

ALUMINIUM CONDUCTOR STEEL-REINFORCED (ACSR)

Application

Aluminium Conductors Steel Reinforced (ACSR) can be used in Medium, High, Extra-High voltage transmission lines also used for primary and secondary distribution lines. ACSR is most economical solution for overhead power transmission and distribution projects.

Construction

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

Standard

Aluminium conductor Steel Reinforced (ACSR) as per BS 215-2 & SANS 182-3

Technical Data for Hard-Drawn Aluminium

Volume Resistivity	: 0.028264 $\Omega \cdot \text{m}^2/\text{m}$
Density	: 2.703 g/cm^3
Coefficient of Linear Expansion	: $23 \times 10^{-6}/^\circ\text{C}$



Technical Data for Galvanized Steel

Density	: 7.80 g/cm^3
Coefficient of Linear Expansion	: $11.5 \times 10^{-6}/^\circ\text{C}$

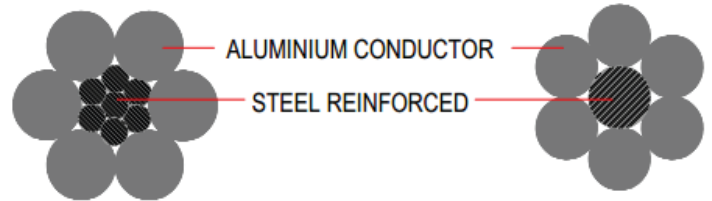


TABLE 1

BS 215-2

Code Name	Nominal Area	Approximate Overall Diameter	Nominal Mass	Max.DC Resistance at 20°C	Minimum Breaking Load
	SQ.MM	MM	kg/km	Ω/km	KN
GOPHER	25	7.08	106	1.0930	9.61
WEASEL	30	7.77	128	0.9077	11.45
FERRET	40	9.0	172	0.6766	15.20
RABBIT	50	10.05	214	0.5426	18.35
HORSE	70	13.95	538	0.3936	61.20
DOG	100	14.15	394	0.2733	32.70
WOLF	150	18.13	726	0.1828	69.20
DINGO	150	16.75	506	0.1815	35.70
LYNX	175	19.53	842	0.1576	79.80
CARACAL	175	18.05	587	0.1563	41.10
PANTHER	200	21.00	974	0.1363	92.25
JAGUAR	200	19.30	671	0.1367	46.55
ZEBRA	400	28.62	1621	0.0674	131.90

TABLE 2**SANS 182-3**

Code Name	Nominal Area (Aluminium / Steel)	Approximate Overall Diameter	Nominal Mass	Max.DC Resistance at 20°C	Minimum Breaking Load
	SQ.MM	MM	kg/km	Ω/km	KN
SQUIRREL	21/3.5	6.39	85	1.395	7.71
GOPHER	26/4.4	7.16	106	1.116	9.61
FOX	37/6.1	8.45	148	0.7981	13.15
FERRET	42/7.1	9.09	172	0.6903	15.20
RABBIT	53/8.8	10.15	214	0.5534	18.40
MINK	63/11	11.09	255	0.4639	22.50
HARE	105/17	14.30	425	0.2788	36.54
DOG	105/14	14.29	394	0.2788	32.64
WOLF	158/37	18.31	726	0.1866	69.25
BEAR	264/62	23.69	1214	0.1115	111.4
ZEBRA	429/56	28.91	1621	0.6878	131.9
DINOSAUR	662/84	35.94	2489	0.04456	205.5

Notes: Conductors can be supplied in multiples of 1000/500/250 mtrs or required by customer.