

CASK

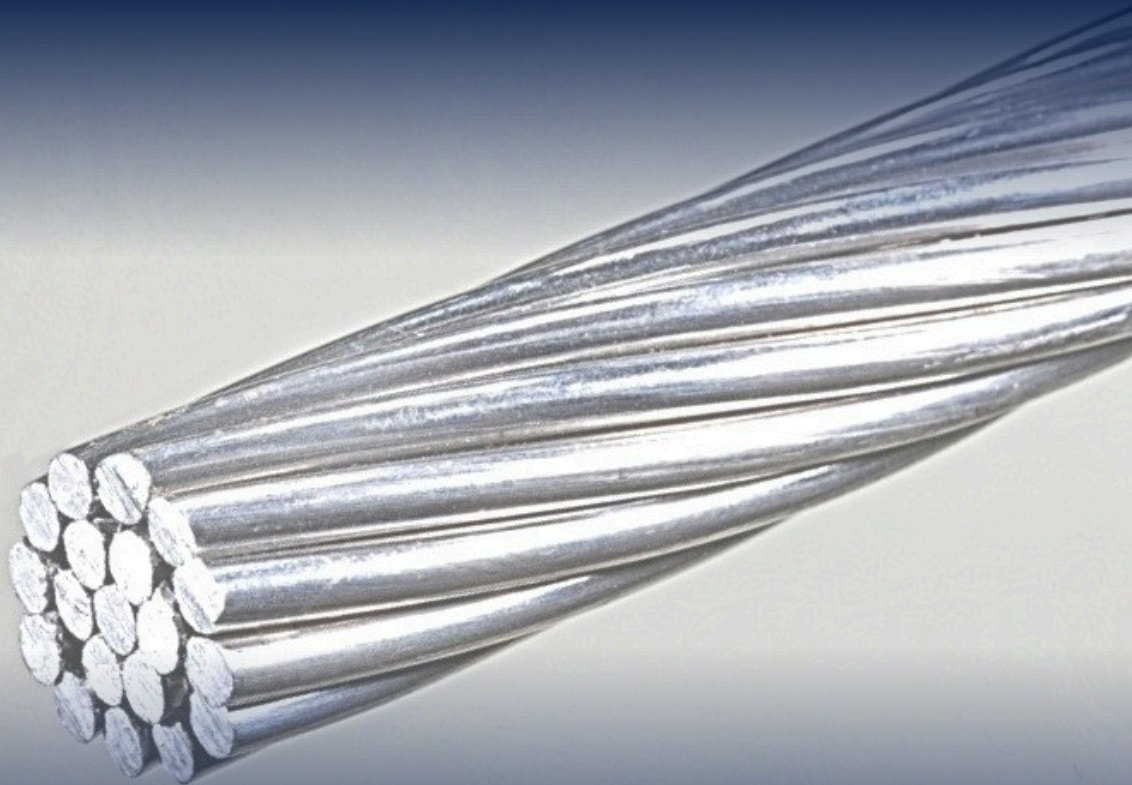
C A B L E S

A DIVISION OF CASK ELECTRIC

PRODUCT CATALOGUE

Overhead Line Conductors

ACSR · AAC · AAAC · Aerial bundled cables (ABC) for transmission and distribution lines



ABOUT CASK ELECTRIC

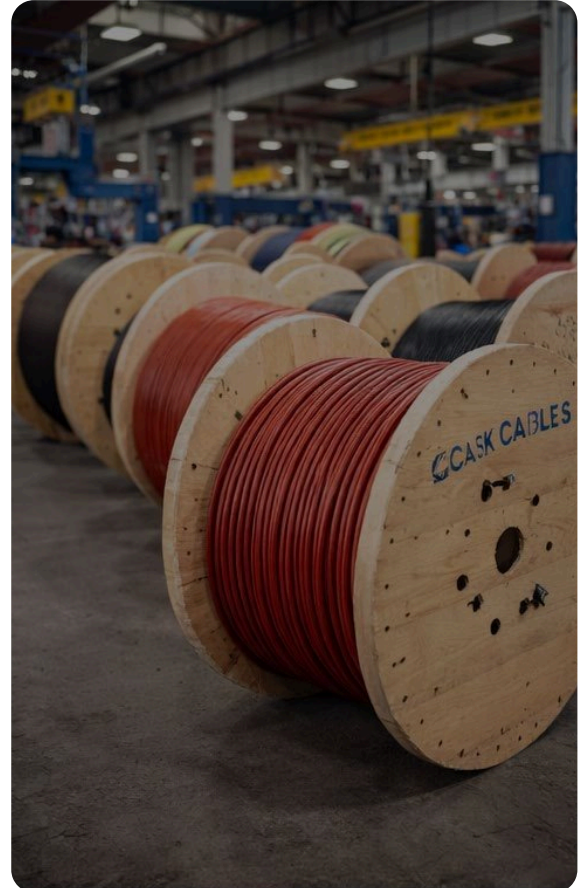
Energy infrastructure from one partner

CASK Electric is an electrical engineering and supply company based in Dilovası, Kocaeli, in the heart of Türkiye's industrial region. We work with utilities, EPC contractors, developers and industry, supplying the products that carry electricity from the power plant to the end user, for projects in Türkiye and abroad.

CASK Cables is the cable division of CASK Electric. It brings power, solar, overhead and fire-resistant cables together under one brand, with one item numbering system used in our catalogues, offers and order confirmations.

WHY CASK CABLES

- ▶ One partner for cables, poles, transformers and panels on the same project
- ▶ Products made to European and international standards
- ▶ Test reports and certificates with every delivery
- ▶ Export packing, drum marking and full project documentation
- ▶ Technical support from cable selection to delivery on site



THE CASK ELECTRIC DIVISIONS

CASK Steel

Steel poles and steel structures for power lines, lighting and infrastructure.

CASK Cables

Power, solar, overhead and fire-resistant cables and conductors.

CASK Power Systems

Distribution transformers, panel boards and switchgear.

ABOUT CASK CABLES

Conductors that carry the grid

CASK Cables, a division of CASK Electric, supplies bare overhead conductors and aerial bundled cables to utilities, EPC contractors and distribution companies. Our conductors are made to the European and international standards and delivered with test reports for each lot.

16 – 400 mm²

CONDUCTOR RANGE

0.4 – 220 kV

LINE VOLTAGES SERVED

4

PRODUCT FAMILIES

EN 50182

MAIN STANDARD

OUR COMMITMENT

▶ Made to EN 50182, DIN 48204/48201 and IEC 61089

▶ EC-grade aluminium and class A or B galvanised steel

▶ Tensile, resistance and dimension tests on every lot

▶ Other standards (BS 215, ASTM B232) on request

MARKETS SERVED

▶ Electricity transmission and distribution utilities

▶ Rural electrification programmes

▶ EPC contractors for power lines and substations

▶ Solar and wind farm grid connections

▶ Low-voltage networks in towns and villages

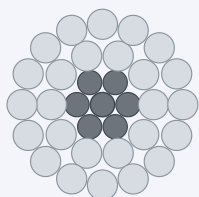
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PRODUCT RANGE OVERVIEW

From the substation to the last house

Four conductor families cover transmission, medium-voltage distribution and low-voltage networks. Item numbers in this catalogue are the same numbers used in our offers and order confirmations.

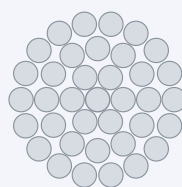


CSC-OH001

ACSR conductors

Aluminium on a galvanised steel core · 16/2.5 – 300/50

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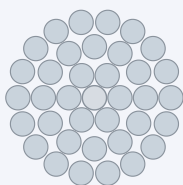


CSC-OH002

AAC conductors

All-aluminium · 16 – 400 mm²

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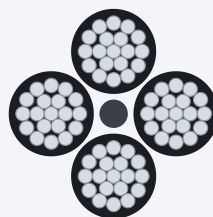


CSC-OH003

AAAC conductors

Aluminium alloy AlMgSi · 16 – 400 mm²

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CSC-OH004

Aerial bundled cables

Al/XLPE, 0.6/1 kV · 2 × 16 – 3 × 150 + 95

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CHOOSING A CONDUCTOR

The right conductor for each line

The choice depends on span length, mechanical load (wind and ice), corrosion at the site and the current the line must carry. The table below gives a first orientation; our engineers can confirm the choice for your line.

	ACSR	AAC	AAAC	ABC
Construction	Al wires on steel core	Al wires only	AlMgSi alloy wires	Insulated Al cores + messenger
Strength	●●●●	●	●●●	●●
Conductivity	●●●	●●●●	●●●	●●●
Weight	Heavier	Lightest	Light	Heavier
Corrosion resistance	●●	●●●●	●●●●	●●●●
Typical spans	Long	Short	Medium to long	Short, along streets
Typical use	HV and MV lines	Substations, busbars, short MV spans	MV lines, coastal areas	LV networks, service drops

Aluminium

Hard-drawn EC-grade aluminium 1350, 99.5 % pure, to EN 60889. Resistivity 0.028264 $\Omega \cdot \text{mm}^2/\text{m}$ at 20 °C.

Steel core

High-strength steel wire to EN 50189, hot-dip galvanised (class A or B). Grease protection of the core on request for coastal and desert sites.

Aluminium alloy

AlMgSi alloy wire to EN 50183. About twice the strength of pure aluminium with only slightly higher resistance.

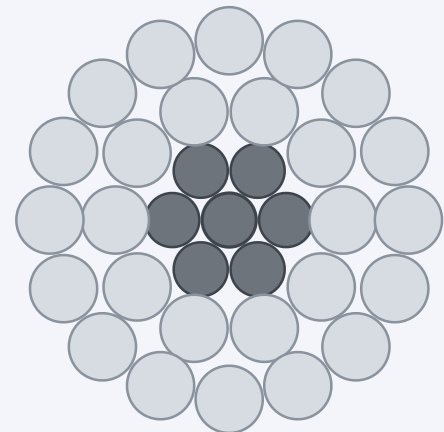


CSC-OH001 SERIES

ACSR - aluminium conductor steel reinforced

Concentric layers of hard-drawn aluminium wires stranded around a galvanised steel core. The steel carries the mechanical load, the aluminium carries the current, which makes ACSR the standard choice for long spans.

- ▶ High tensile strength for long spans and heavy ice loads
- ▶ Steel core galvanised, greased version on request
- ▶ Code names to BS 215 and ASTM B232 also available



EN 50182

DIN 48204

IEC 61089

EN 50189

TECHNICAL DATA

Item No.	Al/St (mm ²)	Al wires (n × mm)	Steel wires (n × mm)	Overall Ø (mm)	Mass (kg/km)	Rated tensile strength (kN)	DC R at 20 °C (Ω/km)	Current rating* (A)
CSC-OH001-001	16/2.5	6×1.80	1×1.80	5.4	62	5.81	1.8793	90
CSC-OH001-002	25/4	6×2.25	1×2.25	6.8	97	9.02	1.2028	125
CSC-OH001-003	35/6	6×2.70	1×2.70	8.1	140	12.36	0.8353	145
CSC-OH001-004	50/8	6×3.20	1×3.20	9.6	195	16.81	0.5946	170
CSC-OH001-005	70/12	26×1.85	7×1.44	11.7	284	26.29	0.4130	290
CSC-OH001-006	95/15	26×2.15	7×1.67	13.6	383	34.93	0.3058	350
CSC-OH001-007	120/20	26×2.44	7×1.90	15.5	494	44.50	0.2374	410
CSC-OH001-008	150/25	26×2.70	7×2.10	17.1	604	54.10	0.1939	470
CSC-OH001-009	185/30	26×3.00	7×2.33	19.0	744	66.20	0.1571	535
CSC-OH001-010	240/40	26×3.45	7×2.68	21.9	985	86.40	0.1188	645
CSC-OH001-011	300/50	26×3.86	7×3.00	24.5	1,232	105.90	0.0949	740

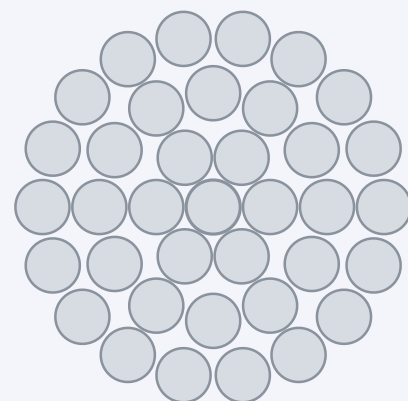
* Continuous current at 35 °C ambient, 0.6 m/s wind, sun, 80 °C conductor temperature (DIN 48204 conditions).

CSC-OH002 SERIES

AAC - all-aluminium conductor

Concentric-lay stranded conductor made only of hard-drawn EC-grade aluminium wires. The best conductivity per kilogram, for short spans, substations and coastal lines where steel would corrode.

- ▶ Highest conductivity of the bare conductors
- ▶ Excellent corrosion resistance, no steel
- ▶ Light and easy to install



EN 50182

DIN 48201-5

IEC 61089

EN 60889

TECHNICAL DATA

Item No.	Nominal (mm ²)	Wires (n × mm)	Actual area (mm ²)	Overall Ø (mm)	Mass (kg/km)	Tensile strength (kN)	DC R at 20 °C (Ω/km)	Current rating* (A)
CSC-OH002-001	16	7×1.70	15.9	5.1	44	2.64	1.8056	110
CSC-OH002-002	25	7×2.10	24.2	6.3	67	4.03	1.1832	145
CSC-OH002-003	35	7×2.50	34.4	7.5	94	5.39	0.8349	180
CSC-OH002-004	50	7×3.00	49.5	9.0	136	7.76	0.5798	225
CSC-OH002-005	70	19×2.10	65.8	10.5	181	10.94	0.4381	270
CSC-OH002-006	95	19×2.50	93.3	12.5	257	14.62	0.3091	340
CSC-OH002-007	120	19×2.80	117.0	14.0	323	18.34	0.2464	390
CSC-OH002-008	150	37×2.25	147.1	15.8	408	24.46	0.1969	455
CSC-OH002-009	185	37×2.50	181.6	17.5	503	28.47	0.1595	520
CSC-OH002-010	240	61×2.25	242.5	20.2	675	40.32	0.1200	625
CSC-OH002-011	300	61×2.50	299.4	22.5	834	46.94	0.0972	710
CSC-OH002-012	400	61×2.89	400.1	26.0	1,114	62.72	0.0728	855

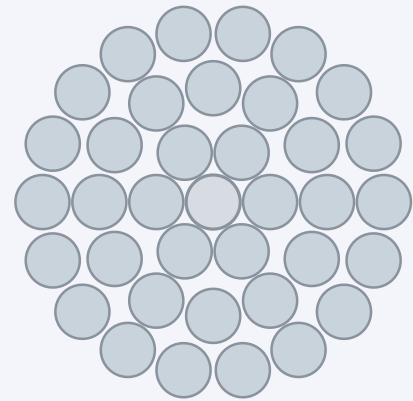
* Continuous current at 35 °C ambient, 0.6 m/s wind, sun, 80 °C conductor temperature.

CSC-OH003 SERIES

AAAC - all-aluminium alloy conductor

Stranded from heat-treated AlMgSi alloy wires. AAAC combines the strength needed for medium and long spans with the corrosion resistance of an all-aluminium conductor, and has no steel core to rust.

- ▶ About twice the strength of AAC
- ▶ Lower sag and fewer poles than AAC
- ▶ Ideal for coastal, desert and industrial areas



EN 50182

DIN 48201-6

IEC 61089

EN 50183

TECHNICAL DATA

Item No.	Nominal (mm ²)	Wires (n × mm)	Actual area (mm ²)	Overall Ø (mm)	Mass (kg/km)	Tensile strength (kN)	DC R at 20 °C (Ω/km)	Current rating* (A)
CSC-OH003-001	16	7×1.70	15.9	5.1	44	4.45	2.0953	100
CSC-OH003-002	25	7×2.10	24.2	6.3	66	6.79	1.3731	135
CSC-OH003-003	35	7×2.50	34.4	7.5	94	9.63	0.9689	165
CSC-OH003-004	50	7×3.00	49.5	9.0	136	13.87	0.6728	205
CSC-OH003-005	70	19×2.10	65.8	10.5	181	18.44	0.5084	250
CSC-OH003-006	95	19×2.50	93.3	12.5	257	26.14	0.3587	315
CSC-OH003-007	120	19×2.80	117.0	14.0	322	32.79	0.2860	360
CSC-OH003-008	150	37×2.25	147.1	15.8	407	41.23	0.2285	420
CSC-OH003-009	185	37×2.50	181.6	17.5	503	50.90	0.1851	480
CSC-OH003-010	240	61×2.25	242.5	20.2	675	67.97	0.1393	575
CSC-OH003-011	300	61×2.50	299.4	22.5	833	83.92	0.1128	655
CSC-OH003-012	400	61×2.89	400.1	26.0	1,113	112.14	0.0844	785

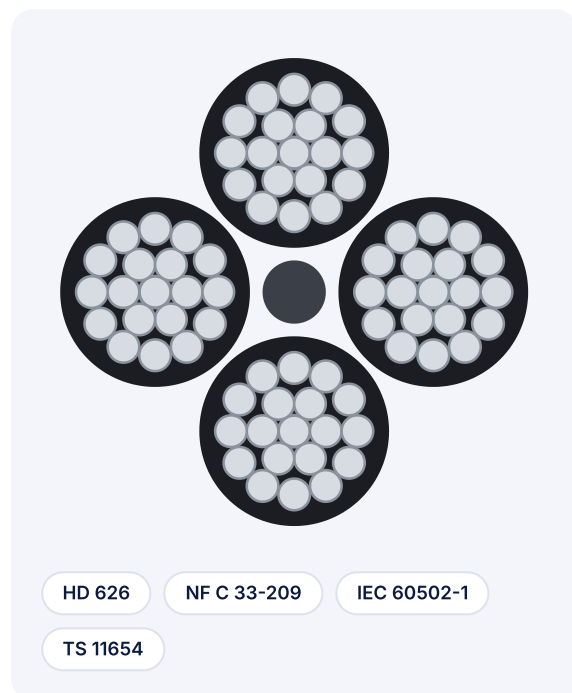
* Continuous current at 35 °C ambient, 0.6 m/s wind, sun, 80 °C conductor temperature.

CSC-OH004 SERIES

Aerial bundled cables (ABC)

Insulated aluminium phase cores twisted around an insulated AlMgSi messenger. ABC is the safe, low-maintenance choice for low-voltage networks: no bare wires, fewer faults from trees and wind, and less electricity theft.

- ▶ Rated 0.6/1 kV, XLPE insulation, 90 °C
- ▶ Black UV-resistant insulation, ribbed core identification
- ▶ Optional street-lighting cores
- ▶ Self-supporting service cables 2 × 16 to 4 × 25 mm²



CONFIGURATIONS

Item No.	Configuration (mm ²)	Phase core (mm ²)	Phase R at 20 °C (Ω/km)	Messenger AlMgSi (mm ²)	Messenger R at 20 °C (Ω/km)	Lighting core (mm ² , Ω/km)
CSC-OH004-001	2 × 16	16	1.91	–	–	–
CSC-OH004-002	4 × 16	16	1.91	–	–	–
CSC-OH004-003	2 × 25	25	1.2	–	–	–
CSC-OH004-004	4 × 25	25	1.2	–	–	–
CSC-OH004-005	3 × 35 + 54.6	35	0.868	54.6	0.63	–
CSC-OH004-006	3 × 50 + 54.6	50	0.641	54.6	0.63	–
CSC-OH004-007	3 × 70 + 54.6	70	0.443	54.6	0.63	–
CSC-OH004-008	3 × 95 + 70	95	0.32	70	0.5	–
CSC-OH004-009	3 × 120 + 95	120	0.253	95	0.363	–
CSC-OH004-010	3 × 150 + 95	150	0.206	95	0.363	–
CSC-OH004-011	3 × 50 + 54.6 + 16	50	0.641	54.6	0.63	16 (1.91)
CSC-OH004-012	3 × 70 + 54.6 + 2 × 16	70	0.443	54.6	0.63	16 (1.91)

Diameters, weights and current ratings depend on the national standard required and are given in each offer. Clamps and fittings for ABC are available from CASK Steel.

PACKING & DRUMS

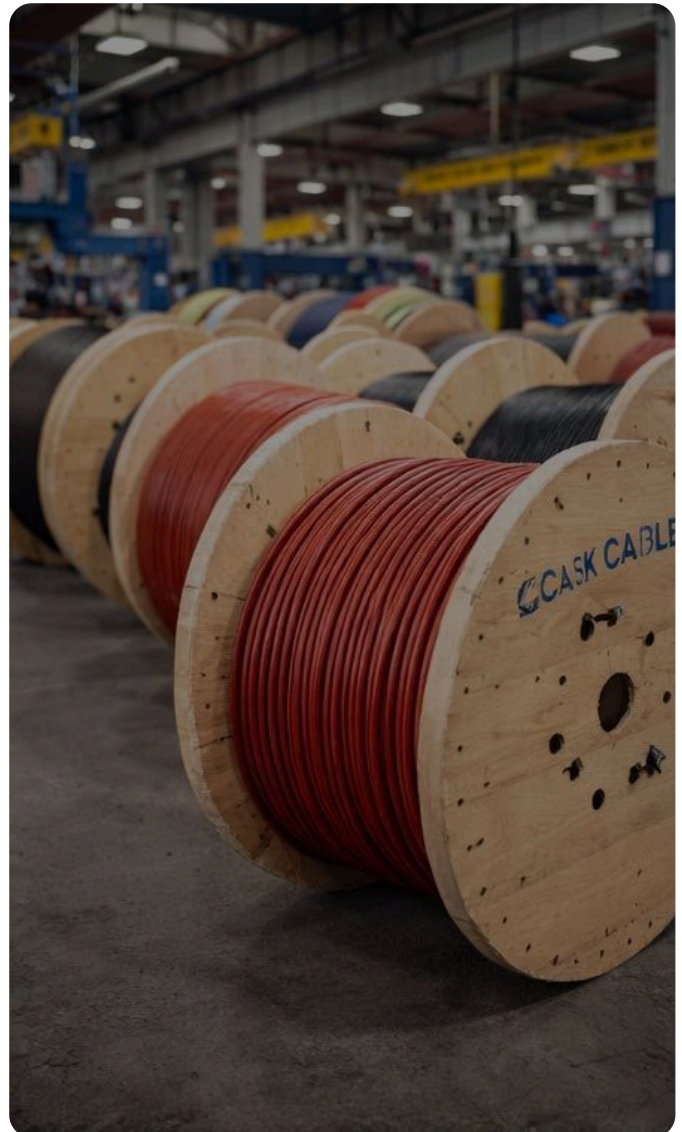
Lengths planned for your line

Drum lengths are matched to the section lengths of your line to keep joints to a minimum. Drums are non-returnable unless agreed; each drum is labelled with item number, conductor, length, gross and net weight, lot number and direction of rolling.

Conductor	Packing	Typical length per drum (m)
ACSR / AAC / AAAC $\leq 50 \text{ mm}^2$	Wooden drum	2,000 – 4,000
ACSR / AAC / AAAC 70 – 150 mm^2	Wooden drum	1,500 – 3,000
ACSR / AAC / AAAC 185 – 400 mm^2	Wooden or steel drum	1,000 – 2,500
ABC	Wooden drum	500 / 1,000

ON REQUEST

- ▶ Fixed lengths per line section
- ▶ Steel drums for long-distance or rough transport
- ▶ Wooden lagging or wrapping for export
- ▶ Customer marking on drums



TESTING & QUALITY ASSURANCE

Every lot tested, every result recorded

Sample tests are made on every production lot and reported with the delivery. Type-test reports are available for each conductor family. Third-party inspection (FAT) can be arranged at the purchaser's request.

Test	Standard	Frequency
Wire diameter and lay ratio	EN 50182	Every lot
Tensile strength of wires	EN 60889 / EN 50189	Every lot
Elongation and wrapping test	EN 50189	Every lot
Zinc coating mass and adhesion	EN 50189	Every lot
DC resistance	EN 50182	Every lot
Mass per length	EN 50182	Every lot
Stress-strain test	EN 50182 Annex B	Type test
Rated tensile strength of conductor	EN 50182	Type test
ABC: voltage, insulation, messenger tests	HD 626	Routine and type

APPLICABLE STANDARDS

- ▶ EN 50182 – Conductors for overhead lines
- ▶ IEC 61089 – Round wire concentric lay conductors
- ▶ DIN 48204 / 48201 – ACSR, AAC, AAAC (German series)
- ▶ EN 60889 – Hard-drawn aluminium wire
- ▶ EN 50183 – Aluminium alloy wire
- ▶ EN 50189 – Zinc-coated steel wire
- ▶ HD 626 / NF C 33-209 – Aerial bundled cables
- ▶ BS 215 / ASTM B232 – On request
- ▶ ISO 9001 – Quality management

TECHNICAL REFERENCE

Useful formulas for line design

RESISTANCE AT OPERATING TEMPERATURE

$$R(t) = R_{20} \times [1 + 0.00403 \times (t - 20)]$$

Example: ACSR 95/15 at 80 °C: $0.3058 \times 1.242 = 0.380$ Ω/km (DC). AC resistance is slightly higher because of skin effect.

SAG (PARABOLA)

$$f = w \times a^2 / (8 \times H)$$

f = sag (m) · w = conductor weight (N/m) · a = span (m) · H = horizontal tension (N). Keep everyday tension at about 18 – 20 % of rated tensile strength unless the line design states otherwise.

VOLTAGE DROP, THREE-PHASE

$$\Delta U = \sqrt{3} \times I \times L \times (R \cos \varphi + X \sin \varphi)$$

L in km, R and X in Ω/km . Typical reactance of bare conductors on MV lines: about 0.35 – 0.40 Ω/km ; ABC about 0.10 Ω/km .

OTHER STANDARDS

Projects specified to BS 215 (code names such as Rabbit, Dog or Wolf) or ASTM B232 / B231 / B399 can be supplied. Send us the code name or the stranding and we will offer the matching CASK item.



A DIVISION OF CASK ELECTRIC

Let's build your next line together

Talk to our team about conductor selection, drum lengths and delivery schedules.

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