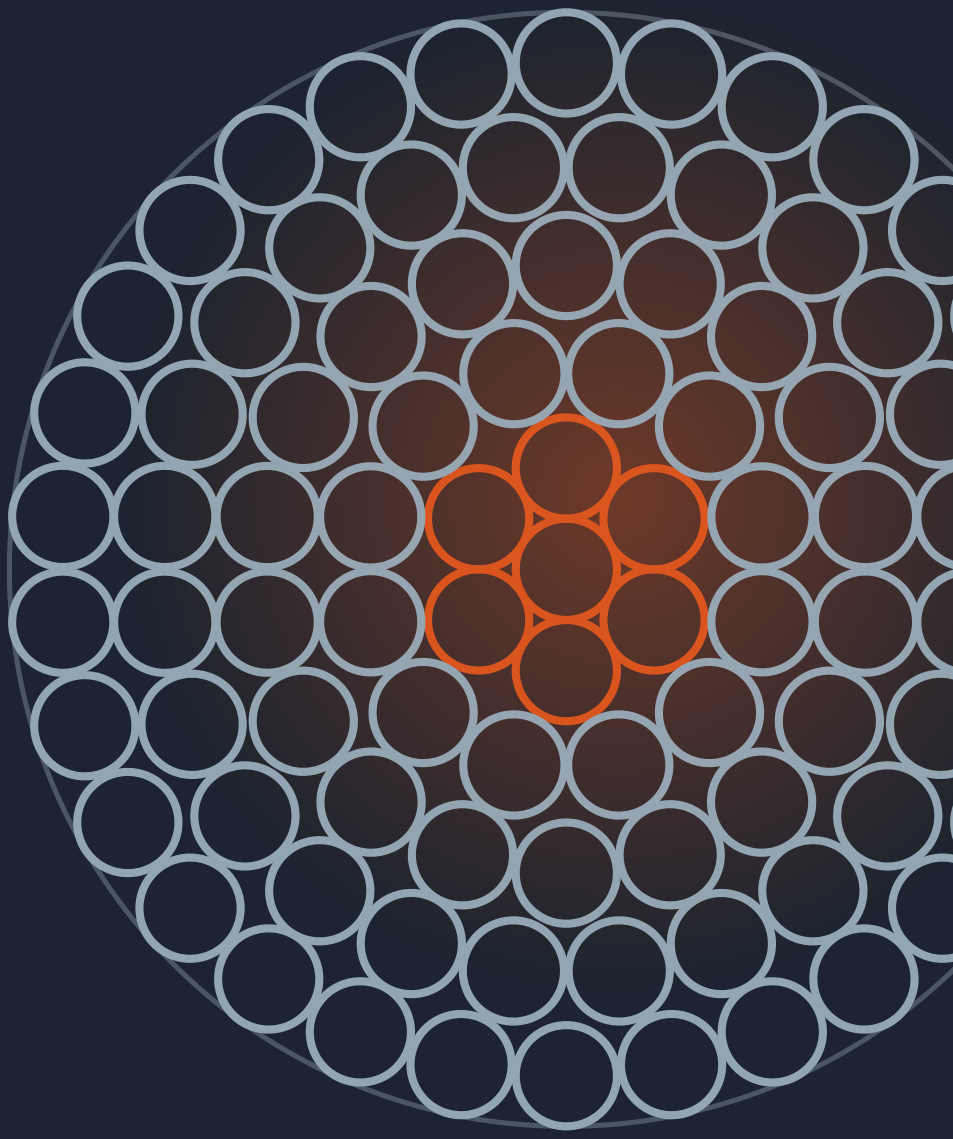
AKZ

ALUMINIUM KOOHRANG ZAGROS



PRODUCT CATALOGUE · 2026

From molten metal to the grid.

Pure-aluminium and alloy rod, bare overhead conductors and optical ground wire — cast, drawn and stranded under one roof.

ROD · WELDING · AAC · AAAC · ACSR · ACSR-AW · OPGW · MESSENGER

alumzagros.com

One plant, the full chain.

Aluminium Koohrang Zagros Co. is one of Iran's leading manufacturers of **pure-aluminium and aluminium-alloy rod**, produced by continuous casting (Properzi-type), and of **bare overhead conductors** — with an installed capacity of 20,000 tonnes per year.

Incorporated in 2006, the company's plant in the Farrokhshahr industrial zone (Shahrekord, Chaharmahal & Bakhtiari) began operation in 2008. Production spans rod in the 1000–8000 series and a full range of bare aluminium and alloy conductors — AAC, AAAC, ACSR, ACSR-AW and OPGW — supplied to utilities and the wire-and-cable industry, at home and for export.

From feedstock to finished conductor, every stage is controlled in-house, from melt chemistry through casting, drawing and stranding.

FOUNDED

2006 · plant 2008

PLANT

Farrokhshahr, Shahrekord Chaharmahal & Bakhtiari

APPROVALS

ISO 9001 | TAVANIR

20,000

TONNES / YEAR

Installed rod & conductor capacity

61.8

% IACS

Conductivity, 1350-O grade

6

ALLOY SERIES

1000 · 3000 · 4000 · 5000 · 6000 · 8000

8

PRODUCT LINES

Rod · welding wire · 5 conductors · OPGW

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01

Aluminium & alloy rod

مفتول آلومینیوم و آلیاژی

ASTM B233 | EN 573-3 | IEC 60889

01.0 — OVERVIEW

Continuously cast, precisely alloyed.

Pure-aluminium (1350) and aluminium-alloy rod produced by continuous casting and rolling, then drawn to the relevant ASTM / EN designation. Used as drawing stock for bare conductors and welding wire.

The range covers electrical-conductor grade 1350 and the heat-treatable 6101 / 6201 conductor alloys.

CONDUCTOR CROSS-SECTION

APPLICATIONS

- **Overhead line conductors**
- **Wire & cable drawing stock**
- **MIG / TIG welding wire**
- **Alloy & specialty products**

STANDARDS

ASTM B233 | EN 573-3 | IEC 60889

1.1 · Aluminium 1350 (electrical grade)

ASTM B233 · weight-percent maxima, balance aluminium.

CHEMICAL COMPOSITION (%)

Grade	Si	Fe	Cu	Mn	Zn	Cr	B	V+Ti	Al
1350	0.10	0.40	0.05	0.01	0.05	0.01	0.05	0.02	99.5 min

MECHANICAL & ELECTRICAL PROPERTIES

Grade	Temper	Tensile MPa	Yield MPa	Elong. %	Cond. %IACS
1350	O	83	28	23	61.8
	H12	97	83	—	61.0
	H14	110	97	—	61.0
	H19	186	165	1.5	61.0

1.2 · Aluminium alloy 6101 / 6201

EN 573-3 · heat-treatable conductor alloys.

CHEMICAL COMPOSITION (%)

Grade	Si	Fe	Cu	Mn	Mg	Cr	Zn	B	Al
6101	0.30–0.70	0.50	0.10	0.03	0.35–0.80	0.03	0.10	0.06	Rem.
6201	0.50–0.90	0.50	0.10	0.03	0.60–0.90	0.03	0.10	0.06	Rem.

MECHANICAL & ELECTRICAL PROPERTIES

Grade	Temper	Tensile MPa	Yield MPa	Elong. %	Cond. %IACS
6101	**T6**	221	193	15	53
6201	**T81**	331	310	3	54

02

Aluminium welding wire — ER4043

سیم جوش آلومینیوم

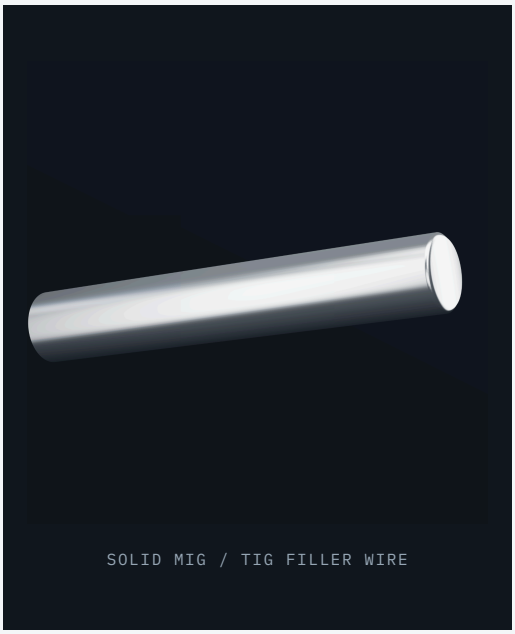
AWS A5.10 | EN ISO 18273 | JIS Z 3232

02.0 — OVERVIEW

AlSi5 filler wire for MIG & TIG.

Aluminium-silicon (AlSi5) solid filler wire for welding the heat-treatable 6000-series, the 3000-series and Al-Si cast alloys, drawn from our own alloy rod and supplied on spools and in cut lengths. The 5% silicon gives a fluid weld pool, low shrinkage and low crack sensitivity.

Classified to AWS A5.10 (ER4043), EN ISO 18273 (S Al 4043) and JIS Z 3232 (A4043); recommended welding parameters are grouped by wire diameter below.



APPLICATIONS

- **MIG / TIG welding**
- **6000-series alloys**
- **Castings & automotive**
- **General fabrication**

STANDARDS

AWS A5.10 | EN ISO 18273 | JIS Z 3232

2.1 · Classification & composition

AlSi 5 filler wire.

CLASSIFICATIONS

Specification	Designation
SFA / AWS A5.10	ER4043
EN ISO 18273	S Al 4043 (AlSi5)
JIS Z 3232	A4043

TYPICAL WIRE COMPOSITION (%)

Al	Si	Fe	Cu	Mn	Ti	Zn
94.81	5.00	0.14	0.02	0.01	0.01	0.01

Balance aluminium; single representative heat.

TYPICAL AS-WELDED PROPERTIES

Tensile MPa	Yield MPa	Elong. %
124	55	18

Typical as-welded values.

2.2 · Recommended welding parameters

Spray-transfer MIG; grouped by wire diameter.

Wire diameter	Current A	Voltage V
0.8 mm (0.030 in)	60–170	13–24
0.8 mm (0.030 in)	100–130	18–22
0.8 mm (0.030 in)	125–150	20–24
0.9 mm (0.035 in)	60–170	13–24
0.9 mm (0.035 in)	85–120	20–23
0.9 mm (0.035 in)	125–150	20–24
0.9 mm (0.035 in)	170–190	21–26
1.0 mm (0.040 in)	90–210	15–26
1.2 mm (0.047 in)	125–150	20–24
1.2 mm (0.047 in)	140–260	20–29
1.2 mm (0.047 in)	170–240	24–28
1.2 mm (0.047 in)	180–210	22–26
1.6 mm (1/16 in)	190–260	21–26
1.6 mm (1/16 in)	190–350	25–30
1.6 mm (1/16 in)	240–300	22–27
1.6 mm (1/16 in)	260–310	22–27
1.6 mm (1/16 in)	280–320	24–28
1.6 mm (1/16 in)	290–340	26–30
2.4 mm (3/32 in)	280–360	26–30
2.4 mm (3/32 in)	280–400	26–31
2.4 mm (3/32 in)	300–400	26–32
2.0 mm (5/64 in)	TK	TK

2.0 mm (5/64 in) size supplied without listed parameters in the source.

03

AAC — all-aluminium conductor

هادی تمام‌آلومینیوم

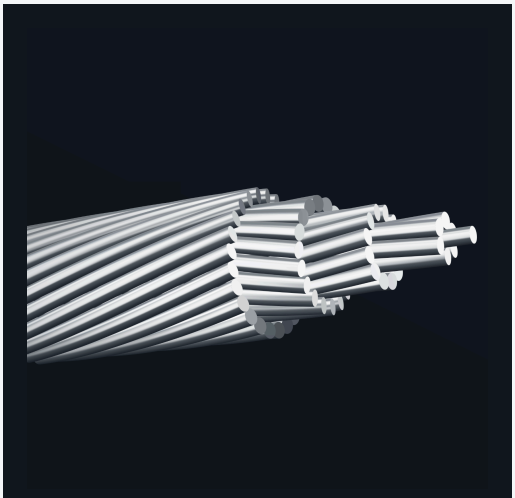
DIN 48201 | BS 215 | BS-EN 50182

03.0 — OVERVIEW

High conductivity, where ampacity governs.

Hard-drawn 1350 aluminium strands, for transmission and distribution over relatively short spans where high conductivity is required and ampacity governs the design.

Supplied in the full metric preferred-number series and the BS 215 insect code-name range.



ALL-ALUMINIUM CROSS-SECTION

APPLICATIONS

- **Urban distribution**
- **Short transmission spans**
- **Busbars & risers**
- **Earthing systems**

STANDARDS

DIN 48201 | BS 215 | BS-EN 50182

3.1 · Metric series

DIN 48201 / BS-EN 50182.

Nom. area mm²	Stranding n × mm	Ø mm	Weight kg/km	DC R @20°C Ω/km	Break kN
16	**7 × 1.70**	5.1	45	1.8017	2.8
25	**7 × 2.10**	6.3	65	1.1807	4.1
35	**7 × 2.50**	7.5	95	0.8331	5.7
50	**7 × 3.00**	9.0	135	0.5786	7.9
50	**19 × 1.80**	9.0	135	0.5949	8.4
70	**19 × 2.10**	10.5	180	0.4371	11.3
95	**19 × 2.50**	12.5	255	0.3084	15.6
120	**19 × 2.80**	14.0	320	0.2459	18.7
150	**37 × 2.25**	15.7	405	0.1960	25.3
185	**37 × 2.50**	17.5	500	0.1587	30.5
240	**61 × 2.25**	20.2	670	0.1191	39.5
300	**61 × 2.50**	22.5	825	0.0964	47.7
400	**61 × 2.89**	26.0	1105	0.0722	60.8
500	**61 × 3.23**	29.1	1380	0.0578	74.6
625	**91 × 2.96**	32.6	1726	0.0460	95.0
800	**91 × 3.35**	36.8	2228	0.0360	118.2
1000	**91 × 3.74**	41.1	2777	0.0290	145.5

3.2 · Code-name series

BS 215 / BS-EN 50182 · insect code names.

Code	Stranding n × mm	Ø mm	Weight kg/km	DC R @20°C Ω/km	Break kN
MIDGE	7 × 2.06	6.18	63.8	1.2270	3.9
GNAT	7 × 2.20	6.60	73.0	1.0640	4.83
MOSQUITO	7 × 2.60	7.80	101	0.7740	6.27
BLUEBOTTLE	7 × 3.70	11.0	201	0.3880	11.78
EARWIG	7 × 3.80	11.3	215	0.3630	12.57
GRASSHOPPER	7 × 3.90	11.7	230	0.3400	13.45
CLEGG	7 × 4.20	12.5	261	0.2980	15.3
WASP	7 × 4.39	13.17	289	0.2702	16.0
BEETLE	19 × 2.70	13.4	292	0.2700	18.08
BEE	7 × 4.90	14.7	361	0.2160	21.12
HORNET	19 × 3.25	16.25	433	0.1825	25.7
CATERPILLAR	19 × 3.50	17.7	511	0.1540	29.75
CHAFER	19 × 3.78	18.9	586	0.1349	33.4
SPIDER	19 × 4.00	20.0	653	0.1210	38.01
COCKROACH	19 × 4.22	21.1	730	0.1083	40.0
BUTTERFLY	19 × 4.65	23.3	887	0.0891	48.7
MOTH	19 × 5.00	25.0	1025	0.0770	59.69
DRONE	37 × 3.60	25.1	1027	0.0770	59.69
CENTIPEDE	37 × 3.78	26.46	1145	0.0694	56.1
MAYBUG	37 × 4.10	28.6	1341	0.0590	77.78
SCORPION	37 × 4.30	29.9	1461	0.0540	84.77
CICADA	37 × 4.70	32.6	1733	0.0450	100.54

04

AAAC — all-aluminium-alloy conductor

هادی تمام آلومینیومی آلیاژی

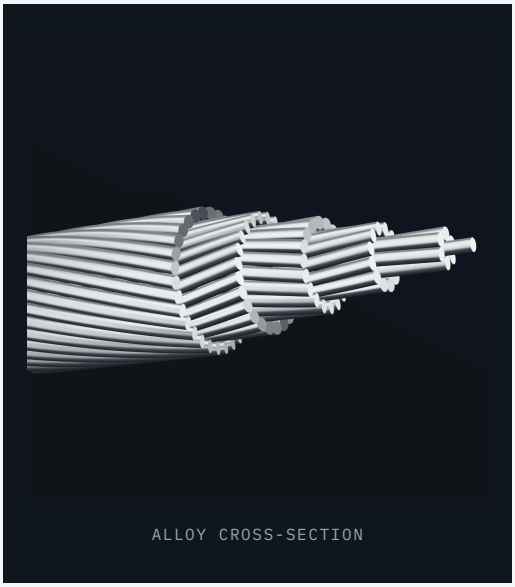
BS 3242 | ASTM B399 | IEC 61089 | EN 50182

04.0 — OVERVIEW

More strength, better corrosion resistance.

Hard-drawn 6201 aluminium-alloy strands. Compared with AAC, AAAC trades a little conductivity for higher strength-to-weight and better corrosion resistance — well suited to long spans and coastal or industrial environments.

Offered in the BS 3242 tree code names, the ASTM B399 city code names and the IEC metric series, plus a 6201 messenger / catenary subset.



ALLOY CROSS-SECTION

APPLICATIONS

- **Long transmission spans**
- **Coastal & industrial**
- **River crossings**
- **Messenger / catenary**

STANDARDS

BS 3242 | ASTM B399 | IEC 61089 | EN 50182

4.1 · Tree-name series

BS 3242 / EN 50182.

Code	Nom. mm²	Stranding n × mm	Ø mm	Weight kg/km	DC R Ω/km	Break kN
BOX	19	7 × 1.85	5.55	51	1.7658	5.28
ACACIA	24	7 × 2.08	6.24	65	1.3969	6.68
ALMOND	30	7 × 2.34	7.02	82	1.1037	8.44
CEDAR	36	7 × 2.54	7.62	97	0.9367	9.94
DEODAR	42	7 × 2.77	8.31	115	0.7876	11.82
FIR	48	7 × 2.95	8.85	131	0.6944	13.41
HAZEL	60	7 × 3.30	9.90	164	0.5549	16.78
PINE	72	7 × 3.61	10.83	196	0.4637	20.08
HOLLY	84	7 × 3.91	11.73	230	0.3953	23.56
WILLOW	90	7 × 4.04	12.12	245	0.3702	25.15
OAK	119	7 × 4.65	13.95	325	0.2795	33.32
MULBERRY	151	19 × 3.18	15.90	415	0.2212	42.30
ASH	181	19 × 3.48	17.40	497	0.1847	50.65
ELM	211	19 × 3.76	18.80	580	0.1582	59.13
POPLAR	239	37 × 2.87	20.09	659	0.1397	67.10
SYCAMORE	303	37 × 3.23	22.61	835	0.1103	84.98
UPAS	362	37 × 3.53	24.71	997	0.0923	101.50
YEW	479	37 × 4.06	28.42	1319	0.0698	134.26
TOTARA	489	37 × 4.14	29.0	1372	0.0660	146.93
RUBUS	587	61 × 3.50	31.50	1622	0.0567	173.13
SORBUS	659	61 × 3.71	33.4	1822	0.0505	194.53
ARAUCARIA	821	61 × 4.14	37.30	2269	0.0406	242.24
REDWOOD	996	61 × 4.56	41.0	2753	0.0334	293.88

4.2 · City-name series

ASTM B399 / IEC 61089.

Code	Nom. mm²	Stranding n × mm	Ø mm	Weight kg/km	DC R Ω/km	Break kN
ALTON	24.7	7 × 2.12	6.4	68	1.3576	7.84
AMES	39.3	7 × 2.67	8.00	108	0.8533	12.40
AZUSA	62.5	7 × 3.37	10.1	172	0.5364	19.00
ANAHEIM	78.7	7 × 3.78	11.4	217	0.4255	24.00
AMHERST	99.2	7 × 4.25	12.8	273	0.3379	30.20
ALLIANCE	125.1	7 × 4.77	14.3	345	0.2658	38.10
BUTTE	158.5	19 × 3.26	16.3	437	0.2114	46.70
CANTON	199.9	19 × 3.66	18.3	551	0.1675	59.00
CAIRO	235.8	19 × 3.98	19.9	650	0.1421	69.60
DARIEN	283.5	19 × 4.36	21.8	781	0.1181	83.60
ELGIN	330.6	19 × 4.71	23.5	911	0.1013	97.50
FLINT	375.4	37 × 3.59	25.2	1035	0.0892	108.00
GREELEY	469.8	37 × 4.02	28.1	1295	0.0712	136.00

4.3 · Metric series

ASTM B399 / IEC 61089.

Al-eq mm²	Alloy mm²	Stranding n × mm	Ø mm	Weight kg/km	DC R Ω/km	Break kN
16	18.4	**7 × 1.83**	5.5	50	1.7896	5.43
25	28.8	**7 × 2.29**	6.90	79	1.1453	8.49
40	46	**7 × 2.89**	8.7	126	0.7158	13.58
63	72.5	**7 × 3.63**	10.90	198	0.4545	21.39
100	115	**19 × 2.78**	13.9	316	0.2877	33.95
125	144	**19 × 3.10**	15.50	395	0.2302	42.44
160	184	**19 × 3.51**	17.6	506	0.1798	54.32
200	230	**19 × 3.93**	19.60	633	0.1439	67.91
250	288	**19 × 4.39**	22	791	0.1151	84.88
315	363	**37 × 3.53**	24.70	999	0.0916	106.95
400	460	**37 × 3.98**	27.9	1268	0.0721	135.81
450	518	**37 × 4.22**	29.60	1427	0.0641	152.79
500	575	**37 × 4.45**	31.2	1586	0.0577	169.76
560	645	**61 × 3.67**	33.00	1778	0.0516	190.14
630	725	**61 × 3.89**	35	2001	0.0485	213.90
710	817	**61 × 4.13**	37.20	2255	0.0407	241.07
800	921	**61 × 4.38**	39.5	2541	0.0361	271.62
900	1036	**91 × 3.81**	41.80	2861	0.0321	305.58
1000	1151	**91 × 4.01**	44.1	3179	0.0289	339.53
1120	1289	**91 × 4.25**	46.70	3561	0.0258	380.27
1250	1439	**91 × 4.49**	49.4	3974	0.0231	424.41

4.4 · Alloy messenger conductor

6201 messenger / catenary — takes the mechanical stress in self-supporting cable.

Nom. area mm²	Stranding n × mm	Ø mm	Weight kg/km	DC R @20°C Ω/km	Break kN
35	**7 × 2.54**	7.6	97	0.9500	9.94
50	**7 × 3.15**	9.5	149	0.6300	15.3
70	**7 × 3.61**	10.8	196	0.5000	20.0

05

ACSR — steel-reinforced conductor

هادی آلومینیوم با مغز فولادی

ASTM B232 | DIN 48204 | BS 215 | EN 50182

05.0 — OVERVIEW

Steel-cored, for long spans under tension.

Hard-drawn 1350 aluminium strands over a galvanised-steel core. The steel carries the mechanical load, allowing long spans and high tension; the steel-to-aluminium ratio is selected to match each line's span and loading.

Supplied in the ASTM B232 bird code names, a high-steel subset, the DIN metric series and the BS 215 animal code names.

STEEL-CORED CROSS-SECTION

APPLICATIONS

- **Long transmission lines**
- **High-tension spans**
- **Heavy-load corridors**
- **River & valley crossings**

STANDARDS

ASTM B232 | DIN 48204 | BS 215 | EN 50182

5.1 · Bird-name series

ASTM B232 · galvanised-steel core.

Code	Area mm²	Al n × mm	Steel n × mm	Ø mm	Al wt kg/km	Steel wt kg/km	DC R Ω/km	Break kN
TURKEY	15.52	6 × 1.68	1 × 1.68	5.04	37	17	2.1045	5.28
THRUSH	19.64	6 × 1.89	1 × 1.89	5.67	46	22	1.6628	6.68
SWAN	24.71	6 × 2.12	1 × 2.12	6.36	58	27	1.3216	8.31
SWALLOW	31.14	6 × 2.38	1 × 2.38	7.14	73	35	1.0486	10.21
SPARROW	39.19	6 × 2.67	1 × 2.67	8.01	92	44	0.8332	12.69
ROBIN	49.48	6 × 3.00	1 × 3.00	9.00	116	55	0.6599	15.82
RAVEN	62.44	6 × 3.37	1 × 3.37	10.11	147	69	0.5230	19.36
QUAIL	78.55	6 × 3.78	1 × 3.78	11.34	185	87	0.4157	23.27
PIGEON	99.30	6 × 4.25	1 × 4.25	12.75	234	110	0.3288	29.42
PENGUIN	125.09	6 × 4.77	1 × 4.77	14.31	294	139	0.2610	37.06
WAXWING	142.48	18 × 3.09	1 × 3.09	15.45	372	58	0.2118	30.27
OWL	153.0	6 × 5.36	1 × 1.79	16.09	372	20	0.2078	42.95
PARTRIDGE	156.86	26 × 2.57	7 × 2.00	16.28	374	174	0.2096	50.24
OSTRICH	176.89	26 × 2.73	7 × 2.12	17.28	422	195	0.1858	56.56
MERLIN	179.68	18 × 3.47	1 × 3.47	17.35	470	74	0.1679	38.18
LINNET	198.38	26 × 2.89	7 × 2.25	18.31	473	217	0.1658	62.77
ORIOLE	210.27	30 × 2.69	7 × 2.69	18.83	474	311	0.1645	77.44
CHICKADEE	212.09	18 × 3.77	1 × 3.77	18.85	554	87	0.1423	43.37
BRANT	227.68	24 × 3.27	7 × 2.18	19.61	559	204	0.1409	64.73
IBIS	234.06	26 × 3.14	7 × 2.44	19.88	558	256	0.1404	72.07
LARK	247.77	30 × 2.92	7 × 2.92	20.44	557	366	0.1393	90.31
PELICAN	255.76	18 × 4.14	1 × 4.14	20.70	669	105	0.1180	52.31
FLICKER	272.98	24 × 3.58	7 × 2.39	21.49	670	245	0.1176	75.68
HAWK	281.12	26 × 3.44	7 × 2.68	21.80	670	308	0.1170	86.74
HEN	297.56	30 × 3.20	7 × 3.20	22.40	671	440	0.1162	105.18
OSPREY	298.16	18 × 4.47	1 × 4.47	22.35	779	122	0.1012	60.98
PARAKEET	318.89	24 × 3.87	7 × 2.58	23.22	783	286	0.1006	88.30
DOVE	328.49	26 × 3.72	7 × 2.89	23.55	783	359	0.1000	101.12
EAGLE	347.88	30 × 3.46	7 × 3.46	24.21	784	514	0.0994	122.97
PEACOCK	345.91	24 × 4.03	7 × 2.69	24.20	849	311	0.0928	95.88
SQUAB	355.62	26 × 3.87	7 × 3.01	24.51	848	389	0.0902	108.16
WOOD DUCK	378.70	30 × 3.61	7 × 3.61	25.25	853	560	0.0913	129.05
TEAL	376.67	30 × 3.61	19 × 2.16	25.24	853	545	0.0914	133.39
KINGBIRD	340.95	18 × 4.78	1 × 4.78	23.88	891	140	0.0885	69.74
ROOK	364.94	24 × 4.14	7 × 2.76	24.84	896	327	0.0879	101.06
GROSBEAK	374.33	26 × 3.97	7 × 3.09	25.15	892	410	0.0878	111.89
SCOTER	397.82	30 × 3.70	7 × 3.09	25.88	897	588	0.0869	135.56
EGRET	396.10	30 × 3.70	19 × 2.22	25.90	897	576	0.0870	140.62
FLAMINGO	380.98	24 × 4.23	7 × 2.82	25.40	935	341	0.0842	105.50
GANNET	393.15	26 × 4.07	7 × 3.16	25.76	938	429	0.0836	117.28
CROW	408.48	54 × 2.92	7 × 2.92	26.28	1003	366	0.0785	115.21

5.1 · Bird-name series (cont.)

(cont.)

Code	Area mm²	Al n × mm	Steel n × mm	Ø mm	Al wt kg/km	Steel wt kg/km	DC R Ω/km	Break kN
STILT	410.12	24 × 4.39	7 × 2.92	26.31	1007	366	0.0782	113.36
STARLING	421.07	26 × 4.21	7 × 3.28	26.68	1003	462	0.0781	125.97
FINCH	637.58	54 × 3.65	19 × 2.19	32.85	1574	560	0.0505	174.64
BUNTING	647.62	45 × 4.14	7 × 2.76	33.12	1680	327	0.0473	142.44
GRACKLE	679.66	54 × 3.77	19 × 2.27	33.97	1679	602	0.0473	184.22
BITTERN	689.04	45 × 4.27	7 × 2.85	34.17	1787	349	0.0445	151.66
PHEASANT	726.77	54 × 3.90	19 × 2.34	35.10	1797	639	0.0442	194.16
DIPPER	731.09	45 × 4.40	7 × 2.92	35.16	1897	366	0.0419	160.37
MARTIN	772.04	54 × 4.02	19 × 2.41	36.17	1910	678	0.0416	206.12
BOBOLINK	775.39	45 × 4.53	7 × 3.02	36.24	2011	392	0.0395	170.55
PLOVER	818.67	54 × 4.14	19 × 2.48	37.24	2025	718	0.0393	218.44
NUTHATCH	817.01	45 × 4.65	7 × 3.10	37.20	2119	413	0.0375	177.67
PARROT	863.07	54 × 4.25	19 × 2.55	38.25	2134	759	0.0372	230.57
LAPWING	859.72	45 × 4.77	7 × 3.18	38.16	2230	434	0.0356	186.95
FALCON	908.63	54 × 4.36	19 × 2.62	39.26	2246	802	0.0354	243.04
CHUKAR	976.69	84 × 3.70	19 × 2.22	40.70	2516	576	0.0318	227.83

ASTM B232 · aluminium 1350-H19 over galvanised steel. Weights split aluminium / steel.

5.2 · High-steel ("D") subset

ASTM B232 · higher steel ratio for extra-long spans.

Code	Area mm²	Al n × mm	Steel n × mm	Ø mm	Al wt kg/km	Steel wt kg/km	DC R Ω/km	Break kN
GROUSE	54.65	8 × 2.54	1 × 4.24	9.32	112	110	0.6758	22.87
PETREL	81.71	12 × 2.34	7 × 2.34	11.71	143	236	0.5544	46.16
MINORCA	88.84	12 × 2.44	7 × 2.44	12.22	156	256	0.5099	50.19
LEGHORN	107.98	12 × 2.69	7 × 2.69	13.46	189	312	0.4195	60.68
GUINEA	127.23	12 × 2.92	7 × 2.92	14.63	223	367	0.3560	71.12
DOTTEREL	141.56	12 × 3.08	7 × 3.08	15.42	248	408	0.3200	76.69
DORKING	152.80	12 × 3.20	7 × 3.20	16.03	268	441	0.2964	82.78
COCHIN	169.47	12 × 3.37	7 × 3.37	16.84	297	489	0.2673	91.81
BRAHMA	194.56	16 × 2.86	19 × 2.48	18.14	285	720	0.2798	126.55

5.3 · Metric series

DIN 48204 / EN 50182.

Al/Steel	Al n × mm	Steel n × mm	Ø mm	Al wt kg/km	St wt kg/km	DC R Ω/km	Break kN
16/2.5	6 × 1.80	1 × 1.80	5.40	42	20	1.8332	5.58
25/4	6 × 2.25	1 × 2.25	6.80	65	31	1.1732	8.56
35/6	6 × 2.70	1 × 2.70	8.10	94	45	0.8147	12.06
44/32	14 × 2.00	7 × 2.40	11.20	121	248	0.5932	43.20
50/8	6 × 3.20	1 × 3.20	9.60	132	63	0.5800	16.32
50/30	12 × 2.33	7 × 2.33	11.70	141	234	0.5189	42.27
70/12	26 × 2.85	7 × 1.44	11.70	193	89	0.4032	25.26
95/15	26 × 2.15	7 × 1.67	13.60	260	120	0.2986	33.42
95/55	12 × 3.20	7 × 3.20	16.00	266	441	0.2751	76.21
105/75	14 × 3.10	19 × 2.25	17.50	292	594	0.2471	101.67
120/20	26 × 2.44	7 × 1.90	15.50	335	156	0.2318	42.70
120/70	12 × 3.60	7 × 3.60	18.00	337	558	0.2174	93.51
125/30	30 × 2.33	7 × 2.33	16.10	353	234	0.2182	55.47
150/25	26 × 2.70	7 × 2.10	17.10	411	190	0.1893	51.65
170/40	30 × 2.70	7 × 2.70	18.90	474	314	0.1625	73.17

5.4 · Animal-name series

BS 215 / EN 50182.

Code	Area mm²	Al n × mm	Steel n × mm	Ø mm	Al wt kg/km	Steel wt kg/km	DC R Ω/km	Break kN
MOLE	12.37	6 × 1.50	1 × 1.50	4.50	29	14	2.6398	4.13
SQUIRREL	24.48	6 × 2.11	1 × 2.11	6.33	58	27	1.3341	7.90
GOPHER	30.62	6 × 2.36	1 × 2.36	7.08	72	34	1.0664	9.61
WEASEL	36.88	6 × 2.59	1 × 2.59	7.77	87	41	0.8854	11.35
FOX	42.79	6 × 2.79	1 × 2.79	8.37	101	48	0.7630	13.17
FERRET	49.48	6 × 3.00	1 × 3.00	9.00	116	55	0.6599	15.23
RABBIT	61.70	6 × 3.35	1 × 3.35	10.05	145	69	0.5292	18.37
MINK	73.64	6 × 3.66	1 × 3.66	10.98	173	82	0.4434	21.80
SKUNK	100.10	12 × 2.59	7 × 2.59	12.95	175	288	0.4200	52.74
BEAVER	87.52	6 × 3.99	1 × 3.99	11.97	206	97	0.3730	25.76
HORSE	116.16	12 × 2.79	7 × 2.79	13.95	203	334	0.3619	61.19
RACCOON	92.42	6 × 4.10	1 × 4.10	12.30	217	103	0.3533	27.20
OTTER	97.90	6 × 4.22	1 × 4.22	12.66	230	109	0.3335	28.82
CAT	111.33	6 × 4.50	1 × 4.50	13.50	262	124	0.2933	32.76
HARE	122.48	6 × 4.72	1 × 4.72	14.16	288	136	0.2666	35.94
DOG	118.53	6 × 4.72	7 × 1.57	14.15	288	106	0.2681	32.69
HYENA	126.43	7 × 4.39	7 × 1.93	14.57	291	160	0.2631	41.13
LEOPARD	148.21	6 × 5.28	7 × 1.75	15.81	360	132	0.2143	40.77
COYOTE	151.80	26 × 2.54	7 × 1.91	15.89	364	102	0.2144	45.93
COUGAR	138.81	18 × 3.05	1 × 3.05	15.25	362	57	0.2171	30.56
TIGER	161.85	30 × 2.36	7 × 2.36	16.52	363	239	0.2127	58.02
— (18/1)	167.46	18 × 3.35	1 × 3.35	16.75	437	69	0.1800	33.93
WOLF	194.93	30 × 2.59	7 × 2.59	18.13	437	288	0.1766	69.24
— (18/1)	194.47	18 × 3.61	1 × 3.61	18.05	508	80	0.1550	39.06
LYNX	226.20	30 × 2.79	7 × 2.79	19.53	507	334	0.1522	79.80
— (18/1)	222.33	18 × 3.86	1 × 3.86	19.30	580	91	0.1355	44.26
PANTHER	261.53	30 × 3.00	7 × 3.00	21.00	586	387	0.1316	92.26
LION	293.85	30 × 3.18	7 × 3.18	22.26	658	435	0.1171	100.49
BEAR	326.11	30 × 3.35	7 × 3.35	23.45	731	482	0.1055	111.26
GOAT	399.97	30 × 3.71	7 × 3.71	25.97	896	591	0.0861	135.80
ANTELOPE	422.59	54 × 2.97	7 × 2.97	26.73	1015	379	0.0744	118.53
BISON	431.17	54 × 3.00	7 × 3.00	27.00	1036	387	0.0729	118.95
SHEEP	462.62	30 × 3.99	7 × 3.99	27.93	1036	684	0.0744	156.32
ZEBRA	484.46	54 × 3.18	7 × 3.18	28.62	1164	435	0.0649	131.94
DEER	529.83	30 × 4.27	7 × 4.27	29.89	1187	783	0.0649	178.60
CAMEL	537.65	54 × 3.35	7 × 3.35	30.15	1292	482	0.0585	145.95
ELK	588.44	30 × 4.50	7 × 4.50	31.50	1318	870	0.0585	198.36
MOOSE	596.98	54 × 3.53	7 × 3.53	31.77	1434	535	0.0527	161.00

BS 215 / EN 50182. Rows marked "— (18/1)" are unnamed 18/1 constructions in the source — insert BS code names if known.

06

ACSR-AW — alloy-clad-steel reinforced

هادی با مغز فولادی روکش‌آلومینیوم

ASTM B549 | IEC 61089 | EN 50182 | ASTM B415

06.0 — OVERVIEW

Aluminium-clad core, for corrosive environments.

As ACSR, but the core is aluminium-clad steel (ACS / "AW") instead of galvanised steel — far better corrosion resistance and higher core conductivity, for long spans in aggressive environments.

Supplied in the LARL code-number series, the IEC metric series and the ASTM B549 code-word range (including large sizes).

ALUMINIUM-CLAD-STEEL CORE

APPLICATIONS

- Coastal & marine lines
- Industrial / polluted air
- Long river crossings
- High-reliability links

STANDARDS

ASTM B549 | IEC 61089 | EN 50182 | ASTM B415

6.1 · LARL code-number series

EN 50182.

Code	Area mm²	Al n × mm	AW n × mm	Ø mm	Al wt kg/km	AW wt kg/km	Rated kN	R Ω/km
LARL-30	31.1	**6 × 2.38**	**1 × 2.38**	7.14	73	29	10.2	1.018
LARL-56	54.6	**6 × 3.15**	**1 × 3.15**	9.45	128	51	7.2	0.581
LARL-78	78.6	**6 × 3.78**	**1 × 3.78**	11.34	185	74	23.0	0.403
LARL-145	147.1	**30 × 2.25**	**7 × 2.25**	15.75	330	184	55.1	0.224
LARL-180	181.6	**20 × 2.50**	**7 × 2.50**	17.5	407	227	66.3	0.182
LARL-280	281.1	**26 × 3.44**	**7 × 2.68**	21.80	667	262	87.6	0.113
LARL-380	381	**54 × 2.82**	**7 × 2.82**	25.38	932	290	109.6	0.082
LARL-455	454.4	**54 × 3.08**	**7 × 3.08**	27.72	1112	345	129.4	0.069
LARL-516	516.8	**45 × 3.70**	**7 × 2.47**	29.61	1339	221	117.4	0.059
LARL-545	547.3	**54 × 3.38**	**7 × 3.38**	30.42	1339	416	153.2	0.057
LARL-635	636.6	**54 × 3.65**	**19 × 2.19**	32.85	1562	475	177.5	0.049

6.2 · Metric series

IEC 61089.

Nom. mm²	Area mm²	Al n × mm	AW n × mm	Ø mm	Weight kg/km	Rated kN	R Ω/km
16	17.6	6 × 1.81	1 × 1.81	5.43	59.0	5.91	1.792
25	28	6 × 2.26	1 × 2.26	6.78	92.1	9.00	1.147
40	44.4	6 × 2.85	1 × 2.85	8.55	147.4	14.21	0.717
63	70.1	6 × 3.58	1 × 3.58	10.70	232.2	21.17	0.455
100	112	6 × 4.51	1 × 4.51	13.50	368.6	31.84	0.287
125	130	18 × 2.95	1 × 2.95	14.80	384.3	29.18	0.230
125	140	26 × 2.43	7 × 1.89	15.40	460.8	44.49	0.231
160	167	18 × 3.34	1 × 3.34	16.70	491.9	36.38	0.180
160	179	26 × 2.74	7 × 2.13	17.40	589.8	56.18	0.180
200	208	18 × 3.74	1 × 3.74	18.70	614.9	43.62	0.144
200	223	26 × 3.07	7 × 2.39	19.40	737.2	69.27	0.144
250	268	32 × 3.76	7 × 2.09	21.30	830.9	67.80	0.115
250	279	26 × 3.43	7 × 2.67	21.70	921.5	86.58	0.115
315	331	45 × 2.96	7 × 1.97	23.70	996.4	78.33	0.092
315	352	26 × 3.75	7 × 2.99	24.40	1161.1	107.58	0.092
400	420	45 × 3.34	7 × 2.22	26.70	1265.3	97.50	0.072
400	437	54 × 3.02	7 × 3.02	27.20	1402.9	124.20	0.072
450	483	45 × 3.54	7 × 2.36	28.30	1423.4	107.48	0.064
450	493	54 × 3.21	7 × 3.21	28.90	1578.2	139.72	0.064
500	526	45 × 3.73	7 × 2.49	29.80	1581.6	119.42	0.058
500	547	54 × 3.78	7 × 3.38	30.40	1753.6	153.99	0.058
560	588	45 × 3.95	7 × 2.63	31.60	1771.4	133.75	0.052
560	612	54 × 3.58	19 × 2.15	32.20	1956.3	169.36	0.052
630	662	45 × 4.19	7 × 2.79	33.50	1992.8	150.47	0.046
630	688	54 × 3.79	19 × 2.28	34.20	2200.9	190.52	0.046
710	746	45 × 4.44	7 × 2.96	35.60	2245.8	169.57	0.041
710	775	54 × 4.03	19 × 2.42	36.30	2480.3	214.72	0.041
800	825	72 × 3.74	7 × 2.49	37.40	2412.8	167.67	0.036
800	849	84 × 3.45	7 × 3.45	37.90	2598.9	206.37	0.036
800	873	54 × 4.28	19 × 2.57	38.50	2794.7	241.94	0.036
900	929	72 × 3.97	7 × 2.65	39.70	2714.4	188.63	0.032
900	956	84 × 3.66	7 × 3.66	40.20	2923.8	224.82	0.032
1000	1032	72 × 4.18	7 × 2.79	41.80	3016.0	209.59	0.029
1120	1187	84 × 4.08	19 × 2.45	44.90	3628.4	282.88	0.026
1250	1325	84 × 4.31	19 × 2.59	47.40	4049.5	315.72	0.023

6.3 · Code-word series

ASTM B549.

Code	Area mm²	Al n × mm	AW n × mm	Ø mm	Weight kg/km	Rated kN	R @20°C Ω/km
SWAN	24.7	6 × 2.12	1 × 2.12	6.36	81	7.9	1.282
SWANATE	26.5	7 × 1.96	1 × 2.61	6.53	93	10.1	1.251
SPARROW	39.2	6 × 2.67	1 × 2.67	8.01	129	12.3	0.808
SPARATE	42.1	7 × 2.47	1 × 3.30	8.24	149	15.6	0.787
ROBIN	49.5	6 × 3.00	1 × 3.00	9.00	163	15.3	0.640
RAVEN	62.4	6 × 3.37	1 × 3.37	10.11	205	18.9	0.507
QUAIL	78.6	6 × 3.78	1 × 3.78	11.34	259	22.8	0.403
PIGEON	99.3	6 × 4.25	1 × 4.25	12.75	326	28.0	0.319
PENGUIN	125.1	6 × 4.77	1 × 4.77	14.31	411	34.2	0.253
WAXWING	142.5	18 × 3.09	1 × 3.09	15.45	421	30.3	0.210
PARTRIDGE	156.9	26 × 2.57	7 × 2.00	16.28	520	48.0	0.204
OSTRICH	176.9	26 × 2.73	7 × 2.12	17.28	584	54.0	0.180
MERLIN	179.7	18 × 3.47	1 × 3.47	17.35	532	38.0	0.166
LINNET	198.4	26 × 2.89	7 × 2.25	18.31	654	60.0	0.161
ORIOLE	210.3	30 × 2.69	7 × 2.69	18.83	736	74.5	0.158
CHICKADEE	212.1	18 × 3.77	1 × 3.77	18.85	628	43.5	0.141
BRANT	227.7	24 × 3.27	7 × 2.18	19.62	730	62.5	0.138
IBIS	234.1	26 × 3.14	7 × 2.44	19.88	773	70.2	0.136
LARK	247.8	30 × 2.92	7 × 2.92	20.44	869	87.3	0.134
PELICAN	255.8	18 × 4.14	1 × 4.14	20.70	754	51.0	0.117
FLICKER	273.0	24 × 3.58	7 × 2.39	21.49	876	74.3	0.115
HAWK	280.8	26 × 3.44	7 × 2.67	21.77	928	84.3	0.114
HEN	297.6	30 × 3.20	7 × 3.20	22.40	1043	104.0	0.112
OSPREY	298.2	18 × 4.47	1 × 4.47	22.35	879	58.9	0.100
PARAKEET	318.9	24 × 3.87	7 × 2.58	23.22	1022	85.7	0.098
DOVE	328.5	26 × 3.72	7 × 2.89	23.55	1084	97.5	0.097
EAGLE	347.9	30 × 3.46	7 × 3.46	24.22	1217	119.0	0.095
PEACOCK	345.9	24 × 4.03	7 × 2.69	24.19	1111	93.3	0.091
SQUAB	355.6	26 × 3.87	7 × 3.01	24.51	1178	105.0	0.090
WOOD DUCK	378.7	30 × 3.61	7 × 3.61	25.27	1323	126.0	0.088
TEAL	376.7	30 × 3.61	19 × 2.16	25.24	1313	126.6	0.088
KINGBIRD	341.0	18 × 4.78	1 × 4.78	23.90	1005	66.8	0.088
ROOK	365	24 × 4.14	7 × 2.76	24.84	1168	98.0	0.086
GROSBEAK	374.3	26 × 3.97	7 × 3.09	25.15	1238	110.0	0.085
SCOTER	397.8	30 × 3.70	7 × 3.70	25.90	1391	130.0	0.083
EGRET	396.1	30 × 3.70	19 × 2.22	25.90	1381	133.0	0.084
SWIFT	332.0	36 × 3.38	1 × 3.38	23.66	946	60.6	0.088
FLAMINGO	381.0	24 × 4.23	7 × 2.82	25.38	1224	103.0	0.082
GANNET	393.3	26 × 4.07	7 × 3.16	25.76	1298	116.0	0.081
STILT	410.1	24 × 4.39	7 × 2.92	26.32	1314	110.0	0.076
STARLING	421.1	26 × 4.21	7 × 3.28	26.68	1393	122.0	0.076

6.3 · Code-word series (cont.)

(cont.)

Code	Area mm²	Al n × mm	AW n × mm	Ø mm	Weight kg/km	Rated kN	R @20°C Ω/km
REDWING	444.5	30 × 3.92	19 × 2.35	27.43	1552	148.0	0.074
TERN	431.6	45 × 3.38	7 × 2.25	27.03	1298	95.4	0.070
CONDOR	454.5	54 × 3.08	7 × 3.08	27.72	1459	124.0	0.069
CUCKOO	454.5	24 × 4.62	7 × 3.08	27.74	1459	122.0	0.069
DRAKE	468	26 × 4.44	7 × 3.45	28.11	1549	136.0	0.068
COOT	413	36 × 3.77	1 × 3.77	26.41	1182	73.8	0.071
MALLARD	495.6	30 × 4.14	19 × 2.48	28.96	1726	165.0	0.067
RUDDY	487.2	45 × 3.59	7 × 2.40	28.73	1470	107.0	0.062
CANARY	515.4	54 × 3.28	7 × 3.28	29.52	1653	138.0	0.061
RAIL	517.4	45 × 3.70	7 × 2.47	29.61	1558	113.0	0.059
CATBIRD	498.1	36 × 4.14	1 × 4.14	28.95	1419	86.6	0.059
CARDINAL	547.3	54 × 3.38	7 × 3.38	30.42	1751	146.0	0.057
ORTOLAN	560.2	45 × 3.85	7 × 2.57	30.81	1687	121.0	0.054
TANAGER	537.3	36 × 4.30	1 × 4.30	30.12	1537	93.7	0.055
CURLEW	593.6	54 × 3.52	7 × 3.52	31.68	1896	158.0	0.053
BLUEJAY	604.4	45 × 4.00	7 × 2.66	31.98	1819	121.0	0.050
FINCH	636.6	54 × 3.65	19 × 2.19	32.85	2043	167.0	0.049

6.4 · Large sizes

ASTM B549 / EN 50182.

Code	Area mm²	Al n × mm	AW n × mm	Ø mm	Weight kg/km	Rated kN	R @20°C Ω/km
BUNTING	647.6	45 × 4.14	7 × 2.76	33.12	1948	139.0	0.047
GRACKLE	679.7	54 × 3.77	19 × 2.27	33.97	2187	179.0	0.046
BITTERN	689.1	45 × 4.27	7 × 2.85	34.17	2077	149.0	0.044
PHEASANT	726.8	54 × 3.90	19 × 2.34	35.10	2333	189.0	0.043
SKYLARK	664.0	36 × 4.78	1 × 4.78	33.42	1893	114.0	0.044
DIPPER	731.1	45 × 4.40	7 × 2.92	35.16	2207	158.0	0.041
MARTIN	772.1	54 × 4.02	19 × 2.41	36.17	2478	200.0	0.041
BOBOLINK	775.4	45 × 4.53	7 × 3.02	36.24	2337	167.0	0.039
PLOVER	818.7	54 × 4.14	19 × 2.48	37.24	2625	212.0	0.038
NUTHATCH	817.0	45 × 4.65	7 × 3.10	37.20	2467	176.0	0.037
PARROT	863.1	54 × 4.25	19 × 2.55	38.25	2788	224.0	0.036
LAPWING	859.7	45 × 4.77	7 × 3.18	38.16	2598	186.0	0.035
FALCON	908.7	54 × 4.36	19 × 2.62	39.26	2917	236.0	0.035
CHUKAR	976.7	84 × 3.70	19 × 2.22	42.70	2995	220.0	0.031
BLUEBIRD	1181.6	84 × 4.07	19 × 2.44	44.76	3626	262.0	0.026
KIWI	1147.3	72 × 4.41	7 × 2.94	44.10	3367	219.0	0.026
THRASHER	1235.3	76 × 4.43	19 × 2.07	45.79	3678	246.0	0.024
GROUSE	54.8	8 × 2.54	1 × 4.24	9.32	205	21.7	0.635
PETREL	81.7	12 × 2.34	7 × 2.24	11.71	342	44.1	0.469
MINORCA	88.9	12 × 2.44	7 × 2.44	12.22	372	48.0	0.431
LEGHORN	108.0	12 × 2.69	7 × 2.69	13.46	452	57.8	0.354
GUINEA	127.6	12 × 2.92	7 × 2.92	14.63	534	68.0	0.300
DOTTEREL	141.7	12 × 3.08	7 × 3.08	15.42	594	75.4	0.270
DORKING	153.1	12 × 3.20	7 × 3.20	16.03	641	81.3	0.250
BRAHMA	194.8	16 × 2.86	19 × 2.48	18.14	894	120.0	0.216
COCHIN	169.6	12 × 3.37	7 × 3.37	16.84	709	88.0	0.226

07

OPGW — optical ground wire

سیم محافظ نوری

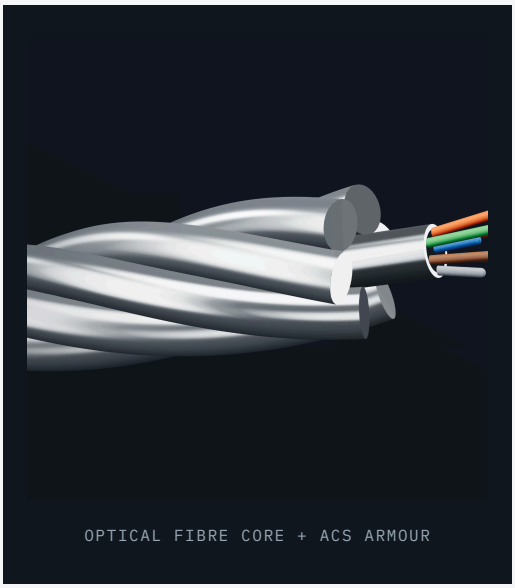
IEEE 1138 · ASTM B415 · ITU-T G.655

07.0 — OVERVIEW

Earth wire and fibre, in one cable.

A composite earth-wire / optical cable: aluminium-clad-steel armour around a central stainless-steel tube carrying up to 24 single-mode fibres — lightning shielding and fault-current capability plus a fibre path on the same line.

Two centre-tube designations — OPGW 10.5 mm and OPGW 12.0 mm — to IEEE 1138, with NZDSF fibre (ITU-T G.655, Class A) and ASTM B415 aluminium-clad-steel wire.



OPTICAL FIBRE CORE + ACS ARMOUR

APPLICATIONS

- **Transmission earth wire**
- **Utility fibre backbone**
- **Lightning shielding**
- **Fault-current path**

STANDARDS

IEEE 1138 | ASTM B415 | ITU-T G.655

7.1 · Optical fibre properties

NZDSF · ITU-T G.655 (2003), Class A.

Property	Unit	OPGW 10.5	OPGW 12.0
Type of optical fibre	—	NZDSF	NZDSF
Applicable standard	—	ITU-T G.655	ITU-T G.655
Class of optical fibre	—	A	A
Mode-field dia. @1550 nm	µm	9.6 ±0.4	9.6 ±0.4
Cladding diameter	µm	125 ±1	125 ±1
Coating diameter	µm	250 ±5	250 ±5
Core concentricity error (max)	µm	0.6	0.6
Cladding non-circularity (max)	%	1.0	1.0
Max attenuation @1550 nm	dB/km	0.22	0.22
Attenuation discontinuities	dB	≤ 0.05	≤ 0.05
Cut-off wavelength (max)	nm	1450	1450
Chromatic dispersion @1550 nm	ps/(nm·km)	2–6	2–6
Zero-dispersion wavelength	nm	1520	1520
Zero-dispersion slope	ps/(nm²·km)	0.09	0.09
PMD coefficient (max)	ps/√km	0.2	0.2
Macrobend loss (30 mm, 100 turns)	dB	0.1	0.1
Proof stress (min)	GPa	0.69	0.69
Backscatter coeff. @1550 nm	dB	−80…−82	−80…−82

7.2 · Complete cable properties

Centre-tube construction · 24 fibres · IEEE 1138.

Property	Unit	OPGW 10.5	OPGW 12.0
Number of fibres	—	24	24
Stainless-steel loose tube	No./mm	1 / 3.5	1 / 4.00
Aluminium-clad-steel wire	No./mm	6 / 3.5	6 / 4.00
Outer stranding direction	—	Left	Left
Lay ratio (lay / outer Ø)	×	10–16	10–16
Overall diameter	mm	10.5	12.0
Cross-section — SS tube	mm²	2.07	2.39
Cross-section — ACS wire	mm²	57.7	75.4
Cross-section — total	mm²	59.8	77.8
Weight — ACS wire	kg/km	388	494
Weight — SS tube	kg/km	15	25
Weight — grease	kg/km	4	6
Weight — total (max)	kg/km	407	530
Calculated breaking load (min)	kN	69.6	82.1
Modulus — initial	kgf/mm²	15500	15500
Modulus — final	kgf/mm²	15800	15800
Linear expansion coefficient	10⁻⁶/°C	13	13
Maximum tensile stress	N/mm²	499	490
Everyday stress	N/mm²	190.1	190
DC resistance @20°C (max)	Ω/km	1.499	1.135
Short-circuit current (0.5 s)	kA	6.5	7.5
Min. bending radius	mm	158	180

7.3 · Individual wire (before stranding)

Aluminium-clad-steel wire · ASTM B415.

Property	Unit	OPGW 10.5	OPGW 12.0
Standard diameter	mm	3.5	4.0
Diameter tolerance	mm	±1.5	±1.5
Min. tensile strength	MPa	1310	1210
Min. elongation at fracture	%	1.5	1.5
Min. conductivity @20°C	%IACS	20	20
Min. number of twists	—	20	20
Min. aluminium thickness	mm	0.175	0.200
OPGW reel length	m	5000 ±3%	5000 ±3%
Max temp. — continuous	°C	80	80
Max temp. — instantaneous	°C	200	200

08

Messenger — alloy messenger conductor

هادی مهار آلیاژی (مسنجر)

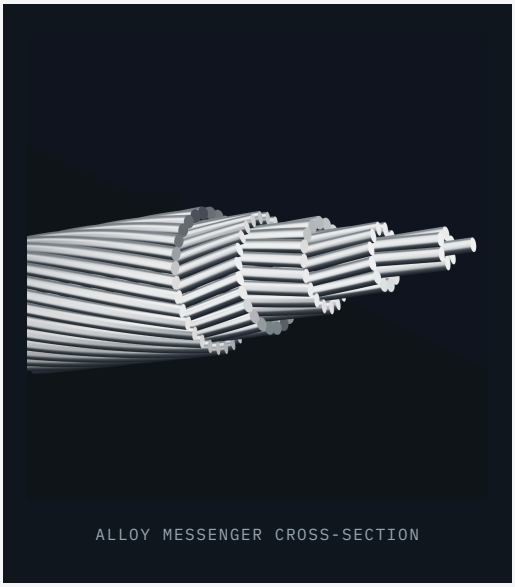
BS 3242 EN 50182

08.0 — OVERVIEW

Carries the cable — and the current.

Hard-drawn 6201 aluminium-alloy messenger that takes the full mechanical load of self-supporting (aerial bundled) cable and doubles as the earth-cum-neutral conductor — drawn from AKZ's own alloy rod.

Supplied in 35, 50 and 70 mm² seven-wire constructions to BS 3242 dimensions; the full alloy conductor range is covered in the AAAC section.



ALLOY MESSENGER CROSS-SECTION

APPLICATIONS

- **Self-supporting aerial cable**
- **Catenary / suspension strand**
- **Earth-cum-neutral duty**
- **Street & compound spans**

STANDARDS

BS 3242 | EN 50182

8.1 · Messenger conductor sizes

6201 alloy · BS 3242 / EN 50182 dimensions.

Nom. area mm²	Stranding n × mm	Ø mm	Weight kg/km	DC R @20°C Ω/km	Break kN
35	**7 × 2.54**	7.6	97	0.9500	9.94
50	**7 × 3.15**	9.5	149	0.6300	15.3
70	**7 × 3.61**	10.8	196	0.5000	20.0

Quality & standards.

In-house laboratory. Every heat is checked for chemistry and conductivity, and finished conductors are tested for tensile strength, resistance and dimensions against the cited standards before release.

The metallurgical edge. Controlled boron treatment precipitates transition-metal impurities (forming AlB_2), lifting conductivity in the 1350 conductor grade while preserving drawability — the difference between meeting 61% IACS and exceeding it.

Approvals. ISO 9001 quality-management certification and approval by the Iran Power Generation, Transmission & Distribution Company (TAVANIR).

ISO 9001 | TAVANIR

STANDARDS MATRIX	
Rod	ASTM B233 · EN 573-3
Welding wire	AWS A5.10 · EN ISO 18273 · JIS Z 3232
AAC	DIN 48201 · BS 215 · BS-EN 50182
AAAC	BS 3242 · ASTM B399 · IEC 61089 · EN 50182
ACSR	ASTM B232 · DIN 48204 · BS 215 · EN 50182
ACSR-AW	ASTM B549 · IEC 61089 · EN 50182
OPGW	IEEE 1138 · ASTM B415 · ITU-T G.655
Messenger	BS 3242 · EN 50182

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ISO 9001 TAVANIR

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