changes in standard



ALUMINUM CONDUCTOR STEEL REINFORCED
ACSR

Overhead Line Conductors
Aluminium Conductors, Steel Reinforced (ACSR)

Table12 — Standard: BS 215, Part 2

Conductor Code	Aluminium cross sectional area (nominal)	Conductor						Packaging
		Number of wires/Wire diamter		Approx overall diameter	Approx overall weight	Calculated DC resistance at 20°C	Calculated breaking load	Standard Length
	mm²	Aluminium mm	Steel No	mm	kg/km	Ohm/km	KN	m +/- 5%
71033001	25	6/2.36	1/2.36	7.08	106.0	1.093	9.61	3000
71033002	30	6/2.59	1/2.59	7.77	128.0	0.9077	11.45	3000
71033003	40	6/3.00	1/3.00	9.00	172.0	0.6766	15.20	3000
71033004	50	6/3.35	1/3.35	10.05	214.0	0.5426	18.35	3000
71033005	70	12/2.79	7/2.79	13.95	538.0	0.3936	61.20	3000
71033006	100	6/4.72	7/1.57	14.15	394.0	0.2733	32.70	3000
71033007	150	30/2.59	7/2.59	18.13	726.0	0.1828	69.20	3000
71033008	150	18/3.35	1/3.35	16.75	506.0	0.1815	35.70	3000
71033009	175	30/2.79	7/2.79	19.53	842	0.1576	79.80	3000
71033010	175	18/3.61	1/3.61	18.05	587	0.1563	41.10	3000
71033011	200	30/3.00	7/3.00	21.00	974	0.1363	92.25	3000
71033012	200	18/3.86	1/3.86	19.30	671	0.1367	46.55	3000
71033013	400	54/3.18	7/3.8	28.62	1621	0.0674	131.90	3000

The above data is approximate and subject to manufacturing tolerance & it can be change as a result of product development and/or changes in standard

ALUMINUM CONDUCTOR STEEL REINFORCED

ACSR

Overhead Line Conductors
Aluminium Conductors, Steel Reinforced (ACSR) - A1/S1A Conductors

Table13-1

Standard: IEC 61089

Conductor Code	Code	Conductor									Packaging
		Area			Number of Wires/Wire diameter		Approx overall diameter	Approx overall weight	Max. DC resistance at 20°C	Rated Strength	Standard Length
		Aluminium	Steel	Total	Aluminium	Steel	mm	Total	Ohm/km	KN	m +/- 5%
		mm²	mm²	mm²	No/mm	No/mm		kg/km			
71032001	16	16.00	2.67	18.67	6/1.84	1/1.84	5.53	64.6	1.7934	6.08	3000
71032002	25	25.00	4.17	29.17	6/2.30	1/2.30	6.91	100.9	1.1478	9.13	3000
71032003	40	40.00	6.67	46.67	6/2.91	1/2.91	8.74	161.5	0.7174	14.40	3000
71032004	63	63.00	10.50	73.50	6/3.66	1/3.66	11.00	254.4	0.4555	21.63	3000
71032005	100	100.00	16.70	116.70	6/4.61	1/4.61	13.80	403.8	0.2869	34.33	3000
71032006	125	125.00	6.94	131.94	18/2.97	1/2.97	14.90	397.9	0.2304	29.17	3000
71032007	125	125.00	20.40	145.40	26/2.47	7/1.92	15.70	503.9	0.231	45.69	3000
71032008	160	160.00	8.89	168.89	18/3.36	1/3.36	16.80	509.3	0.18	36.18	3000
71032009	160	160.00	26.10	186.10	26/2.80	7/2.18	17.70	644.9	0.1805	57.69	3000
71032010	200	200.00	11.10	211.10	18/3.76	1/3.76	18.80	636.7	0.144	44.22	3000
71032011	200	200.00	32.60	232.60	26/3.13	7/2.43	19.80	806.2	0.1444	70.13	3000
71032012	250	250.00	24.60	274.60	22/3.80	7/2.11	21.60	880.6	0.1154	68.72	3000
71032013	250	250.00	40.70	290.70	26/3.50	7/2.72	22.20	1007.7	0.1155	87.67	3000
71032014	315	315.00	21.80	336.80	45/2.99	7/1.99	23.90	1039.6	0.0917	79.03	3000
71032015	315	315.00	51.30	366.30	26/3.93	7/3.05	24.90	1269.7	0.0917	106.83	3000
71032016	400	400.00	27.70	427.70	45/3.36	7/2.24	26.90	1320.1	0.0722	98.86	3000
71032017	400	400.00	51.90	451.90	54/3.07	7/3.07	27.60	1510.3	0.0723	123.04	3000
71032018	450	450.00	31.10	481.10	45/3.57	7/2.38	28.50	1485.2	0.0642	107.47	3000
71032019	450	450.00	58.30	508.30	54/3.26	7/3.26	29.30	1699.1	0.0643	138.42	3000
71032020	500	500.00	34.60	534.60	45/3.76	7/2.51	30.10	1650.2	0.0578	119.41	3000
71032021	500	500.00	64.80	564.80	54/3.43	7/3.43	30.90	1887.9	0.0578	153.50	3000
71032022	560	560.00	38.70	598.70	45/3.98	7/2.65	31.80	1848.2	0.0516	133.74	2500
71032023	560	560.00	70.90	630.90	54/3.63	19/2.18	32.70	2103.4	0.0516	172.59	2500
71032024	630	630.00	43.60	673.60	45/4.22	7/2.81	33.80	2079.2	0.0459	150.45	2500

ALUMINUM CONDUCTOR STEEL REINFORCED
ACSR

Overhead Line Conductors
Aluminium Conductors, Steel Reinforced (ACSR) - A1/S1A Conductors

Table13-2 Standard: IEC 61089

Conductor Code	Code	Conductor									Packaging
		Area			Number of Wires/Wire diameter		Approx overall diameter	Approx overall weight	Max. DC resistance at 20°C	Rated Strength	Standard Length
		Aluminium	Steel	Total	Aluminium	Steel	mm	Total	Ohm/km	KN	m +/- 5%
		mm²	mm²	mm²	No/mm	No/mm		kg/km			
71032025	630	630.00	79.80	709.80	54/3.85	19/2.31	34.70	2366.3	0.0459	191.77	2000
71032026	710	710.00	49.10	759.10	45/4.48	7/2.99	35.90	2343.2	0.0407	169.56	2000
71032027	710	710.00	89.90	799.90	54/4.09	19/2.45	36.80	2666.8	0.0407	216.12	2000
71032028	800	800.00	34.60	834.60	72/3.76	7/2.51	37.60	2480.2	0.0361	167.41	2000
71032029	800	800.00	66.70	866.70	84/3.48	7/3.48	38.30	2732.7	0.0362	205.33	1500
71032030	800	800.00	101.00	901.00	54/4.34	19/2.61	39.10	3004.9	0.0362	243.52	1500
71032031	900	900.00	38.90	938.90	72/3.99	7/2.66	39.90	2790.2	0.0321	188.33	1500
71032032	900	900.00	75.00	975.00	84/3.69	7/3.69	40.60	3074.2	0.0322	226.50	1500
71032033	1000	1000.00	43.20	1043.20	72/4.21	7/2.80	42.10	3100.3	0.0289	209.26	1500
71032034	1120	1120.00	47.30	1167.30	72/4.45	19/1.78	44.50	3464.9	0.0258	234.53	1000
71032035	1120	1120.00	91.20	1211.20	84/4.12	19/2.47	45.30	3811.5	0.0258	283.17	1000
71032036	1250	1250.00	102.00	1352.00	84/4.35	19/2.61	47.90	4253.9	0.0232	316.04	1000
71032037	1250	1250.00	52.80	1302.80	72/4.70	19/1.88	47.00	3867.1	0.0231	261.75	1000

The above data is approximate and subject to manufacturing tolerance & it can be change as a result of product development and/or changes in standard

ALUMINUM CONDUCTOR STEEL REINFORCED
ACSR

Overhead Line Conductors
Aluminium Conductors, Steel Reinforced (ACSR)

Table14-1 Standard: ASTM B232

Conductor Code	Code	Conductor							Packaging
		Area	Number of Wires/Wire diameter		Approx overall diameter	Approx overall weight	Max. DC resistance at 20°C	Nominal breaking load	Standard Length
		AWG or MCM	Aluminium	Steel	mm	Total	Ohm/km	KN	m +/- 5%
			mm	mm		kg/km			
71034001	TURKEY	6	6/1.68	1/1.68	5.04	54.0	2.1586	5.24	3000
71034002	SWAN	4	6/2.12	1/2.12	6.36	85.0	1.3557	8.32	3000
71034003	SWANATE	4	7/1.96	1/2.61	6.53	100.0	1.3557	10.53	3000
71034004	SPARROW	2	6/2.67	1/2.67	8.01	136.0	0.8535	12.70	3000
71034005	SPARATE	2	7/2.47	1/3.30	8.24	159.0	0.8535	16.11	3000
71034006	ROBIN	1	6/3.0	1/3.0	9.00	171.0	0.6767	15.85	3000
71034007	RAVEN	1 / 0	6/3.37	1/3.37	10.11	216.0	0.5364	19.32	3000
71034008	QUAIL	2 / 0	6/3.78	1/3.78	11.34	273.0	0.4255	23.62	3000
71034009	PIGEON	3 / 0	6/4.25	1/4.25	12.75	343.0	0.3373	29.41	3000
71034010	PENGUIN	4 / 0	6/4.77	1/4.77	14.31	433.0	0.2675	37.06	3000
71034011	WAXWING	266.8	18/3.09	1/3.09	15.45	431.0	0.2133	30.27	3000
71034012	PARTRIDGE	266.8	26/2.57	7/2.0	16.28	546.0	0.2143	50.29	3000
71034013	OSTRICH	300	26/2.73	7/2.12	17.28	614.0	0.1906	56.52	3000
71034014	MERLIN	336.4	18/3.47	1/3.47	17.35	544.0	0.1691	38.23	3000
71034015	LINNET	336.4	26/2.89	1/2.25	18.31	689.0	0.1699	62.71	3000
71034016	ORIOLE	336.4	30/2.69	7/2.69	18.83	784.0	0.1704	77.27	3000
71034017	CHICKADEE	397.5	18/3.77	1/3.77	18.85	642.0	0.1431	43.99	3000
71034018	BRANT	397.5	24/3.27	7/2.18	19.61	762.0	0.1438	64.69	3000
71034019	IBIS	397.5	26/3.14	7/2.44	19.88	814.0	0.1438	72.11	3000
71034020	LARK	397.5	30/2.92	7/2.92	20.44	927.0	0.1442	88.69	3000
71034021	PELICAN	477	18/4.14	1/4.14	20.70	771.0	0.1193	52.16	3000
71034022	FLICKER	477	24/3.58	7/2.39	21.49	915.0	0.1199	76.66	3000
71034023	HAWK	477	26/3.44	7/2.67	21.79	978.0	0.1199	86.65	3000
71034024	HEN	477	30/3.20	7/3.20	22.40	1112.0	0.1201	105.34	3000
71034025	OSPREY	556.5	18/4.47	1/4.47	22.35	899.0	0.1022	60.88	3000
71034026	PARAKEET	556.5	24/3.87	7/2.58	23.22	1067.0	0.1027	88.22	3000
71034027	DOVE	556.5	26/3.72	7/2.89	23.55	1140.0	0.1027	101.03	3000
71034028	EAGLE	556.5	30/3.46	7/3.46	24.21	1298.0	0.103	122.92	3000
71034029	PEACOCK	605	24/4.03	7/2.69	24.20	1160.0	0.0945	95.88	3000

ALUMINUM CONDUCTOR STEEL REINFORCED
ACSR

Overhead Line Conductors
Aluminium Conductors, Steel Reinforced (ACSR)

Table14-2 Standard: ASTM B232

Conductor Code	Code	Conductor							Packaging
		Area	Number of Wires/Wire diameter		Approx overall diameter	Approx overall weight	Max. DC resistance at 20°C	Nominal breaking load	Standard Length
		AWG or MCM	Aluminium	Steel	mm	Total	Ohm/km	KN	m +/- 5%
			mm	mm		kg/km			
71034030	SQUAB	605	26/3.87	7/3.01	24.51	1240.0	0.0945	108.14	3000
71034031	WOOD DUCK	605	30/3.61	7/3.61	25.25	1411.0	0.0947	128.84	3000
71034032	TEAL	605	30/3.61	19/2.16	25.24	1399.0	0.0947	133.59	3000
71034033	KINGBIRD	636	18/4.78	1/4.78	23.88	1028.0	0.08945	69.55	3000
71034034	ROOK	636	24/4.14	7/2.76	24.84	1219.0	0.08989	100.83	3000
71034035	GROSBEAK	636	26/3.97	7/3.09	25.15	1302.0	0.08989	111.80	3000
71034036	SCOTER	636	30/3.70	7/3.70	25.88	1484.0	0.09011	135.44	3000
71034037	EGRET	636	30/3.70	19/2.22	25.90	1470.0	0.09011	140.30	3000
71034038	SWIFT	636	36/3.38	1/3.38	23.62	958.0	0.08945	60.52	3000
71034039	FLAMINGO	666.6	24/4.23	7/2.82	25.40	1278.0	0.08577	105.66	3000
71034040	GANNET	666.6	26/4.07	7/3.16	25.76	1365.0	0.08577	117.33	3000
71034041	STILT	715.5	24/4.39	7/2.92	26.31	1372.0	0.07989	113.35	3000
71034042	STARLING	715.5	26/4.21	7/3.28	26.68	1466.0	0.07989	125.91	3000
71034043	REDWING	715.5	30/3.92	19/2.35	27.43	1653.0	0.08009	153.94	3000
71034044	TERN	795	45/3.38	7/2.25	27.03	1333.0	0.07191	97.37	3000
71034045	CONDOR	795	54/3.08	7/3.08	27.72	1524.0	0.07191	124.45	3000
71034046	CUCKOO	795	24/4.62	7/3.08	27.74	1524.0	0.07191	123.94	3000
71034047	DRAKE	795	26/4.44	7/3.45	28.11	1628.0	0.07191	139.92	3000
71034048	COOT	795	36/3.77	1/3.77	26.41	1198.0	0.07156	74.34	3000
71034049	MALLARD	795	30/4.14	19/2.48	28.96	1838.0	0.07208	171.18	3000
71034050	RUDDY	900	45/3.59	7/2.40	28.73	1510.0	0.06351	108.96	3000
71034051	CANARY	900	54/3.28	7/3.28	29.52	1724.0	0.06351	140.95	3000
71034052	RAIL	954	45/3.70	7/2.47	29.61	1601.0	0.05992	115.63	3000
71034053	CATBIRD	954	36/4.14	1/4.14	28.95	1438.0	0.05962	87.66	3000
71034054	CARDINAL	954	54/3.38	7/3.38	30.42	1829.0	0.05992	149.36	3000
71034055	ORTLAN	1033.5	45/3.85	7/2.57	30.81	1734.0	0.05531	123.10	3000
71034056	TANGER	1033.5	36/4.30	1/4.30	30.12	1556.0	0.05504	94.93	3000
71034057	CURLEW	1033.5	54/3.52	7/3.52	31.68	1981.0	0.05531	161.80	2500
71034058	BLUEJAY	1113	45/4.0	7/2.66	31.98	1948.0	0.05136	132.63	2500

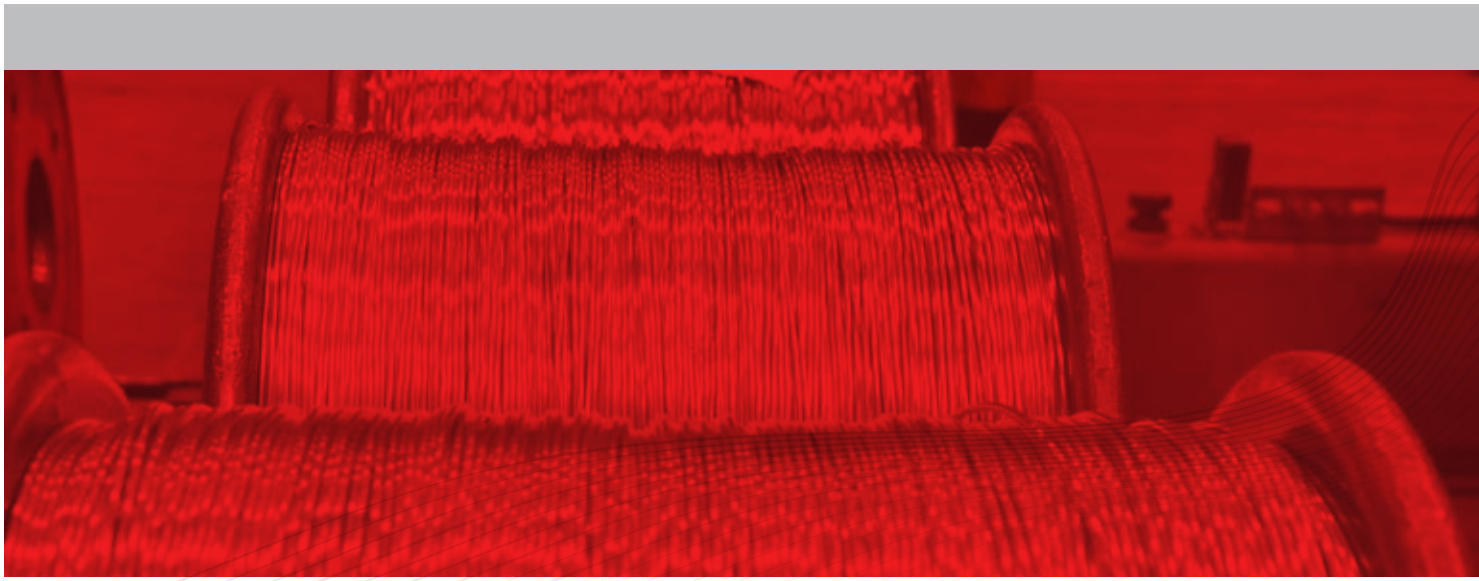
ALUMINUM CONDUCTOR STEEL REINFORCED
ACSR

Overhead Line Conductors
Aluminium Conductors, Steel Reinforced (ACSR)

Table14-3 Standard: ASTM B232

Conductor Code	Code	Conductor							Packaging
		Area	Number of Wires/Wire diameter		Approx overall diameter	Approx overall weight	Max. DC resistance at 20°C	Nominal breaking load	Standard Length
		AWG or MCM	Aluminium	Steel	mm	Total	Ohm/km	KN	m +/- 5%
			mm	mm		kg/km			
71034061	GRACKLE	1192.5	54/3.77	19/2.27	33.97	2282.0	0.04817	186.38	2500
71034062	BITTREN	1272	45/4.27	7/2.85	34.17	2134.0	0.04494	151.48	2000
71034063	PHEASANT	1272	54/3.90	19/2.34	35.10	2628.0	0.04516	194.00	2000
71034064	SKYLARK	1272	36/4.78	1/4.78	33.42	1917.0	0.04472	115.85	2500
71034065	DIPPER	1351.5	45/4.40	7/2.92	35.16	2266.0	0.0423	160.70	2000
71034066	MARTIN	1351.5	54/4.02	19/2.41	36.17	2585.0	0.0425	206.05	2000
71034067	BOBOLINK	1431	45/4.53	7/3.02	36.24	2402.0	0.03994	170.71	2000
71034068	PLOVER	1431	54/4.14	19/2.48	37.24	2738.0	0.04013	218.24	2000
71034069	NUTHATCH	1510.5	45/4.65	7/3.10	37.20	2534.0	0.03784	177.89	2000
71034070	PARROT	1510.5	54/4.25	19/2.55	38.25	2890.0	0.03802	230.20	1500
71034071	LAPWING	1590	45/4.77	7/3.18	38.16	2667.0	0.03595	187.02	1500
71034072	FALCON	1590	54/4.36	19/2.62	39.26	3042.0	0.03613	242.55	1500

The above data is approximate and subject to manufacturing tolerance & it can be change as a result of product development and/or changes in standard



ALUMINUM CONDUCTOR, ALUMINUM CLAD STEEL REINFORCED

ACSR/AW

Aluminum stranded conductors aluminum-clad steel reinforced which could withstand high tensile load to be used mainly for overhead transmission lines, overhead distribution lines.

Standards:

ASTM B549

Construction:

- The center wire or wires are of aluminum-clad steel.
- The outer layer or layers of aluminum.

Applications

Depending on the stranding configuration and conductor size, ACSR/AW weighs three- to six-percent less than its ACSR counterpart. This feature is converted into savings in line design and construction costs.

In most cases, the strength-to-weight ratio of ACSR/AW conductors will surpass galvanized or aluminized cores. In fact, standard ACSR conductors having “B” and “C” galvanized or aluminized cores have strength-to-weight ratios which are considerably lower than those of ACSR/AW.

In addition to the above mechanical consideration, the excellent, time-tested fatigue resistance of ACSR/AW has been demonstrated in installations in both marine and industrial environments.

ALUMINUM CONDUCTOR, ALUMINUM CLAD STEEL REINFORCED

ACSR/AW

Overhead Line Conductors
Aluminium Conductors,Aluminium Clad Steel Reinforced (ACSR/AW)

Table15-1

Standard: ASTM B549

Conductor Code	Code	Area	Stranding and Wire Diameter		Approx overall diameter	Weight		Total Weight	Nominal breaking load	Max. DC resistance at 20°C	Packaging Standard Drum
		AWG. Or MCM	Aluminium mm	Alumoweld mm	mm	Aluminium kg/km	Alumoweld kg/km	kg/km	KN	Ohm/km	m +/- 5%
71044001	SWANATE	4	7/1.96	1/2.61	6.53	58	35	93.00	10.16	1.249	3000
71044002	SPARROW	2	6/2.67	1/2.67	8.01	92	37	129.00	12.31	0.8079	3000
71044003	SPARATE	2	7/2.47	1/3.3	8.24	92	56	148.00	15.6	0.7861	3000
71044004	ROBIN	1	6/3.0	1/3.0	9.00	116	47	163.00	15.34	0.6404	3000
71044005	RAVEN	1/0	6/3.37	1/3.37	10.11	147	59	206.00	18.78	0.5078	3000
71044006	QUAIL	2/0	6/3.78	1/3.78	11.34	185	74	259.00	22.85	0.4028	3000
71044007	PIGEON	3/0	6/4.25	1/4.25	12.75	233	94	327.00	28.03	0.3193	3000
71044008	PENGUIN	4/0	6/4.77	1/4.77	14.31	294	118	412.00	34.15	0.2532	3000
71044009	WAXWING	266.8	18/3.09	1/3.09	15.45	373	49	422.00	30.03	0.2094	3000
71044010	MERLIN	336.4	18/3.47	1/3.47	17.35	470	62	532.00	37.66	0.166	3000
71044011	LINNET	336.4	26/2.89	7/2.25	18.31	472	184	656.00	59.95	0.161	3000
71044012	ORIOLE	336.4	30/2.69	7/2.69	18.83	473	264	737.00	74.65	0.1578	3000
71044013	CHICKADEE	397.5	18/3.77	1/3.77	18.85	555	74	629.00	43.62	0.1405	3000
71044014	IBIS	397.5	26/3.14	7/2.44	19.88	558	217	775.00	69.8	0.1363	3000
71044015	LARK	397.5	30/2.92	7/2.92	20.44	560	311	871.00	87.19	0.1335	3000
71044016	PELICAN	477	18/4.14	1/4.14	20.70	666	88	754.00	50.86	0.1171	3000
71044017	FLICKER	477	24/3.58	7/2.39	21.49	670	207	877.00	74.35	0.1148	3000
71044018	HAWK	477	26/3.44	7/2.67	21.80	670	261	931.00	83.87	0.1136	3000
71044019	HEN	477	30/3.20	7/3.20	22.40	671	373	1044.00	103.53	0.1113	3000
71044020	OSPREY	556.5	18/4.47	1/4.47	22.35	777	103	880.00	58.73	0.1003	3000
71044021	PARAKEET	556.5	24/3.87	7/2.58	23.22	781	242	1023.00	85.64	0.0984	3000
71044022	DOVE	556.5	26/3.72	7/2.89	23.55	781	304	1085.00	97.6	0.0973	3000
71044023	EAGLE	556.5	30/3.46	7/3.46	24.21	783	436	1219.00	118.96	0.0954	3000
71044024	PEACOCK	605	24/4.03	7/2.69	24.20	840	263	1103.00	93.08	0.0905	3000
71044025	SQUAB	605	26/3.87	7/3.01	24.51	850	330	1180.00	104.89	0.0895	3000

ALUMINUM CONDUCTOR, ALUMINUM CLAD STEEL REINFORCED

ACSR/AW

Overhead Line Conductors
Aluminium Conductors,Aluminium Clad Steel Reinforced (ACSR/AW)

Table15-2

Standard: ASTM B549

Conductor Code	Code	Area	Stranding and Wire Diameter		Approx overall diameter	Weight		Total Weight	Nominal breaking load	Max. DC resistance at 20°C	Packaging Standard Drum
		AWG. Or MCM	Aluminium mm	Alumoweld mm	mm	Aluminium kg/km	Alumoweld kg/km	kg/km	KN	Ohm/km	m +/- 5%
71044026	WOOD DUCK	605	30/3.61	7/3.61	25.25	851	474	1325.00	126.53	0.0877	3000
71044027	KINGBIRD	636	18/4.78	1/4.78	23.88	889	118	1007.00	66.64	0.0878	3000
71044028	ROOK	636	24/4.14	7/2.76	24.84	893	277	1170.00	97.88	0.0861	3000
71044029	GROSBEAK	636	26/3.97	7/3.09	25.15	893	347	1240.00	110.21	0.0852	3000
71044030	SCOTER	636	30/3.70	7/3.70	25.88	895	498	1393.00	130.29	0.0834	3000
71044031	SWIFT	636	36/3.38	1/3.38	23.62	888	59	947.00	60.36	0.0886	3000
71044032	FLAMINGO	666.6	24/4.23	7/2.82	25.40	936	290	1226.00	102.57	0.0821	3000
71044033	GANNET	666.6	26/4.07	7/3.16	28.30	936	364	1300.00	115.57	0.0813	3000
71044034	STILT	715.5	24/4.39	7/2.92	26.31	1005	311	1316.00	110.04	0.0765	3000
71044035	STARLING	715.5	26/4.21	7/3.28	26.68	1005	391	1396.00	122.35	0.0757	3000
71044036	REDWING	715.5	30/3.92	19/2.35	27.43	1006	547	1553.00	148.31	0.0743	3000
71044037	TERN	795	45/3.38	7/2.25	27.03	1116	184	1300.00	95.44	0.0702	3000
71044038	CONDOR	795	54/3.08	7/3.08	27.72	1116	345	1461.00	122.77	0.0689	3000
71044039	CUCKOO	795	24/4.62	7/3.08	27.74	1116	345	1461.00	122.77	0.0689	3000
71044040	DRAKE	795	26/4.44	7/3.45	28.11	1116	434	1550.00	135.96	0.0681	3000

The above data is approximate and subject to manufacturing tolerance & it can be change as a result of product development and/or changes in standard

ALUMINUM CONDUCTOR, ALUMINUM CLAD STEEL REINFORCED

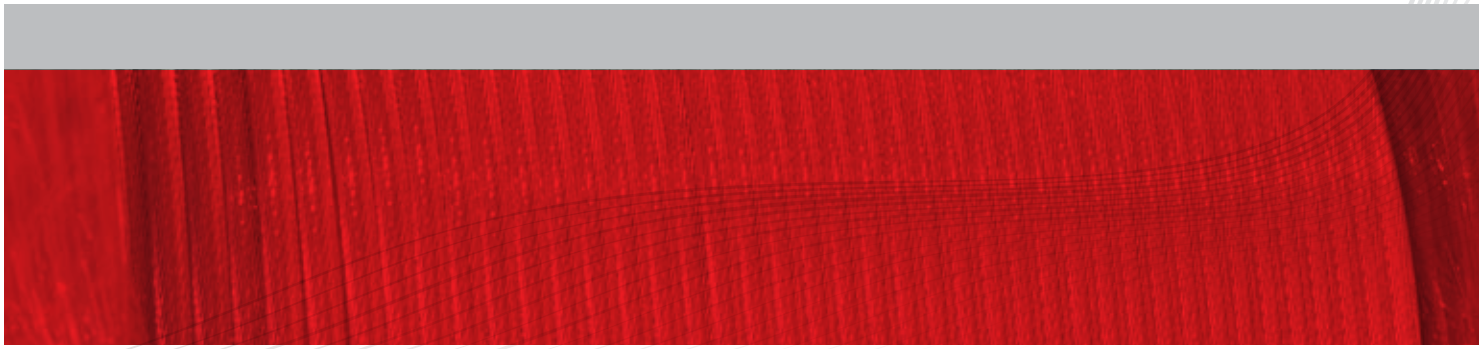
ACSR/AW

Overhead Line Conductors
Aluminium Conductors,Aluminium Clad Steel Reinforced (ACSR/AW)

Table16-1

Standard: ASTM B549

Conductor Code	Code	Area	Stranding and Wire Diameter		Approx overall diameter	Total Weight	Nominal breaking load	Max. DC resistance at 20°C	Packaging
		AWG. Or MCM	Aluminium mm	Alumoweld mm	mm	kg/km	KN	Ohm/km	Standard Drum m +/- 5%
71044041	COOT	795	36/3.77	1/3.77	26.41	1184.00	74.09	0.0709	3000
71044042	MALLARD	795	30/4.14	19/2.48	28.96	1728.00	164.91	0.0669	3000
71044043	RUDDY	900	45/3.59	7/2.4	28.73	1472.00	107.09	0.062	3000
71044044	CANARY	900	54/3.28	7/3.28	29.52	1654.00	137.34	0.0608	3000
71044045	RAIL	954	45/3.7	7/2.47	29.61	1560.00	113.26	0.0585	3000
71044046	CATBIRD	954	36/4.14	1/4.14	28.95	1421.00	86.36	0.0591	3000
71044047	CARDINAL	954	54/3.38	7/3.38	30.42	1753.00	145.59	0.0574	3000
71044048	ORTLAN	1033.5	45/3.85	7/2.57	30.81	1690.00	120.55	0.054	3000
71044049	TANAGER	1033.5	36/4.30	1/4.3	30.12	1539.00	93.52	0.0545	3000
71044050	CURLEW	1033.5	54/3.52	7/3.52	31.68	1900.00	155.16	0.053	2500
71044051	BLUEJAY	1113	45/4.0	7/2.66	31.98	1821.00	129.88	0.0502	2500
71044052	BUNTING	1192.5	45/4.14	7/2.76	33.12	1949.00	138.86	0.0468	2500
71044053	GRACKLE	1192.5	54/3.77	19/2.27	33.97	2190.00	179	0.0462	2500
71044054	BITTERN	1272	45/4.27	7/2.85	34.17	2080.00	148.34	0.0439	2000
71044055	PHEASANT	1272	54/3.9	19/2.34	35.10	2336.00	188.43	0.0433	2000
71044056	----	1272	36/4.78	1/4.78	33.42	1895.00	113.94	0.0443	2500
71044057	DIPPER	1351.5	45/4.40	7/2.92	35.16	2220.00	157.39	0.0413	2000
71044058	MARTIN	1351.5	54/4.02	19/2.41	36.17	2481.00	200.13	0.0407	2000
71044059	BOBOLINK	1431	45/4.53	7/3.02	36.24	2352.00	167.16	0.0309	2000
71044060	PLOVER	1431	54/4.14	19/2.48	37.24	2628.00	211.97	0.0385	2000



ALUMINUM CONDUCTOR, ALUMINUM CLAD STEEL REINFORCED

ACSR/AW

Overhead Line Conductors
Aluminium Conductors,Aluminium Clad Steel Reinforced (ACSR/AW)

Table16-2

Standard: ASTM B549

Conductor Code	Code	Area	Stranding and Wire Diameter		Approx overall diameter	Total Weight	Nominal breaking load	Max. DC resistance at 20°C	Packaging
		AWG. Or MCM	Aluminium mm	Alumoweld mm	mm	kg/km	KN	Ohm/km	Standard Drum m +/- 5%
71044061	NUTHATCH	1510.5	45/4.65	7/3.1	37.20	2470.00	176.19	0.037	2000
71044062	PARROT	1510.5	54/4.25	19/2.55	38.25	2773.00	223.59	0.0364	1500
71044063	LAPWING	1590	45/4.77	7/3.18	38.16	2599.00	185.24	0.0351	1500
71044064	FALCON	1590	54/4.36	19/2.62	39.26	2920.00	235.58	0.0345	1500
71044065	GROUSE	80	8/2.54	1/4.242	9.32	204.00	21.7	0.6358	3000
71044066	PETREL	101.8	12/2.339	7/2.339	11.70	342.00	44	0.4687	3000
71044067	MINORCA	110.8	12/2.441	7/2.441	12.20	373.00	47.92	0.4306	3000
71044068	LEGHORN	134.6	12/2.69	7/2.69	13.45	453.00	57.8	0.3535	3000
71044069	GUINEA	159	12/2.924	7/2.924	14.62	535.00	67.98	0.3	3000
71044070	DOTTEREL	176.9	12/3.084	7/3.084	15.42	595.00	75.2	0.2697	3000
71044071	DORKING	190.8	12/3.203	7/3.203	16.01	642.00	81.11	0.25	3000
71044072	BRAHMA	203.2	16/2.863	19/2.482	18.13	900.00	120.46	0.216	3000
71044073	COCHIN	211.3	12/3.371	7/3.371	16.85	711.00	88.06	0.2257	3000

The above data is approximate and subject to manufacturing tolerance & it can be change as a result of product development and/or changes in standard

ALUMINUM CONDUCTOR ALUMINUM ALLOY REINFORCED

ACAR

Aluminum conductor aluminum alloy reinforced (ACAR) is formed by concentrically stranded wires of aluminum 1350 on high strength Aluminum-Magnesium-Silicon (AlMgSi) alloy core. The number of wires of aluminum 1350 & AlMgSi alloy depends on the cable design. Though the general design comprises a stranded core of AlMgSi alloy strand, in certain cable constructions , the wires of AlMgSi alloy strands can be distributed in layers throughout the Aluminum 1350 strands.
ACAR has got a better mechanical and electrical property as compared to an equivalent ACSR, AAC or AAAC. A very good balance between the mechanical and electrical properties therefore makes ACAR the best choice where the ampacity, strength and light weight are the main consideration of the line design. These conductors are extensively used in overhead transmission and distribution lines.

Standards:

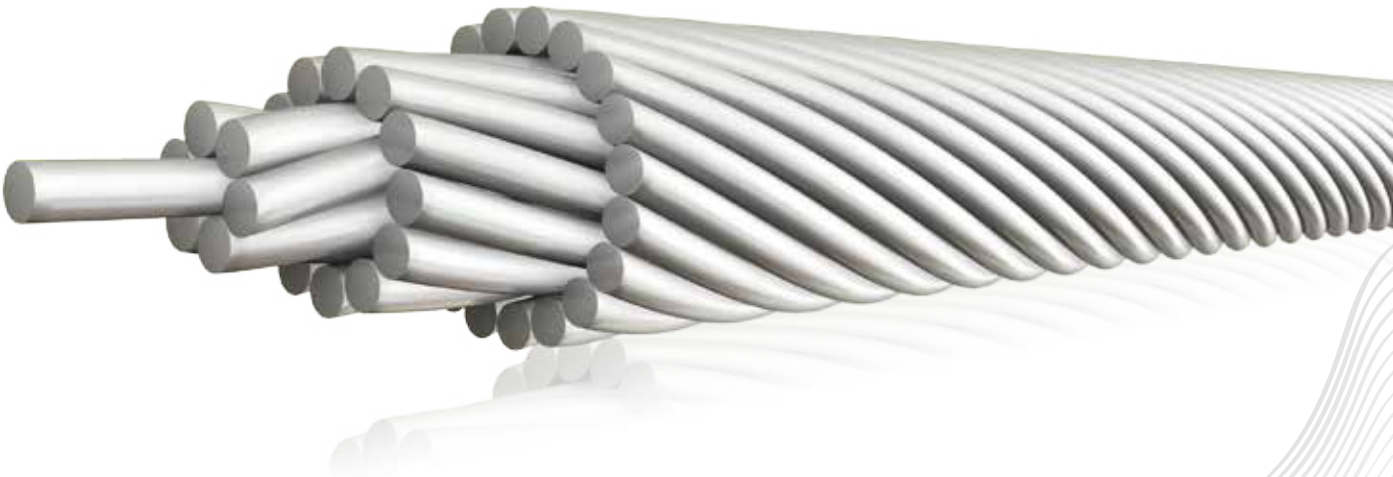
B-230 Aluminum Wire, 1350-H19 for Electrical Purposes
B-398 Aluminum Alloy 6201-T81 for Electrical Purposes
B-524 Concentric-Lay-Stranded Aluminum Conductors, Aluminum Alloy Reinforced
IEC 61089

Construction:

- Aluminum alloy 1350-H19 wires, concentrically stranded about an aluminum alloy 6201 core. Although the alloy strands generally comprise the core of the cable, in some constructions they are distributed in layers throughout the aluminum alloy 1350-H19.

Applications

Used as bare overhead transmission cable and as primary and secondary distribution cable. A good strength-to-weight ratio makes ACAR applicable where both ampacity and strength are prime considerations in line design. For equal weight ACAR offers higher strength and ampacity than ACSR.



ALUMINUM CONDUCTOR, ALUMINUM ALLOY REINFORCED

ACAR

Overhead Line Conductors
All Conductors, Aluminium Alloy Reinforced (ACAR) - A1 / A3 Conductors

Table17-1

Standard: IEC 61089

Conductor Code	Code	Area of Conductor			Conductor		Approx overall diameter	Approx overall weight	DC resistance at 20°C Ohm/km	Rated Strength	Packaging Standard Drum
		Aluminium	Alloy	Total	Aluminium	Alloy	mm	Kg/Km	Ω/Km	KN	m +/- 5%
		mm²	mm²	mm²	No. / Ø (mm)						
71052001	16	9.78	7.33	17.11	4/1.76	3/1.76	5.28	46.60	1.78960	3.85	3000
71052002	25	15.3	11.5	26.8	4/2.21	3/2.21	6.60	72.80	1.14530	5.93	3000
71052003	40	24.4	18.3	42.7	4/2.79	3/2.79	8.35	116.50	0.71580	9.25	3000
71052004	63	38.5	28.9	67.4	4/3.50	3/3.50	10.50	183.50	0.45450	14.38	3000
71052005	100	61.1	45.8	106.9	4/4.41	3/4.41	13.20	291.20	0.28630	22.52	3000
71052006	125	83.7	48.8	132.5	12/2.98	7/2.98	14.90	362.70	0.23020	27.79	3000
71052007	160	107	62.5	169.5	12/3.37	7/3.37	16.80	464.20	0.17980	35.04	3000
71052008	200	134	78.1	212.1	12/3.77	7/3.77	18.80	580.30	0.14390	43.13	3000
71052009	250	167	97.6	264.6	12/4.21	7/4.21	21.00	725.30	0.11510	53.92	3000
71052010	250	132	139	271	18/3.05	19/3.05	21.30	742.20	0.11540	60.39	3000
71052011	315	263	61.4	324.4	30/3.34	7/3.34	23.40	892.60	0.09160	60.52	3000
71052012	315	166	175	341	18/3.43	19/3.43	23.90	935.10	0.09160	76.09	3000
71052013	400	334	78	412	30/3.77	7/3.77	26.30	1133.50	0.07210	75.19	3000
71052014	400	211	222	433	18/3.86	19/3.86	27.00	1187.50	0.07210	95.58	3000
71052015	450	376	87.7	463.7	30/3.99	7/3.99	27.90	1275.20	0.06410	84.59	3000
71052016	450	237	250	487	18/4.10	19/4.10	28.60	1335.90	0.06410	107.52	3000
71052017	500	418	97.5	515.5	30/4.21	7/4.21	29.40	1416.90	0.05770	93.98	3000
71052018	500	263	278	541	18/4.32	19/4.32	30.10	1484.30	0.05770	119.47	3000
71052019	560	468	109	577	30/4.46	7/4.46	31.20	1586.90	0.0515	105.26	2500
71052020	560	505	65.5	570.5	54/3.45	7/3.45	31.00	1571.90	0.05160	101.54	3000
71052021	630	456	206	662	42/3.72	19/3.72	33.40	1820.00	0.04580	130.25	2500
71052022	630	272	420	692	24/3.80	37/3.80	34.10	1897.50	0.04580	160.19	2000
71052023	710	514	232	746	42/3.95	19/3.95	35.50	2051.20	0.04070	146.78	2000

ALUMINUM CONDUCTOR, ALUMINUM ALLOY REINFORCED

ACAR

Overhead Line Conductors
All Conductors, Aluminium Alloy Reinforced (ACAR) - A1 / A3 Conductors

Table17-2

Standard: IEC 61089

Conductor Code	Code	Area of Conductor			Conductor		Approx overall diameter	Approx overall weight	DC resistance at 20°C Ohm/km	Rated Strength	Packaging Standard Drum
		Aluminium	Alloy	Total	Aluminium	Alloy	mm	Kg/Km	Ω/Km	KN	m +/- 5%
		mm²	mm²	mm²	No. / Ø (mm)						
71052024	710	307	473	780	24/4.03	37/4.03	36.20	2138.40	0.04070	180.53	2000
71052025	800	579	262	841	42/4.19	19/4.19	37.60	2311.20	0.03610	165.39	2000
71052026	800	346	533	879	24/4.28	37/4.28	38.40	2409.50	0.03610	203.41	1500
71052027	900	651	294	945	42/4.44	19/4.44	39.90	2600.10	0.03210	186.06	1500
71052028	900	569	390	959	54/3.66	37/3.66	40.20	2638.40	0.03210	199.54	1500
71052029	1000	818	216	1034	72/3.8	19/3.80	41.80	2849.10	0.03	190.94	1500
71052030	1000	632	433	1065	54/3.86	37/3.86	42.40	2931.60	0.02890	221.71	1500
71052031	1120	916	242	1158	72/4.02	19/4.02	44.20	3191.00	0.02580	213.85	1000
71052032	1120	708	485	1193	54/4.09	37/4.09	44.90	3283.40	0.02580	248.32	1000
71052033	1250	1022	270	1292	72/4.25	19/4.25	46.70	3561.40	0.02310	238.68	1000
71052034	1250	791	542	1333	54/4.32	37/4.32	47.40	3664.50	0.02310	277.14	1000
71052035	1400	1145	302	1447	72/4.5	19/4.50	49.40	3988.80	0.02070	267.32	1000

The above data is approximate and subject to manufacturing tolerance & it can be change as a result of product development and/or changes in standard

ALUMINUM CONDUCTOR, ALUMINUM ALLOY REINFORCED

ACAR

Overhead Line Conductors
All Conductors, Aluminium Alloy Reinforced (ACAR)
Table18-1

Standard: ASTM B524

Conductor Code	Nominal Cross Sectional Area	Conductor		Approx overall diameter	Approx overall weight	DC resistance at 20°C	Rated Strength	Packaging Standard Length
	mm²	Aluminium	Steel	mm	kg/km	Ohm/km	KN	m +/- 5%
		No. / Ø (mm)						
71054001	16	4/1.71	3/1.71	5.13	44.2	1.90726	3.59	3000
71054002	20	4/1.91	3/1.91	5.73	55.2	1.52875	4.48	3000
71054003	25	4/2.13	3/2.13	6.39	68.6	1.22926	5.57	3000
71054004	31.5	4/2.39	3/2.39	7.17	86.4	0.97635	7.01	3000
71054005	40	4/2.7	3 / 2.7	8.1	110.3	0.76502	8.95	3000
71054006	50	4 / 3.02	3 / 3.02	9.06	138.1	0.61149	11.2	3000
71054007	63	4 / 3.39	3 / 3.39	10.17		0.48529	13.7	3000
71054008	80	4 / 3.81	3 / 3.81	11.43	219.7	0.3842	17.2	3000
71054009	100	4 / 4.26	3 / 4.26	12.78	274.6	0.30731	21.31	3000
71054010	112	4 / 4.51	3 / 4.51	13.53	307.8	0.27419	23.9	3000
71054011	125	4 / 4.77	3 / 4.77	14.31	344.3	0.24511	26.7	3000
71054012	140	15 / 3.06	4 / 3.06	15.3	385	0.21257	26.5	3000
71054013	140	12 / 3.06	7 / 3.06	15.3	384	0.2175	31.1	3000
71054014	160	15 / 3.27	4 / 3.27	16.35	440	0.18614	29.8	3000
71054015	160	12 / 3.27	7 / 3.27	16.35	439	0.19046	33.5	3000
71054016	180	15 / 3.47	4 / 3.47	17.35	495	0.1653	33.6	3000
71054017	180	12 / 3.47	7 / 3.47	17.35	495	0.16914	37.8	3000
71054018	200	15 / 3.66	4 / 3.66	18.3	550	0.14858	36.9	3000
71054019	200	12 / 3.66	7 / 3.66	18.3	550	0.15203	41.6	3000
71054020	224	15 / 3.87	4 / 3.87	19.35	616	0.1329	40.6	3000
71054021	224	12 / 3.87	7 / 3.87	19.35	615	0.13598	46	3000
71054022	250	15 / 4.09	4 / 4.09	20.45	688.0	0.11898	45.3	3000
71054023	250	12 / 4.09	7 / 4.09	20.45	687	0.12174	51.4	3000
71054024	250	18 / 2.93	19 / 2.93	20.51	687	0.12447	57.4	3000
71054025	250	24 / 2.93	13 / 2.93	20.51	686	0.12151	51.4	3000
71054026	250	30 / 2.93	7 / 2.93	20.51	688	0.11869	46.6	3000
71054027	250	33 / 2.93	4 / 2.93	20.51	688	0.11733	42.9	3000
71054028	280	15 / 4.33	4 / 4.33	21.65	771	0.10616	50.8	3000
71054029	280	12 / 4.33	7 / 4.33	21.65	771	0.10862	57.6	3000
71054030	280	18 / 3.10	19 / 3.10	21.7	768	0.11119	64.2	3000
71054031	280	24 / 3.10	13 / 3.10	21.7	769	0.10855	57.6	3000
71054032	280	30 / 3.10	7 / 3.10	21.7	770	0.10603	52.1	3000
71054033	280	33 / 3.10	4 / 3.10	21.7	770	0.10482	48.1	3000

ALUMINUM CONDUCTOR, ALUMINUM ALLOY REINFORCED

ACAR

Overhead Line Conductors
All Conductors, Aluminium Alloy Reinforced (ACAR)
Table18-2

Standard: ASTM B524

Conductor Code	Nominal Cross Sectional Area	Conductor		Approx overall diameter	Approx overall weight	DC resistance at 20°C	Rated Strength	Packaging Standard Length
	mm²	Aluminium	Steel	mm	kg/km	Ohm/km	KN	m +/- 5%
		No. / Ø (mm)						
71054034	315	18 / 3.29	19 / 3.29	23.03	865	0.09872	70.2	3000
71054035	315	24 / 3.29	13 / 3.29	23.03	866	0.09638	63.4	3000
71054036	315	30 / 3.29	7 / 3.29	23.03	867	0.09414	57.9	3000
71054037	315	33 / 3.29	4 / 3.29	23.03	867	0.09306	53.7	3000
71054038	355	18 / 3.5	19 / 3.5	24.5	979	0.08723	79.5	3000
71054039	355	24 / 3.5	13 / 3.5	24.5	980	0.08516	71.7	3000
71054040	355	30 / 3.5	7 / 3.5	24.5	981	0.08318	65.5	3000
71054041	355	33 / 3.5	4 / 3.5	24.5	982	0.08223	60.8	3000
71054042	400	18 / 3.71	19 / 3.71	25.97	1100	0.07763	88.7	3000
71054043	400	24 / 3.71	13 / 3.71	25.97	1102	0.07579	79.9	3000
71054044	400	30 / 3.71	7 / 3.71	25.97	1103	0.07403	72.7	3000
71054045	400	33 / 3.71	4 / 3.71	25.97	1103	0.07318	67.3	3000
71054046	450	18 / 3.94	19 / 3.94	27.58	1242	0.06883	99.2	3000
71054047	450	24 / 3.94	13 / 3.94	27.58	1242	0.0672	89	3000
71054048	450	30 / 3.94	7 / 3.94	27.58	1243	0.06564	80.6	3000
71054049	450	33 / 3.94	4 / 3.94	27.58	1244	0.06489	74.4	3000
71054050	500	18 / 4.15	19 / 4.15	29.05	1377	0.06204	110	3000
71054051	500	24 / 4.15	13 / 4.15	29.05	1379	0.06057	98.8	3000
71054052	500	30 / 4.15	7 / 4.15	29.05	1379	0.05916	89.5	3000
71054053	500	33 / 4.15	4 / 4.15	29.05	1380	0.05849	82.6	3000
71054054	500	33 / 2.23	28 / 3.23	29.07	1376	0.06162	109	3000
71054055	500	42 / 3.23	19 / 3.23	29.07	1377	0.0603	100	3000
71054056	500	48 / 3.23	13 / 3.23	29.07	1377	0.05945	93.6	3000
71054057	500	54 / 3.23	7 / 3.23	29.07	1378	0.05862	86.5	3000
71054058	560	18 / 4.39	19 / 4.39	30.73	1541	0.05545	123	3000
71054059	560	24 / 4.39	13 / 4.39	30.73	1542	0.05413	111	3000
71054060	560	30 / 4.39	7 / 4.39	30.73	1544	0.05287	100	3000
71054061	560	33 / 4.39	4 / 4.39	30.73	1544	0.05227	92.4	3000
71054062	560	33 / 3.42	28 / 3.42	30.78	1542	0.05496	119	3000
71054063	560	42 / 3.42	19 / 3.42	30.78	1544	0.05378	110	3000
71054064	560	48 / 3.42	13 / 3.42	30.78	1545	0.05302	102	3000
71054065	560	54 / 3.42	7 / 3.42	30.78	1545	0.05229	96.1	3000
71054066	630	18 / 4.66	19 / 4.66	32.62	1736	0.04921	139	2500

ALUMINUM CONDUCTOR, ALUMINUM ALLOY REINFORCED

ACAR

Overhead Line Conductors
All Conductors, Aluminium Alloy Reinforced (ACAR)
Table18-3

Standard: ASTM B524

Conductor Code	Nominal Cross Sectional Area	Conductor		Approx overall diameter	Approx overall weight	DC resistance at 20°C	Rated Strength	Packaging Standard Length
	mm²	Aluminium	Steel	mm	kg/km	Ohm/km	KN	m +/- 5%
		No. / Ø (mm)						
71054067	630	24 / 4.66	13 / 4.66	32.62	1737	0.04804	125	2500
71054068	630	30 / 4.66	7 / 4.66	32.62	1740	0.04692	113	2500
71054069	630	33 / 4.66	4 / 4.66	32.62	1740	0.04638	104	2500
71054070	630	33 / 3.63	28 / 3.63	32.67	1737	0.04879	133	2500
71054071	630	42 / 3.63	19 / 3.63	32.67	1739	0.04774	123	2500
71054072	630	48 / 3.63	13 / 3.63	32.67	1740	0.04707	114	2500
71054073	630	54 / 3.63	7 / 3.63	32.67	1741	0.04641	107	2500
71054074	710	33 / 3.85	28 / 3.85	34.65	1954	0.04337	148	2000
71054075	710	42 / 3.85	19 / 3.85	34.65	1956	0.04244	137	2000
71054076	710	48 / 3.85	13 / 3.85	34.65	1957	0.04184	126	2000
71054077	710	54 / 3.85	7 / 3.85	34.65	1958	0.04126	118	2000
71054078	800	33 / 4.09	28 / 4.09	36.81	2205	0.03843	167	2000
71054079	800	42 / 4.09	19 / 4.09	36.81	2207	0.03761	154	2000
71054080	800	48 / 4.09	13 / 4.09	36.81	2209	0.03707	142	2000
71054081	800	54 / 4.09	7 / 4.09	36.81	2209	0.03656	133	2000
71054082	900	33 / 4.33	28 / 4.33	38.97	2472	0.03429	187	1500
71054083	900	42 / 4.33	19 / 4.33	38.97	2474	0.03355	173	1500
71054084	900	48 / 4.33	13 / 4.33	38.97	2475	0.3308	159	1500
71054085	900	54 / 4.33	7 / 4.33	38.97	2478	0.03262	148	1500
71054086	1000	33 / 4.57	28 / 4.57	41.13	2781	0.03078	206	1500
71054087	1000	42 / 4.57	19 / 4.57	41.13	2783	0.03012	192	1500
71054088	1000	48 / 4.57	13 / 4.57	41.13	2786	0.0297	178	1500
71054089	1000	54 / 4.57	7 / 4.57	41.13	2786	0.02928	166	1500
71054090	1000	54 / 3.74	37 / 3.74	41.14	2779	0.03057	204	1500
71054091	1000	63 / 3.74	28 / 3.74	41.14	2780	0.03013	190	1500
71054092	1000	72 / 3.74	19 / 3.74	41.14	2782	0.0297	180	1500
71054093	1120	54 / 3.96	37 / 3.96	43.56	3116	0.02754	226	1500
71054094	1120	63 / 3.96	28 / 3.96	43.56	3118	0.02714	210	1500
71054095	1120	72 / 3.96	19 / 3.96	43.56	3119	0.02675	198	1500
71054096	1250	54 / 4.18	37 / 4.18	45.98	3472	0.02471	253	1000
71054097	1250	63 / 4.18	28 / 4.18	45.98	3474	0.02436	234	1000

ALUMINUM CONDUCTOR, ALUMINUM ALLOY REINFORCED

ACAR

Overhead Line Conductors
All Conductors, Aluminium Alloy Reinforced (ACAR)
Table18-4

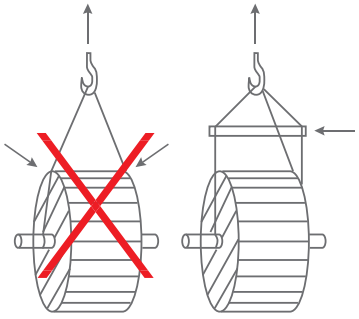
Standard: ASTM B524

Conductor Code	Nominal Cross Sectional Area	Conductor		Approx overall diameter	Approx overall weight	DC resistance at 20°C	Rated Strength	Packaging Standard Length
	mm²	Aluminium	Steel	mm	kg/km	Ohm/km	KN	m +/- 5%
		No. / Ø (mm)						
71054098	1250	72 / 4.18	19 / 4.18	45.98	3476	0.02401	221	1000
71054099	1400	54 / 4.43	37 / 4.43	48.73	3899	0.022	283	1000
71054100	1400	63 / 4.43	28 / 4.43	48.73	3901	0.02169	263	1000
71054101	1400	72 / 4.43	19 / 4.43	48.73	3904	0.02138	248	1000
71054102	1600	54 / 4.73	37 / 4.73	52.03	4488	0.01949	323	1000
71054103	1600	63 / 4.73	28 / 4.73	52.03	4491	0.01921	300	1000
71054104	1600	72 / 4.73	19 / 4.73	52.03	4493	0.01893	283	1000

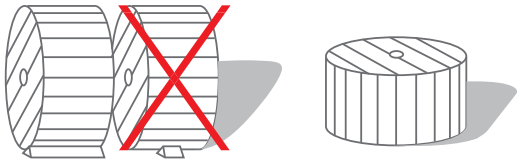
The above data is approximate and subject to manufacturing tolerance & it can be change as a result of product development and/or changes in standard

DRUM HANDLING INSTRUCTIONS

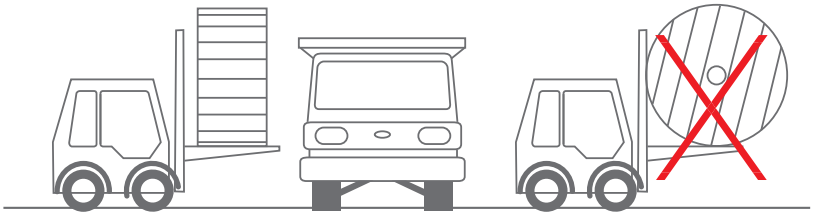
Cables and Conductors should be installed by trained personnel in accordance with good engineering practices, recognized codes of practise, statutory local requirements, IEE wiring regulations and where relevant, in accordance with any specific instructions issued by the company. Cables are often supplied in heavy cable reels and handling these reels can constitute a safety hazard. In particular, dangers may arise during the removal of steel binding straps and during the removal of retaining battens and timbers which may expose projecting nails.



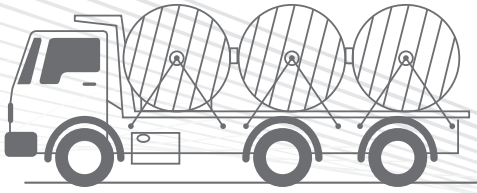
Lifting cable drums using crane.



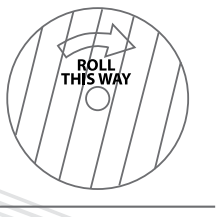
Do not lay drums flat on their sides, use proper stops to prevent drums roling.



Lift drums on fork trucks correctly.



Secure drums adequately before transportation.



Roll in the direction shown by the arrow.

LOCATION MAP

Bahra Advanced Cable Manufacture Co. Ltd.

شركة بحرة المتطورة لصناعة الكابلات المحدودة ش.م.م

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