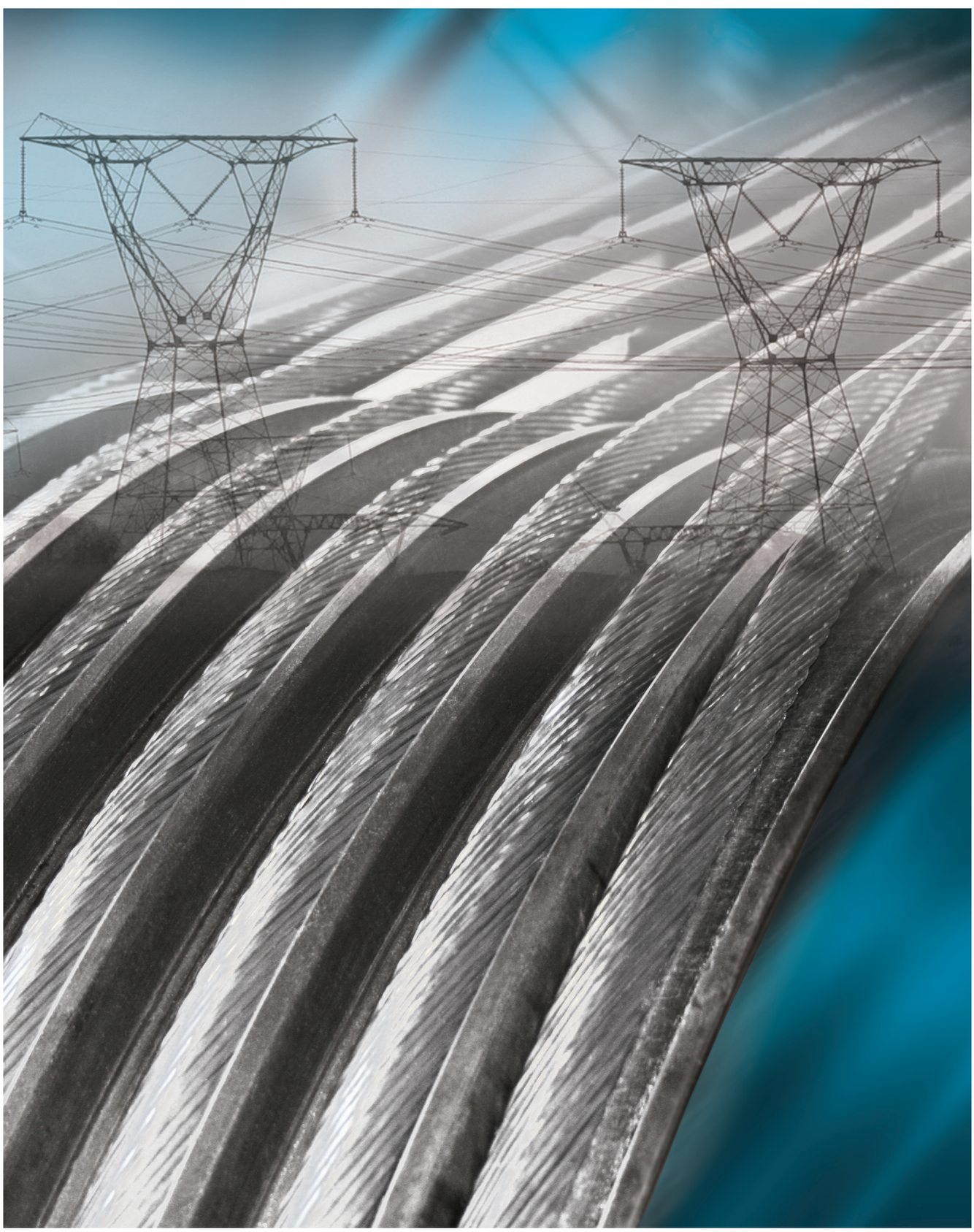
Overhead Aluminium Conductors

ABERDARE
A MEMBER OF HENGTONG GROUP
ENLIGHTENING THE FUTURE



Revised 022023

COMPANY PROFILE

Aberdare Cables is Southern Africa's largest cable manufacturer and leading supplier of intelligent energy inter connection cable products and services in Africa. Established in 1946, the company offers cable designs, product development, installation support, commissioning and diagnostic testing through their Aberdare Engineering division. In 2021, Aberdare Cables celebrated its 75th Anniversary and since its humble beginnings, the organisation has grown significantly through mergers and acquisitions. In 2016, Aberdare Cables was acquired by Hengtong as a majority shareholder. The Hengtong group operates in 147 countries, with 11 overseas manufacturing bases and owns 7 brands, including Aberdare.

Our Empowerment partner, Golden Consortium Africa (Pty) Ltd, is a 100% women-owned consortium and has a 25.1% shareholding in Aberdare (South African operations). Empowerdex ratings places Aberdare Cables at a Level 1 broad based black economic empowerment company and is 55% black owned with 30% black-women ownership.

Aberdare Cables has two manufacturing sites, Eastern Cape and KwaZulu-Natal. Aberdare Cables headquarters is in Meadowdale, Gauteng. The Meadowdale facility serves as a centralised distribution to South Africa to enable reduced lead times.

The company offers cable and cabling solutions to the mining, utility, building, construction, large industry, renewable energy, retail, original-equipment manufacturer, agriculture and transport sectors.

The company has amongst the most highly trained and experienced employees in the industry. As a technology leader, it is driven by cutting-edge Research and Development (R&D), providing world-class innovative solutions, processes, products and customer service.

The company's 48 000 m^2 Stanford road facility in Port Elizabeth was the original Aberdare site and manufactures XLPE medium and high voltage cables, paper insulated lead covered medium voltage cables, overhead conductors, medium voltage aerial bundled conductor (ABC) and large low voltage PVC mains cables.

The 38 820 m^2 Aberdare Pietermaritzburg facility manufactures low voltage ABC, Rubber trailing cables and Nitrile welding cables, as well as low voltage cables compromising of wiring cables: Housewire, Surfix®, Flat twin, and earth cables. The range also includes Armadac®, Airdac® and Saferdac® cables as well as the Flamosafe® range of PVC and XLPE insulated armoured and unarmoured cables.

The Aberdare Group's product range and services are wide but specialised. Tried and tested, and carrying the South African Bureau of Standards (SABS) safety and compliance certification marks and complying with International Standards as applicable.

In addition to the organisation's cable portfolio is the long awaited entry of a competitor into the South African high voltage cable market. This strategic move in capital investment by the company, enhances its current cable portfolio of low and medium voltage cables, conductors and specialty cables and is ensuring sustainability and an increase in the company's market presence. d in turn create a talent pool of future employees in our company.

Aberdare has opened the HV cable offering to initially supply the traditionally accepted (CSA) Corrugated Seamless Aluminum Sheathed cable and plans to add alternative designs and improvements to its portfolio. The goal for the HV project is to establish Abedare Cables as a competent South African high voltage cable manufacturer and solutions provider. To this end, the organisation manufactures HV cables and supplies HV accessories. The organisation will also commission and maintain HV cables (old and new) and install HV cables and all accessories. In addition, the company vision is that it will be accepted as a leading expert in HV systems (design of the system, providing add-ons such as DTS, etc.) The wholly owned company Aberdare Engineering fulfills the role as enabler of the HV Strategy.

As a cable manufacturer for over 76 years, we know that quality and reliability of cable systems and risk mitigation are of primary importance to our customers. For this reason, Aberdare's plan to enter the HV market was carefully considered, so as to uphold these standards and principals.

At Aberdare, we are people-centric and believe that our people are our greatest asset. We understand that an engaged workforce, delivers on our strategic goals and helps us achieve the impossible. We also understand what motivates our staff and we reciprocate with challenging but rewarding work; a wide range of opportunities for continuous individual learning and growth through robust incentive programmes, including career succession and progression. We know that our duty extends further to the greater population and we take pride in being an active agent of social change and transformation which is evident in our BEE Level 1 rating. Our ongoing socio-economic development initiatives have been commended by the Presidency and we are continuously working hard to make a difference in the communities in which we operate.

At Aberdare, education, training and development are seen as a foundation for economic productivity and as crucial tools to build empowered and dedicated employees. In this regard, our company actively promotes and follows a number of educational programmes, including adult education, apprentices, trainees, learnerships and formal education assistance.

Socio- Economic Development demonstrates the 'heart' of our company and through our efforts we strive to make a difference in the communities in which we operate. We believe that this can change the world one step at a time. We have always been an active supporter and pillar of strength for the communities in which we operate. Contributing to the national Socio-Economic Transformation agenda is also amongst our top priorities. Our company is therefore championing a number of social investment initiatives across our country.

We have recently launched AberSchool, which is a program that aims to raise the level of Maths and Science amongst some of the high schools in Pietermaritzburg. The project is aimed at partnering with the Department of Education to offer extra tuition to Grade 9, 10 and 11 pupils in English, Mathematics & Science.

The programme is geared towards developing future engineers and technically oriented individuals not only for the Aberdare workforce, but the greater country in general.

We provide an ongoing supply of equipment to the AberCare Centre, an organization based in Pietermaritzburg that provides a sense of self-sufficiency and pride to mentally and physically disabled people. The primary focus is to provide the physically challenged individuals with a workplace. The daily tasks they do are simple but they receive stimulation and therapy and contribute to the economy. Aberdare has been assisting the facility annually with the donation of appliances or any of their operational needs, as well as sponsoring annual Christmas events for the residents.

In addition, in 2021, Aberdare engaged the Mathematics Foundation of South Africa and initiated the My Maths Buddy project at the Fundokuhle High School in PMB. The purpose of the project was to get learners to understand that Maths is part of their lives and a much-needed subject for their future and to show learners that Maths is a language which has its own terminology. This is a unique approach that the My Maths Buddy project applies, which helps learners acquire a new approach to learning Maths. A maths dictionary containing important terminology is provided to each learner and assists them with understanding the subject if read and applied. Aberdare believes that Mathematics is a critical subject for future engineers and those pursuing technical degrees and will assist in developing and growing learners in these fields, and in turn create a talent pool of future employees in our company.

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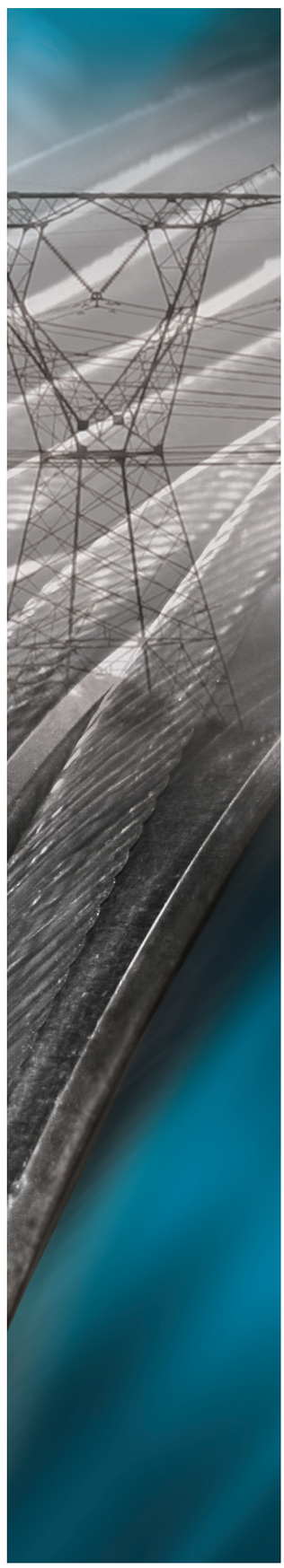
Aberdare, cables you can trust



Overview
Aberdare, cables you can trust

Aluminium conductors have achieved wide acceptance all over the world for use in overhead transmission and distribution lines. Generally a steel core is used with the aluminium to give the conductor mechanical strength. This arrangement is termed Aluminium Conductor Steel Reinforced or ACSR. Conductors comprised entirely of aluminium are known as All Aluminium Conductors or AAC. These conductors are extensively used for busbars in outdoor substations where spans are short. All Aluminium Alloy Conductors or AAAC consist of an alloying of aluminium to give a tensile strength in excess of that of AAC, allowing longer spans. These conductors are recommended for coastal areas where severe corrosion is a problem.

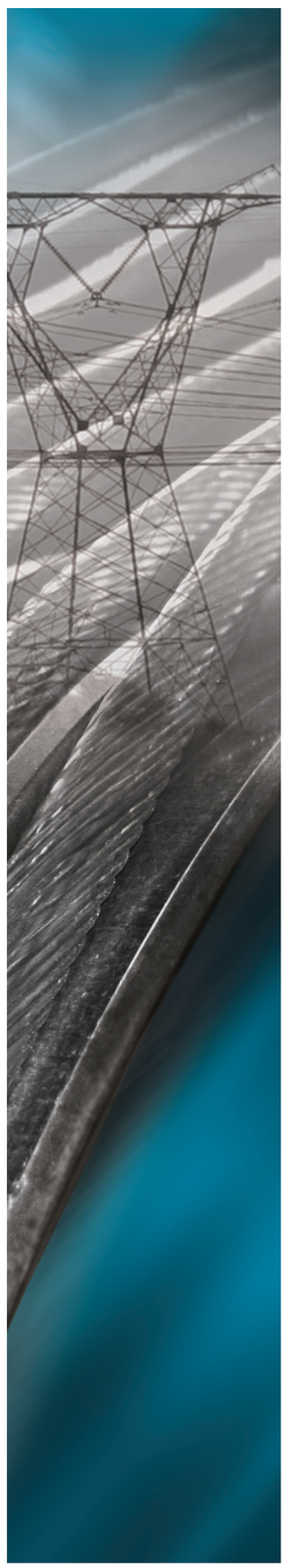
Hard drawn aluminium in H9 temper is used in both ACSR and AAC. High strain steel wire is used in ACSR and this is sometimes protected from corrosion by an application of grease. Such measures are particularly adopted when the conductor is intended for use in aggressive environments as encountered in coastal regions.
Aberdare Power Cables Division manufactures a wide range of AAC, ACSR and AAAC to customer's requirements or national specifications.

The information contained in the following tables relates to the more popular sizes and standards using the following conditions:

- Ambient Temperature 30°C
- Maximum Conductor Temperature 75°C
- Wind Speed 0,44m/s
- Normal Stringing Temperature 25°C
- Solar Radiation 890 W/m²
- Solar Absorption Coeficient 1

Sag and Tension charts are available on request. The following information to be supplied:

- Span length
- Maximum design load (25% of UTS if not specified)
- Stringing temperature



Comparison of Characteristics of Copper and Aluminium

Material	Copper	Aluminium	Al Alloy
Specific gravity	8,89	2,70	2,70
Tensile strength: MPa			
Hard drawn	367	160	-
Annealed	248	100	295
Volume resistivity at 20°C Ω.m	$1,724 \times 10^{-8}$	$2,826 \times 10^{-8}$	$3,253 \times 10^{-8}$
Temperature coefficient of resistance per °C	0,00393	0,00403	0,00360
Coefficient of linear expansion per °C	17×10^{-6}	23×10^{-6}	23×10^{-6}
Specific heat KJ/kg/K	0,394	0,904	0,904
Melting point °C	1083	658	658

Chemical Characteristics of Rod

Aluminium						
Code		**Si**	**Fe**	**B**	**Mn+Ti+V+Cr**	**Al**
99,7 EC	% min.	-	0,16	0,003	-	99,65
	% nom.	-	0,22	0,005	-	99,70
	% max.	0,10	0,28	0,020	0,013	-

Alloy								
Code		**Si**	**Mg**	**Fe**	**B**	**Mn+V+Cr**	**Ti**	**Zn**
LA601/2	% min.	0,40	0,50	0,15	0,004	-	-	-
	% nom.	0,45	0,55	0,20	0,007	-	-	0,03
	% max.	0,50	0,60	0,25	0,020	0,013	0,007	-

Others 0.01 max. - remainder aluminium

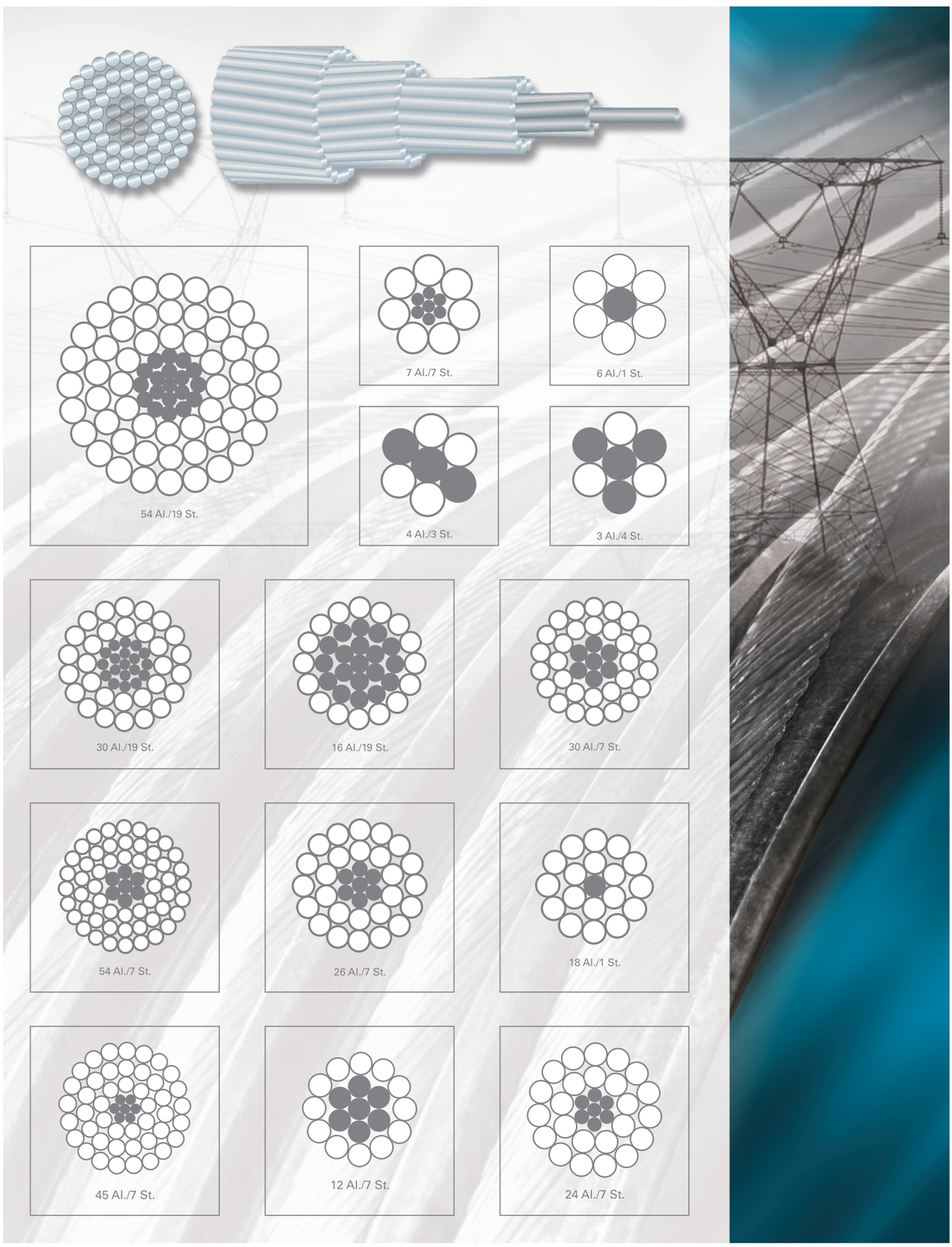
Mechanical Characteristics of Rod

Description	Aluminium	Alloy
Tensile MPa	110-130	170-200
Elongation %	6-12	8-12,5
	6-12	8-12,5
Conductivity	62,3 min.	52,5 min.
Diameter mm	9,55 nom.	9,55 nom.

Nearest Equivalents for SIMAG

Country	Firm/Association	Trade Name
U.S.A	Aluminium Association	6201
Canada	Alcan	Arvidal
Switzerland	Alusuisse	Aldrey
Austria	VMW	Elran
	Ranshofen	
	Berndorf	
France	Pechiney	Almelec
England	Awco	Silmalec

ACSR
Aluminium Conductor Steel Reinforced



Aluminium Conductor Steel Reinforced - ACSR (Canadian Standard Sizes)

Code name	Equival. copper area	Stranding and wire diameter	Diameter over steel	Overall diameter	Aluminium area	Steel area	Total area	Mass kg/km			Ultimate tensile strength	Coefficient of linear expansion	Initial modulus of elasticity	Final modulus of elasticity	DC resistance at 20°C	Current rating	Standard drum length
	mm²	mm	mm	mm	mm²	mm²	mm²	Aluminium	Steel	Total	Newton	/C° x 10^{-6}	MPa	MPa	Ω/km	A	m
WREN	5,26	6/1/1,33	1,33	3,99	8,34	1,39	9,73	22,90	10,90	33,80	4100	19,31	71100	80400	3,4423	75	3000
WARBLER	6,63	6/1/1,50	1,50	4,50	10,60	1,77	12,37	29,20	13,90	43,10	4780	19,31	65000	80400	2,7062	87	3000
TURKEY	8,37	6/1/1,68	1,68	5,04	13,30	2,22	15,52	36,60	17,40	54,00	5600	19,31	60500	80400	2,1574	100	3000
THRUSH	10,55	6/1/1,89	1,89	5,67	16,83	2,81	19,64	46,30	22,10	68,40	6700	19,31	57000	80400	1,7046	120	3000
SWAN	13,30	6/1/2,12	2,12	6,36	21,18	3,53	24,71	58,30	27,80	86,10	8080	19,31	54500	80400	1,3548	130	3000
SWALLOW	16,77	6/1/2,38	2,38	7,14	26,69	4,45	31,14	73,40	35,00	108	9850	19,31	52600	80400	1,0750	150	3000
SPARROW	21,15	6/1/2,67	2,67	8,01	33,59	5,60	39,19	92,40	44,10	137	12100	19,31	51200	80400	0,8541	180	2500
ROBIN	26,67	6/1/3,00	3,00	9,00	42,41	7,07	49,48	117	55,60	173	15000	19,31	50200	80400	0,6766	210	2500
RAVEN	36,62	6/1/3,37	3,37	10,11	53,52	8,92	62,44	147	70,20	217	18700	19,31	49400	80400	0,5361	240	2000
QUAIL	42,41	6/1/3,78	3,78	11,34	67,33	11,22	78,55	185	88,30	273	23300	19,31	49000	80400	0,4261	270	1500
PIGEON	53,49	6/1/4,25	4,25	12,75	85,11	14,19	99,30	234	112	346	29300	19,31	48600	80400	0,3371	320	1500
PENGUIN	67,43	6/1/4,77	4,77	14,31	107,22	17,87	125,09	295	141	436	36800	19,31	48500	80400	0,2676	370	1500
PARTRIDGE	85,01	26/2,57 +7/2,00	6,00	16,28	134,88	21,99	156,87	373	174	547	49800	19,37	52400	77100	0,2140	420	1500
OWL	85,01	6/5,36 +7/1,79	5,37	16,09	135,38	17,62	153,00	372	139	511	43600	19,90	47800	76500	0,2119	420	1000
WAXWING	85,01	18/1/3,09	3,09	15,47	134,98	7,50	142,48	373	59	432	30800	21,44	41900	66200	0,2126	420	2000
PIPER	95,60	30/7/2,54	7,62	17,78	152,01	35,47	187,48	421	280	701	66900	18,43	55900	83400	0,1901	460	2000
OSTRICH	95,60	26/2,73 +7/2,12	6,36	17,28	152,19	24,71	176,90	421	195	616	55200	19,38	51500	77000	0,1897	460	2000
ORIOLE	107,20	30/7/2,69	8,07	18,83	170,50	39,78	210,28	472	315	787	74200	18,43	55300	83400	0,1695	490	2000
LINNET	107,20	26/2,89 +7/2,25	6,75	18,31	170,56	27,83	198,39	472	220	692	61200	19,37	50900	77100	0,1692	490	2000
MERLIN	107,20	18/1/3,47	3,47	17,37	170,22	9,46	179,68	470	74,40	544	38300	21,44	41300	66200	0,1686	480	2000
CHICADEE	126,70	18/1/3,77	3,77	18,87	200,93	11,16	212,09	555	87,90	643	44900	21,44	41000	66200	0,1427	530	2000
LARK	126,70	30/7/2,92	8,76	20,44	200,89	46,88	247,77	557	371	928	86300	18,43	54500	83400	0,1438	550	1500
IBIS	126,70	26/3,14 +7/2,44	7,32	19,88	201,34	32,73	234,07	557	259	816	71000	19,38	50100	77000	0,1434	540	1500
PELICAN	152,00	18/1/4,14	4,14	20,70	242,31	13,46	255,77	669	106	775	53800	21,44	40700	66200	0,1189	600	1000
FLICKER	152,00	24/3,58 +7/2,39	7,17	21,49	241,59	31,40	272,99	668	248	916	75600	19,91	47300	73900	0,1195	610	2000
HEN	152,00	30/7/3,20	9,60	22,40	241,27	56,30	297,57	668	445	1110	103000	18,43	53900	83400	0,1198	610	2000
HAWK	152,00	26/3,44 +7/2,68	8,04	21,80	241,64	39,49	281,13	669	312	981	84300	19,36	49500	77100	0,1195	610	2000
HERON	159,40	30/7/3,28	9,84	22,96	253,49	59,15	312,64	702	468	1170	108000	18,43	53700	83400	0,1140	630	2000

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Aluminium Conductor Steel Reinforced - ACSR (Canadian Standard Sizes)

Code name	Equival. copper area	Stranding and wire diameter	Diameter over steel	Overall diameter (Std.)	Aluminium area	Steel area	Total area	Mass kg/km			Ultimate tensile strength	Coefficient of linear expansion	Initial modulus of elasticity	Final modulus of elasticity	DC resistance at 20°C	Current rating	Standard drum length
	mm²	mm	mm	mm	mm²	mm²	mm²	Aluminium	Steel	Total	Newton	/C° x 10^{-6}	MPa	MPa	Ω/km	A	m
OSPREY	177,40	18/1/4,47	4,47	22,33	282,47	15,69	298,17	780	124	904	62500	21,44	40500	66200	0,1018	660	1500
PARAKEET	177,40	24/3,87 +7/2,58	7,74	23,22	282,31	36,60	318,90	780	289	1069	87300	19,91	46800	73800	0,1023	670	2000
EAGLE	177,40	30/7/3,46	10,38	24,22	282,07	65,82	347,89	781	520	1300	119000	18,43	53400	83400	0,1024	670	2000
DOVE	177,40	26/3,72 +7/2,89	8,67	23,55	282,59	45,92	328,50	782	363	1150	97400	19,38	49000	77000	0,1021	670	1500
PEACOCK	192,80	24/4,03 +7/2,69	8,07	24,21	306,13	39,78	345,92	846	315	1161	94400	19,91	46700	73900	0,0943	700	1500
SQUAB	192,80	26/3,87 +7/3,01	9,03	24,54	305,83	49,81	355,64	847	394	1240	105000	19,37	48900	77100	0,0944	700	1500
TEAL	192,80	30/3,61 +19/2,16	10,80	25,25	307,06	69,62	376,68	851	552	1400	132000	18,50	54400	81800	0,0941	710	1500
DUCK	192,80	54/7/2,69	8,07	24,21	306,89	39,78	346,68	851	315	1170	97500	19,91	48600	73200	0,0942	700	2000
KINGBIRD	197,04	18/1/4,78	4,78	23,90	323,01	17,95	340.96	896	142	1038	71320	21,69	40400	66200	0,0891	710	2000
ROOK	202,70	24/4,14 +7/2,76	8,28	24,82	323,07	41,88	364,95	893	331	1224	99200	19,91	46500	73800	0,0894	720	1500
EGRET	202,70	30/3,70 +19/2,22	11,10	25,90	322,56	73,54	396,11	894	583	1480	139000	18,49	54200	81900	0,0896	730	1000
GROSBEAK	202,70	26/3,97 +7/3,09	9,27	25,15	321,84	52,49	374,34	891	415	1310	111000	19,37	48800	77100	0,0897	730	1000
GOOSE	202,70	54/7/2,76	8,28	24,84	323,07	41,88	364,95	895	331	1230	102000	19,91	48300	73200	0,0895	720	2000
FLAMINGO	212,30	24/4,20 +7/2,82	8,46	25,38	337,27	43,72	380,99	932	346	1278	103000	19,91	46500	73800	0,0856	740	1000
GULL	212,30	54/7/2,82	8,46	25,38	337,27	43,72	380,99	935	346	1280	106000	19,91	48100	73200	0,0857	740	2000
REDWING	228,00	30/3,92 +19/2,35	11,75	27,43	362,06	82,41	444,47	1000	654	1650	154000	18,49	53800	81900	0,0798	790	1000
STARLING	228,00	26/4,21 +7/3,28	9,84	26,68	361,93	59,15	421,08	1000	468	1470	124000	19,36	48600	77100	0,0798	780	1000
CROW	228,00	54/7/2,92	8,76	26,28	361,62	46,88	408,49	1000	371	1370	113000	19,91	47800	73200	0,0799	780	1500
TERN	253,40	45/3,38 +7/2,25	6,75	27,00	403,77	27,83	431,60	1120	220	1340	98700	21,12	42900	66600	0,0718	830	1500
MALLARD	253,40	30/4,14 +19/2,48	12,40	28,96	403,84	91,78	495,62	1120	728	1850	170000	18,50	53400	81900	0,0716	840	1000
DRAKE	253,40	26/4,44 +7/3,45	10,35	28,11	402,56	65,44	468,00	1110	517	1630	137000	19,38	48400	77000	0,0717	830	1500
CONDOR	253,40	54/7/3,08	9,24	27,76	402,33	52,15	454,49	1120	412	1530	125000	19,91	47500	73200	0,0718	830	2000
CRANE	278,70	54/7/3,23	9,69	29,11	442,47	57,36	499,83	1230	453	1680	137000	19,91	47200	73200	0,0653	880	2000
CANARY	286,80	54/7/3,28	9,84	29,51	456,28	59,15	515,43	1260	468	1730	141000	19,91	47100	73200	0,0634	900	2000
RAIL	304,00	45/3,70 +7/2,47	7,41	29,59	483,84	33,54	517,39	1340	265	1610	117000	21,11	42400	66700	0,0598	920	2000

Aluminium Conductor Steel Reinforced - ACSR (Canadian Standard Sizes)

Code name	Equival. copper area	Stranding and wire diameter	Diameter over steel	Overall diameter (Std.)	Aluminium area	Steel area	Total area	Mass kg/km			Ultimate tensile strength	Coefficient of linear expansion	Initial modulus of elasticity	Final modulus of elasticity	DC resistance at 20°C	Current rating	Standard drum length
	mm²	mm	mm	mm	mm²	mm²	mm²	Aluminium	Steel	Total	Newton	/C° x 10^{-6}	MPa	MPa	Ω/km	A	m
CARDINAL	305,00	54/7/3,38	10,14	30,38	484,53	62,81	547,33	1340	497	1840	149000	19,91	46900	73200	0,0597	930	2000
ORTLAN	329,40	45/3,85 +7/2,57	7,71	30,81	523,87	36,31	560,18	1450	287	1740	126000	21,11	42200	66700	0,0552	970	2000
CURLEW	329,40	54/7/3,52	10,56	31,65	525,50	68,12	593,62	1460	539	2000	161000	19,91	46700	73200	0,0550	980	2000
BLUEJAY	354,70	45/4,00 +7/2,66	7,98	31,98	565,49	38,90	604,39	1560	308	1870	135000	21,13	42000	66600	0,0513	1000	1000
FINCH	354,70	54/3,65 +19/2,19	10,95	32,84	565,03	71,57	636,60	1570	568	2138	176000	19,97	47300	72300	0,0512	1000	2000
BUNTING	380,00	45/4,14 +7/2/76	8,28	33,07	605,76	41,88	647,64	1680	331	2010	145000	21,12	41900	66700	0,0478	1100	1000
GRACKLE	380,00	54/3,77 +19/2,27	11,35	33,99	602,79	76,89	679,68	1670	610	2280	187000	19,95	47100	72300	0,0480	1100	1000
BITTERN	405,40	45/4,27 +7/2,85	8,55	34,16	644,40	44,66	689,06	1780	353	2130	154000	21,11	41900	66700	0,0449	1100	1000
PHEASANT	405,40	54/3,90 +19/2,34	11,70	35,36	645,08	81,71	726,79	1790	648	2440	199000	19,97	46900	72300	0,0448	1100	1000
DIPPER	430,70	45/4,40 +7/2,92	8,76	35,18	684,24	46,88	731,12	1890	371	2260	162000	21,13	41700	66500	0,0422	1100	1000
MARTIN	430,70	54/4,02 +19/2,41	12,05	36,17	685,39	86,67	772,06	1900	687	2590	210000	19,97	46700	72300	0,0422	1100	1000
BOBLINK	456,00	45/4,53 +7/3,02	9,06	36,25	725,27	50,14	775,41	2010	396	2410	172000	21,12	417,00	66700	0,0399	1200	1000
PLOVER	456,00	54/4,14 +19/2,48	12,40	37,21	726,92	91,78	818,70	2010	728	2740	222000	19,97	46500	72200	0,0398	1200	1000
NUTHATCH	481,40	45/4,65 +7/3,10	9,30	37,21	764,20	52,83	817,04	2110	418	2530	181000	21,12	41600	66700	0,0378	1200	1000
PARROT	481,40	54/4,25 +19/2,55	12,75	38,25	766,06	97,03	863,09	2120	770	2890	234000	19,97	46400	72300	0,0377	1200	1000
LAPWING	506,70	45/4,77 +7/3,18	9,54	38,15	804,15	55,60	859,75	2220	440	2660	190000	21,12	41600	66700	0,0359	1300	1000
FALCON	506,70	54/4,36 +19/2,62	13,10	39,24	806,23	102,43	908,66	2230	813	3040	246000	19,96	46400	72300	0,0359	1300	1000
CHUKAR	567,00	84/3,70 +19/2,22	11,10	40,69	903,18	73,54	976,72	2497	583	3080	233000	20,85	43600	67500	0,0321	1300	1000

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Aluminium Conductor Steel Reinforced - ACSR (British Standard Sizes)

Code name	Equival. copper area	Stranding and wire diameter	Diameter over steel	Overall diameter (Std.)	Aluminium area	Steel area	Total area	Mass kg/km			Ultimate tensile strength	Coefficient of linear expansion	Initial modulus of elasticity	Final modulus of elasticity	DC resistance at 20°C	Current rating	Standard drum length
	mm²	mm	mm	mm	mm²	mm²	mm²	Aluminium	Steel	Total	Newton	/C° x 10^{-6}	MPa	MPa	Ω/km	A	m
MOLE	6,45	6/1/1,50	1,50	4,50	10,60	1,77	12,37	29,20	13,90	43,10	4780	19,31	65000	80400	2,7062	87	3000
SQUIRREL	12,90	6/1/2,11	2,11	6,33	20,98	3,50	24,48	57,70	27,50	85,20	8020	19,31	54600	80400	1,3677	130	3000
GOPHER	16,30	6/1/2,36	2,36	7,08	26,25	4,37	30,62	72,20	34,40	107	9610	19,31	52700	80400	1,0933	150	3000
WEASEL	19,35	6/1/2,59	2,59	7,77	31,61	5,27	36,88	87,00	41,50	129	11450	19,31	51500	80400	0,9077	170	2500
FOX	22,58	6/1/2,79	2,79	8,37	36,68	6,11	42,80	101	48,10	149	13100	19,31	50700	80400	0,7822	190	2500
FERRET	25,81	6/1/3,00	3,00	9,00	42,41	7,07	49,48	117	55,60	173	15200	19,31	50200	80400	0,6766	210	1500
RABBIT	32,26	6/1/3,35	3,35	10,05	52,88	8,81	61,70	145	69,40	214	18500	19,31	49500	80400	0,5426	240	1500
MINK	38,71	6/1/3,66	3,66	10,98	63,13	10,52	73,65	174	82,80	257	21900	19,31	49100	80400	0,4546	260	1500
SKUNK	38,71	12/7/2,59	7,77	12,95	63,22	36,88	100,10	175	292	467	52900	15,84	71900	108000	0,4571	270	2000
BEAVER	45,16	6/1/3,99	3,99	11,97	75,02	12,50	87,53	206	98,40	304	25900	19,31	48800	80400	0,3825	290	1500
HORSE	45,16	12/7/2,79	8,37	13,95	73,36	42,80	116,16	203	338	541	60700	15,84	71000	108000	0,3939	300	2000
RACCOON	48,39	6/1/4,09	4,09	12,27	78,83	13,14	91,97	217	103	320	27200	19,31	48700	80400	0,3640	300	1500
OTTER	51,61	6/1/4,22	4,22	12,66	83,92	13,99	97,91	231	110	341	28900	19,31	48700	80400	0,3419	310	1500
CAT	58,06	6/1/4.50	4,50	13,50	95,43	15,90	111,33	263	125	388	32800	19,31	48500	80400	0,3007	340	1500
HARE	64,52	6/1/4,72	4,72	14,16	104,98	17,50	122,48	289	138	427	36000	19,31	48500	80400	0,2733	360	1500
DOG	64,52	6/4,72 +7/1,57	4,71	14,15	104,98	13,55	118,53	289	100	389	34700	19,92	48800	76400	0,2733	360	2000
HYENA	64,52	7/4,39 +7/1,93	5,79	14,57	105,95	20,48	126,43	291	162	453	41900	18,93	52400	82200	0,2697	360	2000
LEOPARD	80,65	6/5,28 +7/1,75	5,25	15,81	131,37	16,84	148,21	361	133	494	42200	19,54	47800	76300	0,2184	410	2000
COYOTE	80,65	26/2,54 +7/1,91	5,73	15,89	131,74	20,06	151,80	365	159	524	47300	19,54	51900	76000	0,3035	420	2000 2000
TIGER	80,65	30/7/2,36	4,72	16,52	131,23	30,62	161,85	364	242	606	58700	18,43	56900	83400	0,2202	420	2000
WOLF	96,77	30/7/2,59	7,77	18,13	158,06	36,88	194,94	438	292	730	69200	18,43	55700	83400	0,1828	470	2000
LYNX	112,90	30/7/2,79	8,37	19,53	183,41	42,80	226,20	508	330	846	79300	18,43	54900	83400	0,1576	520	2000
PANTHER	129,00	30/7/3,00	9,00	21,00	212,06	49,48	261,54	588	391	970	90800	18,43	54300	83400	0,1363	560	2000
LION	145,20	30/7/3,18	9,54	22,26	238,27	55,60	293,86	660	440	1100	101000	18,43	53900	83400	0,1213	610	2000
BEAR	161,30	30/7/3,35	10,05	23,45	264,42	61,70	326,12	733	488	1220	112000	18,43	53600	83400	0,1093	650	2000
GOAT	193,50	30/7/3,71	11,13	25,97	324,31	75,67	399,98	899	598	1500	136000	18,43	53100	83400	0,0891	730	2000
SHEEP	225,80	30/7/3,99	11,97	27,93	375,11	87,53	462,63	1040	692	1730	157000	18,43	52900	83400	0,0770	800	2000
ANTELOPE	225,80	54/7/2,97	8,91	26,73	374,11	48,50	422,60	1040	383	1420	117000	19,91	47700	73200	0,0773	790	2000
BISON	225,80	54/7/3,00	9,00	27,00	381,70	49,48	431,18	1060	391	1450	119000	19,91	47600	73200	0,0757	800	2000
DEER	258,10	30/7/4,27	12,81	29,89	429,60	100,24	529,84	1190	792	1980	179000	18,43	52800	83400	0,0673	870	2000
ZEBRA	258,10	54/7/3,18	9,54	28,62	428,88	55,60	484,48	1190	440	1630	133000	19,91	47300	73200	0,0674	860	1500
ELK	290,30	30/7/4,50	13,50	31,50	477,13	111,33	588,46	1320	880	2200	199000	18,43	52700	83400	0,0606	930	2000
CAMEL	290,30	54/7/3,35	10,05	30,15	475,96	61,70	537,66	1320	488	1810	147000	19,91	47000	73200	0,0607	920	2000
MOOSE	322,60	54/7/3,53	10,59	31,77	528,49	68,51	596,99	1460	542	2000	162000	19,91	46700	73200	0,0547	980	2000
DINOSAUR	414,63	54/3,95 +19/2,36	11,80	35,50	661,73	83,11	744,84	1835	658	2493	202920	19,91	46700	72200	0,0437	1110	2000
BERSFORD	430,70	48/4,27 +7/3,32	9,96	35,58	687,36	60,60	747,96	1906	480	2386	177650	20,68	43200	68800	0,0420	1132	2000

Aluminium Conductor Steel Reinforced - ACSR (Extra Strong)

Code name	Equival. copper area	Stranding and wire diameter	Diameter over steel	Overall diameter (Std.)	Aluminium area	Steel area	Total area	Mass kg/km			Ultimate tensile strength	Coefficient of linear expansion	Final modulus of elasticity	DC resistance at 20°C	Current rating	Standard drum length
	mm²	mm	mm	mm	mm²	mm²	mm²	Aluminium	Steel	Total	Newton	/C° x 10^{-6}	MPa	Ω/km	A	m
BANTAM	4,18	3/4/1,68	-	5,03	6,65	8,83	15,48	18,21	69,59	87,80	11679	13,68	133760	4,303	69	3000
MAGPIE	6,65	3/4/2,118	-	6,35	10,58	14,13	24,71	28,90	110,80	139,70	18573	13,68	133760	2,707	92	3000
SHRIKE	10,57	3/4/2,672	-	8,03	16,84	22,45	39,29	46,00	176,30	222,30	28547	13,68	133760	1,705	122	2500
SNIPE	16,81	3/4/3,371	-	10,11	26,71	35,68	62,39	73,20	280,40	353,60	43923	13,68	133760	1,070	162	2000
LOON	21,20	3/4/3,785	-	11,35	33,74	44,97	78,71	92,30	353,60	445,90	55300	13,68	133760	0,849	186	1500
GROUSE	25,49	8/2,540 +1/4,242	4,24	9,32	40,52	14,13	54,65	111,20	109,60	221,10	23153	16,92	93770	0,707	195	1500
PETREL	32,51	12/7/2,339	7,02	11,71	51,61	30,07	81,89	142,10	234,80	376,90	43835	15,30	104800	0,567	232	2000
MINORCA	35,32	12/7/2,441	7,32	12,22	56,13	32,77	88,90	154,70	255,60	410,30	47719	15,30	104800	0,512	244	1500
LEGHORN	42,87	12/7/2,690	8,07	13,46	68,19	39,81	108,00	188,00	310,30	498,30	57516	15,30	104800	0,422	275	2000
GUINEA	50,67	12/7/2,924	8,77	14,63	80,58	46,92	127,50	222,10	366,70	588,80	67567	15,30	104800	0,358	304	1500
DOTTEREL	56,35	12/7/3,084	9,25	15,42	89,61	52,29	141,90	246,90	407,80	654,70	73108	15,30	104800	0,321	325	2000
DORKING	60,80	12/7/3,204	9,61	16,03	96,71	56,39	153,10	266,30	440,30	706,60	78874	15,30	104800	0,299	339	2000
AUK	64,71	8/4,046 +7/2,248	6,74	14,83	102,80	27,80	130,60	282,10	216,70	498,90	49621	17,64	86870	0,278	346	2000
BRAHMA	64,76	16/19/2,863	12,41	18,14	103,00	91,80	194,80	285,50	719,50	1005	122543	14,22	115830	0,281	360	1500
COCHIN	67,34	12/7/3,371	10,11	16,87	107,10	62,40	169,50	295,10	487,30	782,40	87396	15,30	104800	0,270	356	1500

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Aluminium Conductor Steel Reinforced - ACSR (Australian Standard Sizes)

Code name	Equival. copper area	Stranding and wire diameter	Diameter over steel	Overall diameter (Std.)	Aluminium area	Steel area	Total area	Mass kg/km			Ultimate tensile strength	Coefficient of linear expansion	Initial modulus of elasticity	Final modulus of elasticity	DC resistance at 20°C	Current rating	Standard drum length
	mm²	mm	mm	mm	mm²	mm²	mm²	Aluminium	Steel	Total	Newton	/C° x 10^{-6}	MPa	MPa	Ω/km	A	m
ALMOND	46,83	6/1/2,50	2,50	7,50	29,45	4,91	34,36	80,99	38,59	119,58	10700	19,3	51900	80400	0,9742	163	3000
APPLE	67,43	6/1/3,00	3,00	9,00	42,41	7,07	49,48	116,23	55,57	171,80	15000	19,3	50200	80400	0,6766	204	3000
BANANA	105,37	6/1/3,75	3,75	11,25	66,27	11,04	77,31	182,24	86,77	269,01	22900	19,3	49000	80400	0,4330	269	3000
CHERRY	169,05	6/4,75 & 7/1,60	4,80	14,30	106,32	14,07	120,39	292,38	111,01	403,39	35500	19,9	49000	76700	0,2699	361	1000
GRAPE	234,14	30/7/2,50	7,50	17,50	147,26	34,36	181,62	407,91	271,79	679,70	65000	18,4	56100	83400	0,1962	445	2000
LEMON	337,18	30/7/3,00	9,00	21,00	212,06	49,48	261,54	587,41	391,39	978,80	90800	18,4	54300	83400	0,1363	558	2000
LIME	458,92	30/7/3,50	10,50	24,50	288,63	67,35	355,98	799,51	532,74	1332,25	122000	18,4	53400	83400	0,1001	676	2000
MANGO	606,90	54/7/3,00	9,00	27,00	381,70	49,48	431,18	1057,31	391,38	1448,69	119000	19,9	47600	73200	0,0757	795	2000
ORANGE	712,27	54/7/3,25	9,75	29,25	447,97	58,07	506,04	1240,88	459,33	1700,21	138000	19,9	47100	73200	0,0645	877	2000
OLIVE	826,07	54/7/3,50	10,50	31,50	519,54	67,35	586,89	1439,13	532,74	1971,87	159000	19,9	46800	73200	0,0556	960	2000
PAWPAW	948,29	54/3,75 & 19/2,25	11,25	33,75	596,41	75,55	671,96	1652,06	599,87	2251,93	185000	20,0	47100	72300	0,0485	1040	1000
PEACH	1521,49	54/4,75 & 19/2,85	14,25	42,75	956,91	121,21	1078,12	2650,64	962,41	3613,05	289000	20,0	46100	72300	0,0302	1380	1000

Aluminium Conductor Steel Reinforced - ACSR (Australian Standard Sizes) (Extra Strong Constructions)

Code name	Equival. copper area	Stranding and wire diameter	Diameter over steel	Overall diameter (Std.)	Aluminium area	Steel area	Total area	Mass kg/km			Ultimate tensile strength	Coefficient of linear expansion	Initial modulus of elasticity	Final modulus of elasticity	DC resistance at 20°C	Current rating	Standard drum length
	mm²	mm	mm	mm	mm²	mm²	mm²	Aluminium	Steel	Total	Newton	/C° x 10^{-6}	MPa	MPa	Ω/km	A	m
QUINCE	11,48	3/4/1,75	*	5,25	7,22	9,62	16,84	19,78	75,61	95,39	12700	13,9	-	133760	3,9377	79	3000
RAISIN	23,42	3/4/2,50	*	7,50	14,73	19,63	34,36	38,99	154,29	193,28	24400	13,9	-	133760	1,9295	115	3000
SULTANA	44,95	4/3/3,00	*	9,00	28,27	21,21	49,48	77,46	166,71	244,17	28300	15,2	-	122000	1,0048	167	3000
WALNUT	70,25	4/3/3,75	*	11,25	44,18	33,131	77,31	121,05	260,40	381,45	43900	15,2	-	122000	0,6431	220	3000

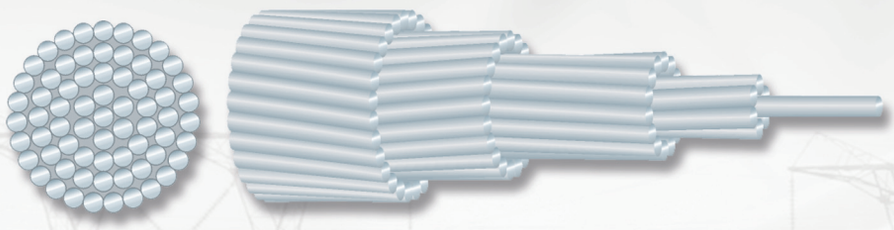
*** Steel strands mixed in layer with aluminium strands**

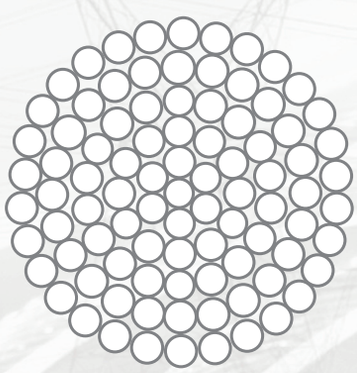
Aluminium Conductor Steel Reinforced - ACSR (South African Standard Sizes)

Code name	Equival. copper area	Stranding and wire diameter	Diameter over steel	Overall diameter (Std.)	Aluminium area	Steel area	Total area	Mass kg/km			Ultimate tensile strength	Coefficient of linear expansion	Initial modulus of elasticity	Final modulus of elasticity	DC resistance at 20°C	Current rating	Standard drum length
	mm^2	mm	mm	mm	mm^2	mm^2	mm^2	Aluminium	Steel	Total	Newton	/C° x 10^{-6}	MPa	MPa	Ω/km	A	m
* 21/3,5	12,8	6/1/2,11	2,11	6,33	20,9	3,5	24,5	58	27	85	7710	19,31	54600	80400	1,395	130	3000
* 26/4,4	16,0	6/1/2,36	2,36	7,16	26,3	4,4	30,6	72	34	106	9610	19,31	52700	80400	1,116	150	3000
* 37/6,1	22,4	6/1/2,79	2,79	8,45	36,7	6,1	42,8	100	48	148	13150	19,31	50700	80400	0,798	190	2500
* 42/7,1	25,8	6/1/3,00	3,00	9,09	42,4	7,1	49,5	117	55	172	15200	19,31	50200	80400	0,690	210	1500
* 53/8,8	32,3	6/1/3,35	3,35	10,15	52,9	8,8	61,7	145	69	214	18400	19,31	49500	80400	0,553	240	1500
* 63/11	38,5	6/1/3,66	3,66	11,09	63,1	10,5	73,7	173	83	255	22500	19,31	49100	80400	0,463	260	1500
105/17	64,0	6/1/4,72	4,72	14,30	105	17,5	122	288	137	425	36540	19,31	48500	80400	0,278	360	1500
105/14	64,0	6/4,75 +7/1,57	4,71	14,29	105	12,7	118	292	102	394	32640	19,92	48800	76400	0,278	360	2000
158/37	96,4	30/7/2,59	7,77	18,31	158	36,9	195	436	290	726	69250	18,43	55700	83400	0,186	470	2000
264/62	161	30/7/3,35	10,05	23,69	264	61,7	326	729	485	1214	111400	18,43	53600	83400	0,111	650	2000
429/56	262	54/7/3,18	9,54	28,91	429	55,6	484	1185	436	1621	131900	19,91	47300	73200	0,0687	860	1500
662/84	404	54/3,95 +19/2,37	11,85	35,94	662	83,8	746	1826	663	2489	205500	19,96	46900	72300	0,0445	1123	1000

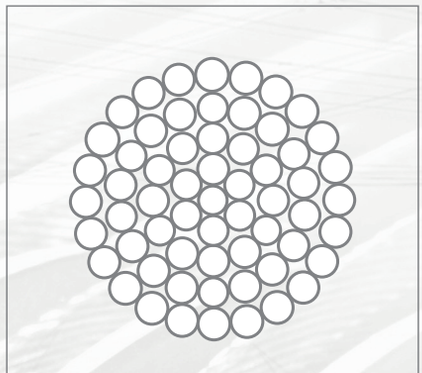
*** Standard British Sizes**

AAC
All Aluminium Conductor





91 Al.



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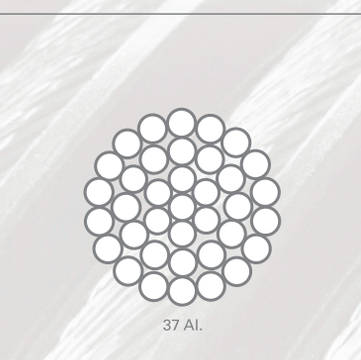

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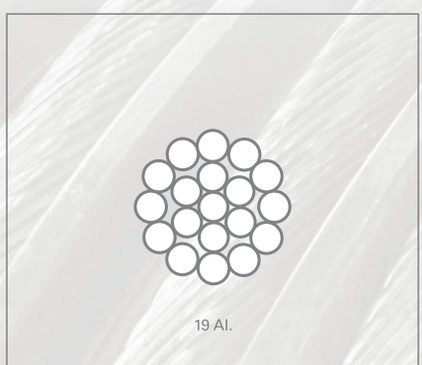

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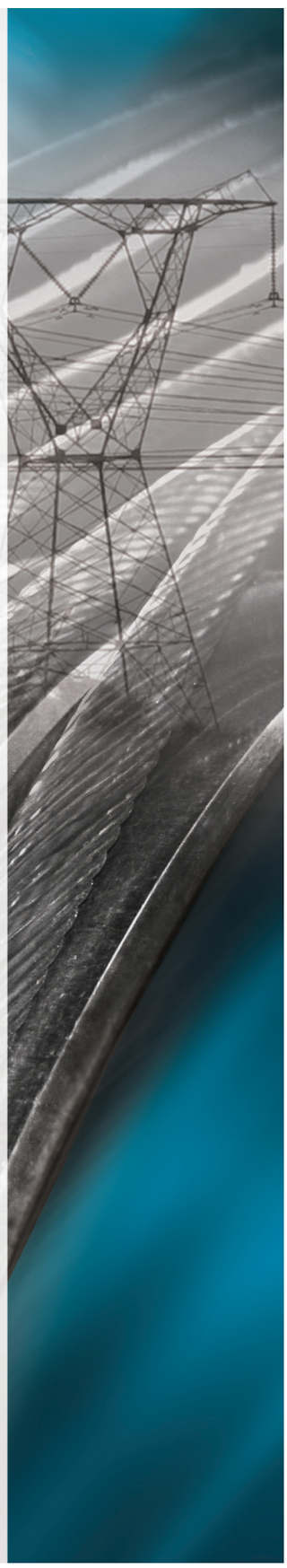
7 Al.



All Aluminium Conductor - AAC (British Standard Sizes)

Code name	Equival. copper area	Stranding and wire diameter	Overall diameter	Aluminium area	Mass	Ultimate tensile strength	Coefficient of linear expansion	Initial modulus of elasticity	Final modulus of elasticity	DC resistance at 20°C	Current rating	Standard drum length
	mm²	mm	mm	mm²	kg/km	Newton	/C° x 10^{-6}	MPa	MPa	Ω/km	A	m
MIDGE	14,19	7/2,06	6,18	23,33	64,00	4340	23	52400	61000	1,2271	139	3000
APHIS	16,13	3/3,35	7,24	26,44	72,70	4340	23	50000	69000	1,0810	154	3000
GNAT	16,13	7/2,21	6,63	26,85	73,70	4860	23	52400	61000	1,0662	152	3000
WEEVIL	19,35	3/3,66	7,91	31,56	86,80	5130	23	60000	69000	0,9078	172	3000
MOSQUITO	22,58	7/2,59	7,77	36,88	101	6360	23	52400	61000	0,7763	185	2500
LADYBIRD	25,81	7/2,79	8,37	42,80	117	7250	23	52400	61000	0,6690	203	2500
ANT	32,26	7/3,10	9,30	52,83	145	8770	23	52400	61000	0,5419	231	2500
FLY	38,71	7/3,40	10,20	63,55	174	10400	23	52400	61000	0,4505	259	2500
BLUEBOTTLE	45,16	7/3,66	10,98	73,65	202	12000	23	52400	61000	0,3887	284	2500
EARWIG	48,39	7/3,78	11,34	78,55	216	12700	23	52400	61000	0,3644	296	2500
GRASSHOPPER	51,61	7/3,91	11,73	84,05	231	13600	23	52400	61000	0,3406	308	2000
CLEGG	58,06	7/4,17	12,51	95,60	262	15400	23	52400	61000	0,2995	334	1500
WASP	64,52	7/4,39	13,17	105,95	291	17000	23	52400	61000	0,2702	356	1500
BEETLE	64,52	19/2,67	13,35	106,38	293	18200	23	49650	59650	0,2704	358	2000
BEE	80,64	7/4,90	14,70	132,00	362	21000	23	52400	61000	0,2169	408	1000
CRICKET	96,77	7/5,36	16,08	157,95	434	25100	23	52400	61000	0,1813	456	1000
HORNET	96,77	19/3,25	16,25	157,95	435	26000	23	49650	59650	0,1825	457	2000
CATERPILLAR	112,90	19/3,53	17,65	185,95	513	30300	23	49650	59650	0,1547	506	2000
CHAFER	129,00	19/3,78	18,90	213,22	588	34500	23	49650	59650	0,1349	551	2000
SPIDER	145,20	19/3,99	19,95	237,57	655	38300	23	49650	59650	0,1211	589	1500
COCKROACH	161,30	19/4,22	21,10	265,75	733	42700	23	49650	59650	0,1083	632	1500
BUTTERFLY	193,50	19/4,65	23,25	322,66	890	51500	23	49650	59650	0,0892	713	1000
MOTH	225,80	19/5,00	25,00	373,06	1030	59400	23	49650	59650	0,0771	779	1000
DRONE	225,80	37/3,58	25,06	372,44	1030	60600	23	48250	58600	0,0774	779	1000
LOCUST	258,10	19/5,36	26,80	428,72	1180	68200	23	49650	59650	0,0671	849	2000
CENTIPEDE	258,10	37/3,78	26,46	415,22	1150	67200	23	48250	58600	0,0694	833	1000
MAYBUG	290,30	37/4,09	28,63	486,11	1340	78200	23	48250	58600	0,0593	918	1000
SCORPION	322,60	37/4,27	29,89	529,84	1460	85000	23	48250	58600	0,0544	967	1000
CICADA	387,10	37/4,65	32,55	628,34	1740	100000	23	48250	58600	0,0459	1070	1000
TARANTULA	483,90	37/5,23	36,61	794,87	2200	126000	23	48250	58600	0,0363	1230	1000
BULL	527,87	61/4,25	38,25	865,36	2400	139000	23	46200	57570	0,0334	1300	1000

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All Aluminium Conductor - AAC (Canadian Standard Sizes)

Code name	Equival. copper area	Stranding and wire diameter	Overall diameter	Aluminium area	Mass	Ultimate tensile strength	Coefficient of linear expansion	Initial modulus of elasticity	Final modulus of elasticity	DC resistance at 20°C	Current rating	Standard drum length
	mm^2	mm	mm	mm^2	kg/km	Newton	/C° x 10^{-6}	MPa	MPa	Ω/km	A	m
ROSE	13,30	7/1,96	5,88	21,12	58,00	4020	23	52400	61000	1,3555	130	5000
LILY	16,77	7/2,20	6,60	26,61	73,00	4830	23	52400	61000	1,0759	150	5000
IRIS	21,15	7/2,47	7,41	33,54	92,10	5860	23	52400	61000	0,8535	170	5000
PANSY	26,67	7/2,77	8,31	42,18	116	7150	23	52400	61000	0,6787	200	2000
POPPY	33,62	7/3,12	9,36	53,52	147	8870	23	52400	61000	0,5349	230	2000
ASTER	42,41	7/3,50	10,50	67,35	185	11000	23	52400	61000	0,4251	270	2000
PHLOX	53,50	7/3,93	11,79	84,91	233	13700	23	52400	61000	0,3372	310	2000
OXLIP	67,43	7/4,41	13,23	106,92	294	17100	23	52400	61000	0,2678	360	2000
DAISY	85,01	7/4,96	14,88	135,25	371	21600	23	52400	61000	0,2117	410	2000
PEONY	95,59	19/3,19	15,95	151,85	419	25100	23	49650	59650	0,1894	450	1500
TULIP	107,21	19/3,38	16,90	170,48	470	27900	23	49650	59650	0,1687	480	2000
CANNA	126,69	19/3,67	18,35	200,99	554	32600	23	49650	59650	0,1431	530	2000
COSMOS	152,01	19/4,02	20,10	241,15	665	38900	23	49650	59650	0,1193	590	2000
ZINNIA	159,38	19/4,12	20,60	253,30	699	40700	23	49650	59650	0,1136	610	2000
DAHLIA	177,40	19/4,34	21,70	281,08	775	45100	23	49650	59650	0,1023	650	2000
ORCHID	202,70	37/3,33	23,31	322,24	891	52900	23	48250	58600	0,0895	710	2000
VIOLET	228,01	37/3,53	24,71	362,11	1000	59000	23	48250	58600	0,0796	770	2000
PETUNIA	239,00	37/3,61	25,27	378,71	1050	61600	23	48250	58600	0,0761	790	2000
ARBUTUS	253,39	37/3,72	26,04	402,14	1110	65200	23	48250	58600	0,0717	820	2000
ANEMONE	278,71	37/3,90	27,30	442,00	1220	71400	23	48250	58600	0,0652	870	1500
MAGNOLIA	304,09	37/4,08	28,56	483,74	1340	77800	23	48250	58600	0,0596	910	1500
BLUEBELL	329,29	37/4,24	29,68	522,42	1440	83900	23	48250	58600	0,0552	960	1000
MARIGOLD	354,72	61/3,43	30,87	563,65	1560	92200	23	46200	57570	0,0513	1000	1000
HAWTHORN	380,02	61/3,55	31,95	603,78	1670	98400	23	46200	57570	0,0479	1050	1000
NARCISSUS	405,41	61/3,67	33,03	645,29	1790	105000	23	46200	57570	0,0448	1100	1000
COLUMBINE	437,72	61/3,78	34,02	684,55	1900	111000	23	46200	57570	0,0422	1130	1000
CARNATION	456,01	61/3,89	35,01	724,97	2010	117000	23	46200	57570	0,0399	1170	1000
GLADIOLUS	481,42	61/3,99	35,91	762,72	2110	123000	23	46200	57570	0,0379	1200	1000
COREOPSIS	506,71	61/4,10	36,90	805,36	2230	130000	23	46200	57570	0,0359	1240	1000

All Aluminium Conductors - AAC (South African Standard Sizes)

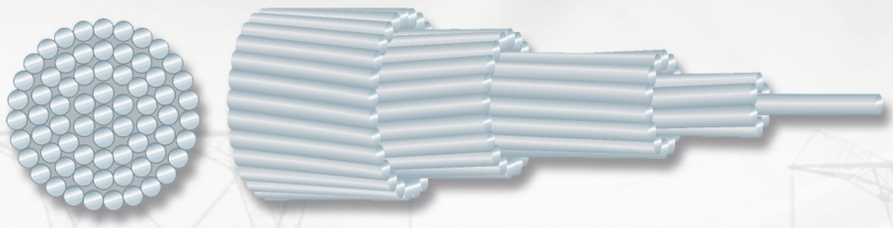
Code name	Equival. copper area	Stranding and wire diameter	Overall diameter	Aluminium area	Mass	Ultimate tensile strength	Coefficient of linear expansion	Initial modulus of elasticity	Final modulus of elasticity	DC resistance at 20°C	Current rating	Standard drum length
	mm²	mm	mm	mm²	kg/km	Newton	/C° x 10^{-6}	MPa	MPa	Ω/km	A	m
25	15,6	7/2,12	6,42	24,7	68	4120	23	52400	61000	1,182	144	3000
39	24,3	7/2,65	8,03	38,6	106	6120	23	52400	61000	0,756	190	2500
58	36,6	7/3,25	10,15	58,1	159	8820	23	52400	61000	0,503	247	2500
100	62,9	7/4,26	12,91	99,8	273	14600	23	52400	61000	0,293	343	1500
* 158	99,4	19/3,25	16,92	157,6	434	23400	23	49650	59650	0,196	457	2000
271	171,0	19/4,26	21,52	270,8	745	38800	23	49650	59650	0,108	640	1500
* 323	203,5	19/4,65	23,49	322,7	888	46200	23	49650	59650	0,0909	713	1000
* 415	262,0	37/3,78	26,73	415,2	1145	59900	23	48250	58600	0,0708	833	1000
* 527	332,6	37/4,26	30,12	527,4	1454	75600	23	48250	58600	0,0558	967	1000
† 685	431,8	61/3,78	34,36	684,6	1891	96600	23	46200	57570	0,0431	1130	1000
* 869	548,3	61/4,26	38,73	869,4	2402	122000	23	46200	57570	0,0339	1300	1000

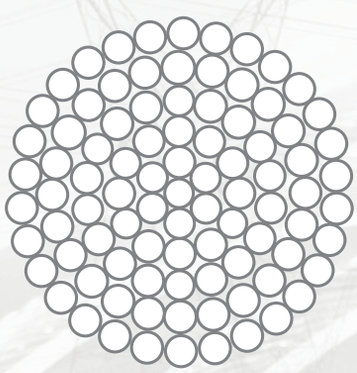
* Standard British sizes
† Standard Canadian sizes

All Aluminium Conductors - AAC (Australian Standard Sizes)

Code name	Equival. copper area	Stranding and wire diameter	Overall diameter	Aluminium area	Mass	Ultimate tensile strength	Coefficient of linear expansion	Initial modulus of elasticity	Final modulus of elasticity	DC resistance at 20°C	Current rating	Standard drum length
	mm²	mm	mm	mm²	kg/km	Newton	/C° x 10^{-6}	MPa	MPa	Ω/km	A	m
GEMINI	26,61	7/1,75	5,25	16,84	46	3400	23	52400	61000	1,7003	120	5000
JUPITER	43,97	7/2,25	6,75	27,83	76	5010	23	52400	61000	1,0286	160	5000
LEO	54,29	7/2,50	7,50	34,36	94	5980	23	52400	61000	0,8332	180	5000
LIBRA	78,18	7/3,00	9,00	49,48	136	8260	23	52400	61000	0,5786	220	2000
MARS	122,15	7/3,75	11,25	77,31	213	12500	23	52400	61000	0,3703	300	2000
MERCURY	175,90	7/4,50	13,50	111,33	307	17800	23	52400	61000	0,2572	370	2000
MOON	195,98	7/4,75	14,25	124,04	342	19800	23	52400	61000	0,2308	390	2000
NEPTUNE	249,04	19/3,25	16.25	157,62	435	26000	23	49650	59650	0,1825	460	2000
PLUTO	331,56	19/3,75	18,75	209,85	579	34000	23	49650	59650	0,1371	550	2000
SATURN	413,23	37/3,00	21,00	261,54	722	43700	23	48250	58600	0,1102	620	2000
TAURUS	531,97	19/4,75	23,75	336,69	929	53700	23	49650	59650	0,0854	730	2000
TRITON	645,67	37/3,75	26,25	408,65	1128	66200	23	48250	58600	0,0706	820	2000
URANUS	799,54	61/3,25	29,25	506,04	1397	83400	23	46200	57570	0,0571	940	1000
VENUS	1064,48	61/3,75	36,75	673,72	1859	109000	23	46200	57570	0,0429	1130	1000
VIRGO	2286,72	91/4,50	49,50	1447,29	3995	232000	23	46200	57570	0,0200	1710	1000

AAAC
All Aluminium Alloy Conductor





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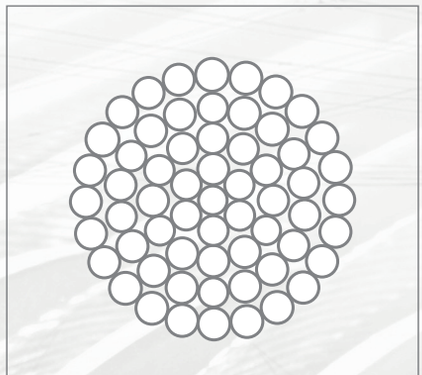

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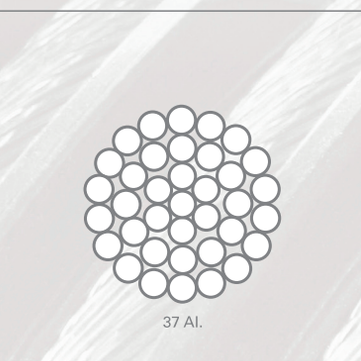

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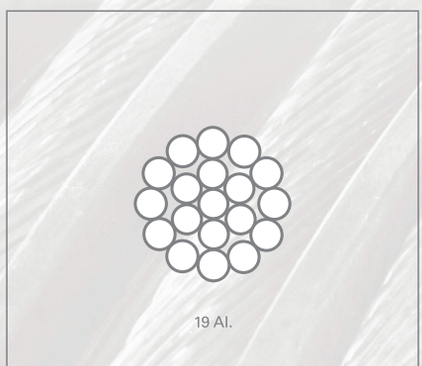

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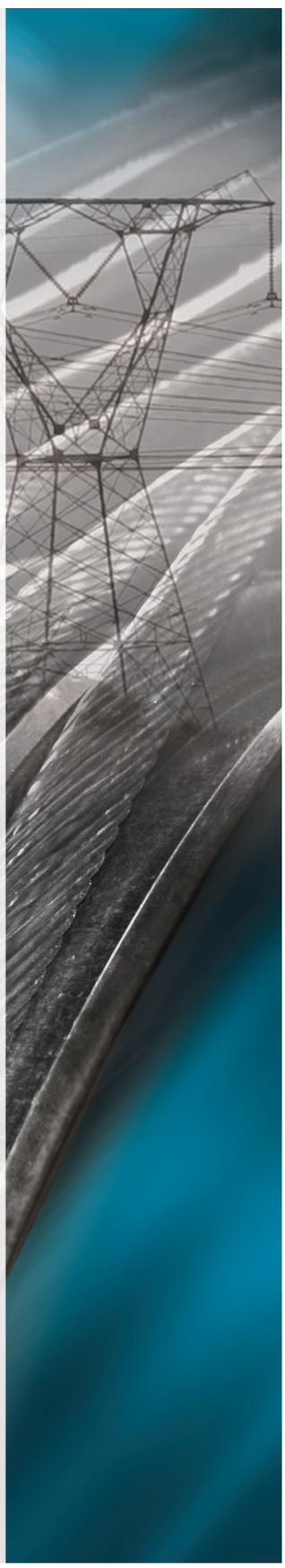

All Aluminium Alloy Conductors - AAAC (Australian Standard Sizes)

Code name	Equival. copper area	Stranding and wire diameter	Overall diameter	Aluminium area	Mass	Ultimate tensile strength	Coefficient of linear expansion	Initial modulus of elasticity	Final modulus of elasticity	DC resistance at 20°C	Current rating	Standard drum length
	mm^2	mm	mm	mm^2	kg/km	Newton	/C° x 10^{-6}	MPa	MPa	Ω/km	A	m
AGATE	9,0	7/1,75	5,25	16,84	46	4724	23	52400	61000	1,952	106	3000
AMETHYST	14,8	7/2,25	6,75	27,83	76	7800	23	52400	61000	1,18	147	3000
DIAMOND	18,2	7/2,50	7,50	34,36	94	9630	23	52400	61000	0,958	167	2500
EMERALD	26,2	7/3,00	9,00	49,48	135	13900	23	52400	61000	0,665	209	2500
GARNET	41,0	7/3,75	11,30	77,31	211	21700	23	52400	61000	0,426	276	2000
JADE	59,0	7/4,50	13,5	111,3	304	31200	23	52400	61000	0,296	346	1000
JASPER	65,8	7/4,75	14,3	124,0	339	34800	23	52400	61000	0,265	371	1000
OPAL	83,6	19/3,25	16,3	157,6	433	44200	23	49650	59650	0,210	430	2000
PEARL	111,0	19/3,75	18,8	209,8	577	58800	23	49650	59650	0,158	513	2000
RUBY	138,7	37/3,00	21,0	261,5	720	73300	23	48250	58600	0,127	588	2000
RUTILE	178,6	19/4,75	23,8	336,7	925	94400	23	49650	59650	0,0982	689	1000
SAPPHIRE	216,8	37/3,75	26,3	408,7	1125	114500	23	48250	58600	0,0811	776	2000
SPINEL	268,4	61/3,25	29,3	506,0	1400	141800	23	46200	57570	0,0650	889	2000
TOPAZ	357,4	61/3,75	33,8	673,7	1863	189000	23	46200	57570	0,0490	1056	2000
ZIRCON	769,8	91/4,50	49,5	1447,3	4003	406000	23	46200	57570	0,0230	1630	1000

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All Aluminium Alloy Conductors - AAAC (British Standard Sizes)

Code name	Equival. copper area	Stranding and wire diameter	Overall diameter	Aluminium area	Mass	Ultimate tensile strength	Coefficient of linear expansion	Initial modulus of elasticity	Final modulus of elasticity	DC resistance at 20°C	Current rating	Standard drum length
	mm²	mm	mm	mm²	kg/km	Newton	/C° x 10^{-6}	MPa	MPa	Ω/km	A	m
ACACIA	13	7/2,08	6,24	23,79	65	6690	23	52500	61000	1,39	133	3000
ALMOND	16	7/2,34	7,02	30,10	82	8440	23	52400	61000	1,10	153	2500
CEDAR	19	7/2,54	7,59	35,47	97	9960	23	52400	61000	0,934	169	2500
35	22	7/2,77	8,31	42,18	115	11860	23	52400	61000	0,785	189	2500
FIR	25	7/2,95	8,85	47,84	131	13430	23	52400	61000	0692	204	2500
HAZEL	32	7/3,30	9,90	59,87	164	16820	23	52400	61000	0,553	235	2500
PINE	38	7/3,61	10,83	71,65	196	20200	23	52400	61000	0,462	262	2500
70	45	7/3,91	11,73	84,05	230	23630	23	52400	61000	0,394	290	2000
WILLOW	48	7/4,04	12,12	89,73	245	25200	23	52400	61000	0,369	302	1500
80	51	7/4,19	12,57	96,52	264	27060	23	52400	61000	0,343	316	1500
90	58	7/4,45	13,35	108,9	298	30400	23	52400	61000	0,306	339	1000
OAK	63	7/4,65	13,95	118,9	325	33330	23	52400	61000	0,279	359	1000
100	63	19/2,82	14,10	118,7	326	33330	23	49650	59650	0,280	359	2000
MULBERRY	80	19/3,18	15,90	150,9	415	42350	23	49650	59650	0,221	416	2000
ASH	96	19/3,48	17,40	180,7	497	50690	23	49650	59650	0,184	467	2000
ELM	112	19/3,76	18,80	210,9	580	59220	23	49650	59650	0,158	513	2000
POPLAR	119	37/2,87	20,09	239,4	660	67350	23	48250	58600	0,139	551	2000
225	143	37/3,05	21,35	270,3	744	75780	23	48250	58600	0,123	600	2000
SYCAMORE	161	37/3,23	22,61	303,2	835	85000	23	48250	58600	0,110	643	2000
UPAS	192	37/3,53	24,71	362,1	997	101670	23	48250	58600	0,0921	718	2000
350	224	37/3,81	26,67	421,8	1162	118430	23	48250	58600	0,0791	789	1500
YEW	254	37/4,06	28,42	479,0	1319	134510	23	48250	58600	0,0696	853	1500

All Aluminium Alloy Conductors - AAAC (American Standard Sizes)

Code name	Equival. copper area	Stranding and wire diameter	Overall diameter	Aluminium area	Mass	Ultimate tensile strength	Coefficient of linear expansion	Initial modulus of elasticity	Final modulus of elasticity	DC resistance at 20°C	Current rating	Standard drum length
	mm²	mm	mm	mm²	kg/km	Newton	/C° x 10^{-6}	MPa	MPa	Ω/km	A	m
ALTON	13,1	7/2,12	6,36	24,71	68	7850	23	52400	61000	1,14	147	3000
AMES	20,8	7/2,67	8,01	39,19	107	12550	23	52400	61000	0,714	196	2500
AZUZA	33,1	7/3,37	10,11	62,44	171	19900	23	52400	61000	0,448	262	2500
ANAHEIM	42	7/3,78	11,34	78,55	215	24020	23	52400	61000	0,356	302	2500
AMHERST	53	7/4,25	12,75	99,30	272	30290	23	52400	61000	0,283	349	1000
ALLIANCE	66	7/4,77	14,31	125,09	342	38140	23	52400	61000	0,224	403	1000
BUTTE	84	19/3,26	16,30	115,86	436	48800	23	49650	59650	0,177	468	2000
CANTON	106	19/3,66	18,30	200,0	549	59100	23	49650	59650	0,140	541	2000
CAIRO	125	19/3,98	19,90	236,4	650	69700	23	49650	59650	0,119	599	2000
DARIEN	150	19/4,36	21,80	283,7	780	83600	23	49650	59650	0,099	671	1000
ELGIN	176	19/4,71	23,55	331,0	910	97650	23	49650	59650	0,0848	739	1000
FLINT	199	37/3,59	25,13	374,5	1031	108500	23	48250	58600	0,0746	799	2000
GREELY	249	37/4,02	28,14	469,6	1293	136000	23	48250	58600	0,0595	918	1500

Product Range
Our Services are Wide but Specialised

The Aberdare Group's product range and services are wide but specialised. Tried and tested and carrying South African Bureau of Standards (SABS) marks and complying with International Standards, we stand by our products.

Medium Voltage XLPE Cables (6.6 kV to 33 kV)
- Individually Screened
- Copper or Aluminium Conductors up to 300 mm² (3 core) & 1000 mm² (Single Core)

Paper Insulated Cables (6.6 kV to 33 kV)
- Screened or belted
- Fully impregnated, general purpose, heavy duty or drained
- Copper or Aluminium conductors up to 400 mm² (3 core) & 1000 mm² (single core)

High Voltage XLPE Insulated Cables (44 kV to 132 kV)
- Corrugated seamless Aluminium (CSA Sheath)
- Copper or aluminium conductors up to 1000 mm² (single core)

Elastomeric Cables (300/500 V to 19/33 kV)
- Flexible Cable (Types HO5 RN-F,HO7 RN-F)
- General Welding Cable
- Mining Trailing Cable (Up to 33 kV)

Overhead Aluminium Conductors
- AAC (All Aluminium Conductors)
- AAAC (All Aluminium Alloy Conductors)
- ACSR (Aluminium Conductor Steel Reinforced)
- Hard Drawn Copper

General Wire Insulated & Bare Copper Wire (300/500 V & 600/1000 V)
- Surfix Cable
- Flat Twin and Earth Cable
- Cabtyre Cable
- Submersible Pump Cable
- Audio cord (Ripcord)
- Welding cable
- Panel Flex Cable
- Illumination Cable
- PVC Nitrile Panel Cable
- Nitrile Trailing Cable
- Bare Copper
- Single Core PVC 1 kV Cable
- Single Core XLPE PVC 3.3 kV Cable

Low Voltage Armoured Cables (600/1000 V & 1.9/3.3 kV)
- Bells and Mains Cable
- Multicore Cable
- Single Core Cable

Electrodac Cables (600/1000 V)
- Aerial Bundle Conductor (ABC) (LV & MV)
- Airdac SNE Cable
- Airdac CNE Cable
- SaferDac CNE and SNE Cables

Intermediate Voltage Cables (1.9/3.3 kV)
- Armadac Cable
- Farmadac Cable

Specialised Cables
- Solar PV Cable (1.5/1.5 kV)

Theft Prevention Technology
- Unique Cable and Conductor Marking

NOTICE TO THE USER OF ELECTRIC CABLE PRODUCTS MANUFACTURED BY ABERDARE CABLES:

- **"WARNING: Electrical equipment (including cable) and installations which form part of a facility, whether fixed, mobile or moveable are by nature inherently dangerous when energized with electrical power as contact with un-insulated or damaged components of such a facility may result in injury, loss of life and damage to property. Only qualified persons should attend to the installation of such electrical equipment, the maintenance thereof, and the repair of any faulty facilities which have an electrical component."**

- Selection and Installation of the product must be carried out as per the applicable compulsory specifications by appropriately qualified persons and certified by a competent person so authorized by law prior to being put into service. All fixed electrical Low Voltage installations must have a valid Certificate of Compliance (COC)

- Low voltage electrical installations up to 600/1000 V must conform to the compulsory specification SANS 10142-1 "The Wiring of Premises Part 1: Low voltage installations"

- SA Legislation determines that the User or Lessor is responsible for the safety of the electrical installation.

- All Medium Voltage installations above 1 kV must conform to the specification SANS 10198 "The Selection, Handling and installation of electric power cables of rating not exceeding 33 kV", and where applicable SABS 10142-2 "The wiring of premises Part 2: Medium voltage installations above 1 kV a.c. and not exceeding 22kV a.c. and up to and including 3 000 kW installed capacity".

- The following Compulsory Safety Standards are applicable to Electric Cables manufactured, imported and used in South Africa and no product may be used which does not comply to the applicable standard:

  - (VC 8075) SANS 1507: Electric Cables with solid dielectric insulation for fixed installations (300/500 V to 1900/3300 V)
  - (VC 8077) SANS 1339: Electric Cables Cross linked Polyethylene (XLPE) insulated cables for rated voltages 3,8/6,6 kV to 19/33 kV
  - (VC 8077) SANS 97: Electric Cables Impregnated paper insulated metal sheathed cables for rated voltages 3,3/3,3 kV to 19/33 kV
  - (VC8006) SANS 1574: Electric Flexible Cables with solid dielectric insulation.

- All cables manufactured to a compulsory safety standard must be clearly marked with the applicable SANS standard number as well as the Manufacturer's name.

- Aberdare Cables manufactures all Electric Cables made to Compulsory standards under the SABS Mark scheme. Products manufactured under the SABS mark scheme carries the wording "SABS" to show that the manufacturer is a licensed Mark Holder. The SABS Mark gives the user the assurance that the South African Bureau of Standards monitors the quality of the products which carries this mark and verifies the quality system used by Aberdare Cables to manufacture these products, on an ongoing basis.

- Compulsory specifications (VC's) may be downloaded for free from the SABS website **www.sabs.co.za.**

- The user of electric cable products has the right to take up any issue of concern with the National Regulator of Compulsory Specifications at +27(0)12 428 5000

MANUFACTURING

HEAD OFFICE / GAUTENG
1 Corobrik Street,
Meadowdale
PO Box 1679, Edenvale, 1610

Tel: +27 (0) 11 396 8000
Fax: +27 (0) 11 396 8011
enquiries@aberdare.co.za

PIETERMARITZBURG
67 Gladys Manzi Road, M'Kondeni,
Pietermaritzburg
PO Box 188, Pietermaritzburg, 3200

Tel: +27 (0) 33 845 3200
Fax: +27 (0) 33 346 0039
enquiries@aberdare.co.za

PORT ELIZABETH
Standford Road, Neave Township,
Port Elizabeth, 6001
PO Box 494, Port Elizabeth, 6000

Tel: +27 (0) 41 405 6000
Fax: +27 (0) 41 451 1471
enquiries@aberdare.co.za

SUBSIDIARIES

ABERDARE ENGINEERING
1 Corobrik Street,
Meadowdale
PO Box 1679, Edenvale, 1610

Tel: +27 (0) 11 396 8000
Fax: +27 (0) 11 396 8011

MAPUTO
Av Mozambique, 9400

Tel: 00258 21 470 740/1/2
00258 82 305 2917
00258 84 396 6381
Fax: 00258 21 470 752

CUSTOMER SERVICES CENTRES

PORT ELIZABETH
Standford Road, Neave Township,
Port Elizabeth, 6001
PO Box 494, Port Elizabeth, 6000

Tel: +27 (0) 41 405 6000
Fax: +27 (0) 41 451 1471
enquiries@aberdare.co.za

CAPE TOWN
Unit 1, 14 Inyoni Street
Ndabeni, 7405
PO Box 36654, Chempet, 7442

Tel: +27 (0) 21 555 2919
Fax: +27 (0) 21 555 2950/2
enquiries@aberdare.co.za

DURBAN
3 Trafford Park,
1 Regina Road,
Pinetown, 3610

Tel: +27 (0) 31 702 2861
Fax: +27 (0) 31 702 2959
enquiries@aberdare.co.za

MIDDELBURG
13 Wicht Street,
Middelburg

Tel: +27 (0) 13 246 2511
Fax: +27 (0) 13 246 2144
enquiries@aberdare.co.za

BLOEMFONTEIN
38 Eland Cres, Unit 18
Quagga Industrial Park
Quaggafontein, Bloemfontein
PO Box 1883, Bloemfontein, 9300

Tel: +27 (0) 51 448 9226
Fax: +27 (0) 51 447 9078
enquiries@aberdare.co.za

www.aberdare.co.za

SALES SUPPORT
Tel: +27 (0) 86 ABERDARE
enquiries@aberdare.co.za

TECHNICAL HELPDESK
Tel: +27 (0) 11 396 8107
helpdesk@aberdare.co.za

OUTSIDE SOUTH AFRICA
Tel: +27 (0) 11 396 8000
exports@aberdare.co.za