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ABC CABLES & ALUMINIUM CONDUCTOR

Content of ABC Cables & Aluminium Conductor

* **MEDIUM VOLTAGE AERIAL BUNDLED CABLES (ABC)**
  -Acc. to NF C 33-226

* **AERIAL BUNDLED CABLES (ABC)**
  -Acc. to HD 626 S1
  -Acc. to IEC 60502
  -Acc. to NF C 33-209
  -Acc. to BS 7870-5
  -Acc. to SFS 2200
  -Acc. to SANS 1418

* **AAC CONDUCTOR**
  - Acc. to ASTM B-231
  - Acc. to DIN 48201 / EN 50182
  - Acc. to BS 215 / EN 50182
  - Acc. to UNE 2101 / EN 50182
  - Acc. to GOST 839-80

* **AAAC CONDUCTOR**
  - Acc. to EN 50182 TYPE AL3
  - Acc. to EN 50182 TYPE AL2
  - Acc. to ASTM B-232 IEC 61089
  - Acc. to NFC 34-125 / EN 50182

* **ACS CONDUCTOR**
  -Acc. to ASTM B 416
  - Acc. to IEC 61232 / ACS 20 SA
  - Acc. to DIN 48201 / 8 ACS 20 SA

* **ACSR CONDUCTOR**
  - Acc. to ASTM B 232 / B 232M
  - Acc. to CSA C4 9
  - Acc. to DIN EN 50182

* **OPGW**
  - OPGW-95
  - OPGW-127-1
  - OPGW-127-2
  - OPGW Joint Box

* **STAY WIRE**

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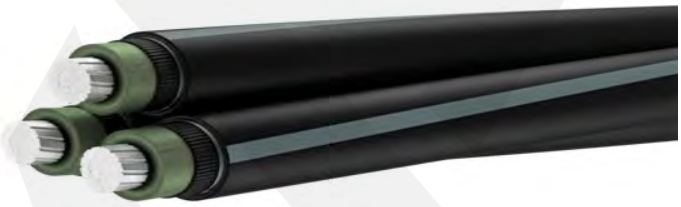
MEDIUM VOLTAGE 18/30(36kV) AERIAL BUNDLED CABLES (ABC) Acc. to NF C 33-226



TECHNICAL DATA

- Max Operating Temperature: 90°C
- Max. short Circuit Temperature: 250°C (max. 5 sec.)
- Rated voltage: 18/30kV
- Cable Code: AER
- Minimum Bending Radius:
  Single Core: 13 x overall diameter
  During Installation: 26 x overall diameter

APPLICATION

These cables are suitable for MV power applications, particularly for connections in transformer stations and power stations, between aerial lines and transformer stations, and for automotive electric power train.

CONSTRUCTION

Conductor: Class 2 Aluminium stranded wire

Conductor Screen: Semi-conductive XLPE (Cross-linked Polyethylene) bonded to conductor

Insulation: XLPE (Cross-linked polyethylene)

Insulation Screen: Grooved peel-able semi-conducting XLPE (Cross-linked Polyethylene)

Screen: Al/PET (Aluminium foil tape)

Outer Sheath: PE (Polyethylene)

Sheath Colour: Colours could be according to the International Standards (Red for underground connections Grey for aerial, above/underground or technical connections or black striped.)

MAXIMUM CURRENT RATING

No. Of CORES	NOMINAL CROSS SECTION AREA	D.C. RESISTANCE at 20°C	C.A. RESISTANCE at 50 Hz 90°C	INDUCTANCE	CAPACITY	APPROX. WEIGHT
	mm²	Ω/km	Ω/km	mH/km	µF / km	kg/km
1	50	0,641	0,82	0,46	0,136	930
1	95	0,32	0,41	0,401	0,184	1104
1	150	0,206	0,265	0,372	0,223	1213
1	240	0,125	0,16	0,333	0,284	1569
1	300	0,1	0,13	0,321	0,314	3166
1	400	0,078	0,102	0,311	0,346	3564
3	50	0,641	0,82	0,46	0,136	2332
3	95	0,32	0,41	0,401	0,184	2860
3	150	0,206	0,265	0,372	0,223	3191
3	240	0,125	0,16	0,333	0,284	4259

MAXIMUM CURRENT RATING

CROSS SECTION	DIRETLY BURIED		IN AIR	
mm²	WINTER	SUMMER	WINTER	SUMMER
50	200	165	205	190
95	295	240	310	285
150	375	305	405	370
240	500	405	550	500

OPERATING CONDITIONS

In summer

- Ground temperature = 20°C
- Air ambient temperature = 30°C
- Ground thermal resistivity = 1.2 Km/W

* **The current ratings are calculated for a 3 phase system**

In winter

- Ground temperature = 10 °C
- Air ambient temperature = 20°C
- Ground thermal resistivity = 0.85 Km/W
- Laying depth = 0.8 m

* **The current ratings are calculated for a 3 phase system**

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MEDIUM VOLTAGE 12/20(24kV) AERIAL BUNDLED CABLES (ABC) Acc. to NF C 33-226

TECHNICAL DATA

- Max Operating Temperature: 90°C
- Max. short Circuit Temperature: 250°C (max. 5 sec.)
- Rated voltage: 12/20kV
- Cable Code: AER
- Minimum Bending Radius:
  Single Core: 13 x overall diameter
  During Installation: 26 x overall diameter

APPLICATION

These cables are suitable for MV power applications, particularly for connections in transformer stations and power stations, between aerial lines and transformer stations, and for automotive electric power train.

CONSTRUCTION

Conductor: Class 2 Aluminium stranded wire

Conductor Screen: Semi-conductive XLPE (Cross-linked Polyethylene) bonded to conductor

Insulation: XLPE (Cross-linked polyethylene)

Insulation Screen: Grooved peelable semi-conducting XLPE (Cross-linked Polyethylene)

Screen: Al/PET (Aluminium foil tape)

Outer Sheath: PE (Polyethylene)

Sheath Colour: Colours could be according to the International Standards (Red for underground connections Grey for aerial, above/underground or technical connections or black striped.)

MAXIMUM CURRENT RATING

No. Of CORES	NOMINAL CROSS SECTION AREA	D.C. RESISTANCE at 20°C	C.A. RESISTANCE at 50 Hz 90°C	INDUCTANCE	CAPACITY	APPROX. WEIGHT
	mm²	Ω/km	Ω/km	mH/km	µF / km	kg/km
1	50	0,641	0,82	0,432	0,174	691
1	95	0,32	0,41	0,382	0,219	865
1	150	0,206	0,265	0,348	0,296	974
1	240	0,125	0,16	0,316	0,365	1330
1	300	0,1	0,13	0,306	0,406	2927
1	400	0,078	0,102	0,297	0,441	3325
3	50	0,641	0,82	0,432	0,174	2093
3	95	0,32	0,41	0,382	0,219	2621
3	150	0,206	0,265	0,348	0,296	2952
3	240	0,0754	0,16	0,316	0,365	8800
3	240	0,125	0,088	0,316	0,365	4030

MAXIMUM CURRENT RATING

CROSS SECTION	DIRETLY BURIED		IN AIR	
mm²	WINTER	SUMMER	WINTER	SUMMER
50	200	165	205	190
95	295	240	310	285
150	375	305	405	370
240	500	405	550	500

OPERATING CONDITIONS

In summer

- Ground temperature = 20°C
- Air ambient temperature = 30°C
- Ground thermal resistivity = 1.2 Km/W

* **The current ratings are calculated for a 3 phase system**

In winter

- Ground temperature = 10 °C
- Air ambient temperature = 20°C
- Ground thermal resistivity = 0.85 Km/W
- Laying depth = 0.8 m

* **The current ratings are calculated for a 3 phase system**

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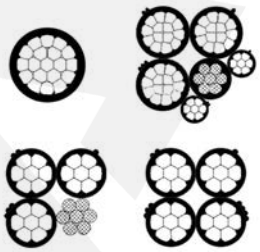
AERIAL BUNDLED CABLES (ABC)
Acc. to HD 626 S1



TECHNICAL DATA

- Max Operating Temperature: 90°C
- Max. short Circuit Temperature: 250°C (max. 5 sec.)
- Rated voltage: 0.6/1kV
- Cable Code: AER

CONSTRUCTION

- Solid or Stranded Aluminium Conductor
- PE or XLPE Insulation
- Messenger wire

APPLICATION

It is preferred to use of AER cables instead of uninsulated conductors at low voltage networks. AER cables are especially used at areas where the cost of underground networks is expensive and also for electrification of rural areas like villages.

NUMBER AND REMEMBRANCE SECTIONAL AREA OF THE CONDUCTOR	NO OF WIRES	NOMINAL DIAMETER OF CONDUCTOR	CONDUCTOR DC RESISTANCE at 20°C	CURRENT CARRYING CAPACITY	NUMBER & CROSS SECTION	AVERAGE DIAMETER WIRE HANGERS	TENSILE STRENGHT	TWISTED DIAMETER	NET WEIGHT (APPROX)
mm²	Adet	mm	Ω/km	A	mm²	mm	kN	mm	kg/km
2 x 16	3 x 16	4 x 16	5 x 16	6 x 16	7 x 16	8 x 16	9 x 16	10 x 16	11 x 16
2 x 25	7	5.9	1.2	122	-	-	-	18.5	180
2 x 35	7	6.9	0.868	129	-	-	-	2	240
2 x 50	7	8.1	0.641	158	-	-	-	24	320
2 x 70	14	9.7	0.443	203	-	-	-	26	450
3 x 16	7	4.7	1.91	83	-	-	-	16	190
3 x 25	7	5.9	1.2	111	-	-	-	20	280
3 x 35	7	6.9	0.868	131	-	-	-	22	360
3 x 50	7	8.1	0.641	168	-	-	-	24	490
3 x 70	14	9.7	0.443	213	-	-	-	28	670
3 x 95	19	11.4	0.32	258	-	-	-	32	940
3 x 120	19	12928	0.253	300	-	-	-	36	1150
3 x 150	14	14241	0.206	344	-	-	-	38	1390
4 x 16	7	4.7	1.91	83	-	-	-	18	260
4 x 25	7	5.9	1.2	111	-	-	-	22	370
4 x 35	7	6.9	0.868	131	-	-	-	26	480
4 x 50	7	8.1	0.641	168	-	-	-	28	650
4 x 70	14	9.7	0.443	213	-	-	-	32	900
4 x 95	19	11.4	0.32	258	-	-	-	36	1250
4 x 120	19	12928	0.253	300	-	-	-	40	1530
4 x 150	30	14241	0.206	344	-	-	-	44	1850
3 x 16 + 10	7	4.7	1.91	103	-	6.6	-	26	240
3 x 25 + 16	7	5.9	1.2	132	-	7.8	-	28	350
3 x 35 + 16	7	6.9	0.868	139	-	7.8	-	31	430
3 x 35 + 25	7	6.9	0.868	139	-	8.6	7.4	31	460
3 x 50 + 25	7	8.1	0.641	168	-	8.6	7.4	34	580
3 x 70 + 25	14	9.7	0.443	213	-	8.6	7.4	38	770
3 x 70 + 35	14	9.7	0.443	213	-	9.6	10.3	38	800
3 x 95 + 50	19	11.4	0.32	258	-	11.3	14.2	42	1110
3 x 120 + 70	19	12928	0.253	300	-	12.9	20.6	46	1380
3 x 150 + 70	30	14241	0.206	344	-	12.9	20.6	48	1630
3 x 25 + 16 + 16	7	5.9	1.2	132	60	7.8	-	28	410
3 x 35 + 16 + 16	7	6.9	0.868	139	60	7.8	-	31	490
3 x 35 + 25 + 16	7	6.9	0.868	139	60	8.6	7.4	32	520
3 x 50 + 25 + 16	7	8.1	0.641	168	60	8.6	7.4	34	650
3 x 50 + 35 + 16	7	8.1	0.641	168	60	9.6	10.3	35	680
3 x 70 + 25 + 16	14	9.7	0.443	213	60	8.6	7.4	36	830
3 x 70 + 35 + 16	14	9.7	0.443	213	60	9.6	10.3	37	860
3 x 70 + 50 + 16	14	9.7	0.443	213	60	11.3	14.2	40	910
3 x 95 + 35 + 16	19	11.4	0.32	258	60	9.6	10.3	42	1130
3 x 95 + 50 + 16	19	11.4	0.32	258	60	11.3	14.2	44	1170
3 x 95 + 70 + 16	19	11.4	0.32	258	60	12.9	20.6	46	1240
3 x 120 + 70 + 16	19	12928	0.253	300	60	12.9	20.6	47	1440
3 x 150 + 70 + 16	30	14241	0.206	344	60	12.9	20.6	49	1690

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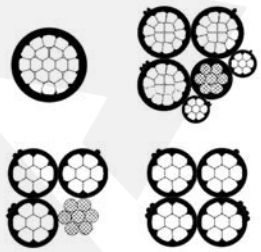
AERIAL BUNDLED CABLES (ABC)
Acc. to IEC 60502



TECHNICAL DATA

- Max Operating Temperature: 90°C
- Max. short Circuit Temperature: 250°C (max. 5 sec.)
- Rated voltage: 0.6/1kV
- Cable Code: AER

CONSTRUCTION

- Solid or Stranded Aluminium Conductor
- PE or XLPE Insulation
- Messenger wire

APPLICATION

It is preferred to use of AER cables instead of uninsulated conductors at low voltage networks. AER cables are especially used at areas where the cost of underground networks is expensive and also for electrification of rural areas like villages.

IEC 60502 & TNB SPECIFICATION 0.6/1(1.2)kV

PHASE CONDUCTOR								MESSENGER WIRE						COMPLETED CABLE		
NOMINAL CROSS-SECTIONAL AREA	NUMBER OF CORES	MINIMUM NUMBER OF WIRES	NOMINAL INSULATION THICKNESS	DIAMETER OF INSULATED CORE	MAX. D.C. RESISTANCE AT 20°C	CURRENT RATING AT STILL WIND A.T. : 30°C C.T. : 75°C	MAX. VOLTAGE DROP	NOMINAL CROSS-SECTIONAL AREA	MINIMUM NUMBER OF WIRES	NOMINAL INSULATION THICKNESS	DIAMETER OF INSULATED CORE	MAX. D.C. RESISTANCE AT 20°C	CALCULATED BREAKING LOAD	APPROX. OVERALL DIAMETER	APPROX WEIGHT OF CABLE	PACKING LENGHT
mm^2			mm	mm	Ω/km	A	Mv/A/m	mm^2		mm	mm	Ω/km	Kn	mm	kg/km	m/drum
16	1	6	1.0	6.8	1.91	61	4.67	25	6	1.2	8.5	1.312	6.4	15.3	160	1,000
16	3	6	1.0	6.8	1.91	61	4.05	25	6	1.2	8.5	1.312	6.4	19.0	290	1,000
25	3	6	1.2	8.5	1.20	84	2.54	25	6	1.2	8.5	1.312	6.4	23.2	400	1,000
35	3	6	1.2	9.5	0.868	104	1.84	25	6	1.2	8.5	1.312	6.4	25.6	500	1,000
50	3	6	1.4	11.2	0.641	129	1.36	35	6	1.2	9.5	0.943	8.9	30.0	680	1,000
70	3	12	1.4	13.0	0.443	167	0.95	50	6	1.4	11.2	0.693	12.1	34.9	920	1,000
95	3	15	1.6	15.1	0.320	209	0.69	70	12	1.4	13.1	0.469	18.0	40.6	1,270	500
120	3	15	1.6	16.6	0.253	246	0.55	70	12	1.4	13.1	0.469	18.0	44.1	1,510	500
150	3	30	1.8	18.4	0.206	283	0.46	95	15	1.6	15.1	0.349	24.2	49.2	1,870	500
185	3	30	2.0	20.6	0.164	332	0.37	120	15	1.6	16.6	0.273	30.8	54.9	2,340	500

IEC 60502 & DES/LV/ABC 0.6/1(1.2)kV

PHASE CONDUCTOR								NEUTRAL CONDUCTOR						COMPLETED CABLE		
NOMINAL CROSS-SECTIONAL AREA	NUMBER OF CORES	MINIMUM NUMBER OF WIRES	NOMINAL INSULATION THICKNESS	DIAMETER OF INSULATED CORE	MAX. D.C. RESISTANCE AT 20°C	MIN. BREAKING LOAD	CURRENT RATING AT STILL WIND A.T. : 30°C C.T. : 75°C	NOMINAL CROSS-SECTIONAL AREA	MINIMUM NUMBER OF WIRES	NOMINAL INSULATION THICKNESS	DIAMETER OF INSULATED CORE	MAX. D.C. RESISTANCE AT 20°C	MIN. BREAKING LOAD	APPROX. OVERALL DIAMETER	APPROX WEIGHT OF CABLE	PACKING LENGHT
mm^2			mm	mm	Ω/km	kN	A	mm^2		mm	mm	Ω/km	Kn	mm	kg/km	m/drum
25	3	6	1.4	8.9	1.20	3.5	84	25	6	1.4	8.9	1.2	3.5	21.5	420	1,000
35	3	6	1.4	9.9	0.868	4.9	104	35	6	1.4	9.9	0.868	4.9	23.9	550	1,000

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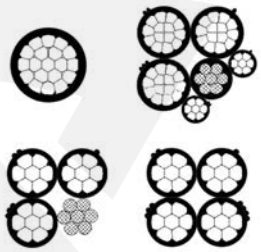
AERIAL BUNDLED CABLES (ABC)
Acc. to NF C 33-209



TECHNICAL DATA

- Max Operating Temperature: 90°C
- Max. short Circuit Temperature: 250°C (max. 5 sec.)
- Rated voltage: 0.6/1kV
- Cable Code: AER

CONSTRUCTION

- Solid or Stranded Aluminium Conductor
- PE or XLPE Insulation
- Messenger wire

APPLICATION

It is preferred to use of AER cables instead of uninsulated conductors at low voltage networks. AER cables are especially used at areas where the cost of underground networks is expensive and also for electrification of rural areas like villages.

NUMBER OF CONDUCTOR CROSS SECTION	INSULATED WIRES							MESSENGER WIRE			FINISHED CABLE	
	CONDUCTOR SIZE	NUMBER OF WIRES	DIAMETER OF CONDUCTOR	RESISTANCE OF 20°C	CURRENT CARRYING CAPACITY	NUMBER OF WIRES	CURRENT CARRYING CAPACITY	DIAMETER OF MESSENGER WIRE	MIN.TENSILE STRENGHT	MAX. RESISTANCE OF 20°C	APP MAX. BUNDLE DIAMETER	APP. NET. WEIGHT
mm²	mm²		mm	Ω/km	A	mm²	A	mm	kN	Ω/km	mm	kg/km
3x25+1x16+54,6	3x25	7	5,90	1,2	112	1x16	60	9,40	16	0,630	30	556
3x25+2x16+54,6	3x25	7	5,90	1,2	112	2x16	60	9,40	16	0,630	30	619
3x35+1x16+54,6	3x25	7	6,90	0,868	138	1x16	60	9,40	16	0,630	33	659
3x35+2x16+54,6	3x25	7	6,90	0,868	138	2x16	60	9,40	16	0,630	33	722
3x50+1x16+54,6	3x50	7	8,10	0,641	168	1x16	60	9,40	16	0,630	36	769
3x50+2x16+54,6	3x50	7	8,10	0,641	168	2x16	60	9,40	16	0,630	36	833
3x50+2x25+54,6	3x50	7	8,10	0,641	138	2x25	112	9,40	16	0,630	35	898
3x70+1x16+54,6	3x70	12	9,70	0,443	213	1x16	60	9,40	16	0,630	38	978
3x70+2x25+54,6	3x70	12	9,70	0,443	213	2x16	60	9,40	16	0,630	38	1041
3x70+2x25+54,6	3x70	12	9,70	0,443	213	2x25	112	9,40	16	0,630	40	1107
3x70+1x16+70	3x70	12	9,70	0,443	213	1x16	60	10,10	20,6	0,493	41	1034
3x70+2x16+70	3x70	12	9,70	0,443	213	2x16	60	10,10	20,6	0,493	41	1097
3x95+2x16+54,6	3x95	19	11.40	0,320	258	2x16	60	9,40	16	0,630	43	1287
3x95+2x25+54,6	3x95	19	11.40	0,320	258	2x25	112	9,40	16	0,630	43	1353
3x120+2x16+70	3x120	19	12,80	0,253	300	2x16	60	10,10	20,6	0,493	46	1558
3x120+2x25+70	3x120	19	12,80	0,253	300	2x25	112	10,10	20,6	0,493	46	1624
3x150+2x25+95	3x150	19	14,10	0,206	344	2x25	112	12,40	27,9	0,343	48	1923
4x50+2x25	4x50	7	8,10	0,641	168	2x25	112	--	--	--	36	861
4x95+2x25	4x95	19	11,40	0,320	258	2x25	112	--	--	--	41	1467

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NUMBER OF CONDUCTOR CROSS SECTION	INSULATED WIRES							MESSENGER WIRE			FINISHED CABLE	
	CONDUCTOR SIZE	NUMBER OF WIRES	DIAMETER OF CONDUCTOR	RESISTANCE OF 20°C	CURRENT CARRYING CAPACITY	NUMBER OF WIRES	CURRENT CARRYING CAPACITY	DIAMETER OF MESSENGER WIRE	MIN.TENSILE STRENGHT	MAX. RESISTANCE OF 20°C	APP MAX. BUNDLE DIAMETER	APP. NET. WEIGHT
mm²	mm²		mm	Ω/km	A	mm²	A	mm	kN	Ω/km	mm	kg/km
1x16	1x16	7	4,60	1,910	60	--	--	--	--	--	--	63
1x25	1x25	7	5,90	1,200	112	--	--	--	--	--	--	96
1x35	1x35	7	6,90	0,868	138	--	--	--	--	--	--	131
1x50	1x50	7	8,10	0,641	168	--	--	--	--	--	--	167
1x70	1x70	19	9,70	0,443	213	--	--	--	--	--	--	237
1x95	1x95	19	11,40	0,320	258	--	--	--	--	--	--	319
1x120	1x120	19	12,80	0,253	300	--	--	--	--	--	--	390
1x150	1x150	19	14,10	0,206	344	--	--	--	--	--	--	462
2x16	2x16	7	4,60	1,910	60	--	--	--	--	--	14	126
2x25	2x25	7	5,90	1,200	112	--	--	--	--	--	18,0	192
2x35	2x35	7	6,90	0,868	138	--	--	--	--	--	20	261
2x50	2x50	7	8,10	0,641	168	--	--	--	--	--	23	335
4x16	4x16	7	4,60	1,910	60	--	--	--	--	--	17	252
4x25	4x25	7	5,90	1,200	112	--	--	--	--	--	21	384
4x35	4x35	7	6,90	0,868	138	--	--	--	--	--	24	522
4x50	4x50	7	8,10	0,641	168	--	--	--	--	--	27	669
4x70	4x70	19	9,70	0,443	213	--	--	--	--	--	32	947
4x95	4x95	19	11,40	0,320	258	--	--	--	--	--	36	1275
5x25	5x25	7	5,90	1,200	112	--	--	--	--	--	24	480
6x25	6x25	7	5,90	1,200	112	--	--	--	--	--	26	576
3x25+54,6	3x25	7	5,90	1,200	112	--	--	9,4	16	0,63	30	470
3x35+54,6	3x35	7	6,90	0,860	138	--	--	9,4	16	0,63	33	580
3x50+54,6	3x50	7	8,10	0,641	168	--	--	9,4	16	0,63	36	720
3x70+54,6	3x70	12	9,70	0,443	213	--	--	9,4	16	0,63	38	930
3x70+70	3x70	12	9,70	0,443	213	--	--	10,1	20,6	0,493	41	970
3x95+54,6	3x95	19	11,40	0,320	258	--	--	9,6	16	0,63	32	1161
3x95+70	3x95	19	11,40	0,320	258	--	--	10,1	20,6	0,493	35	1217
3x120+70	3x120	19	12,80	0,253	300	--	--	10,1	20,6	0,493	38	1432
3x150+95	3x150	19	14,10	0,206	344	--	--	12,4	27,9	0,343	42	1731

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AERIAL BUNDLED CABLES (ABC)
Acc. to BS 7080

TECHNICAL DATA

- Max Operating Temperature: 90°C
- Max. short Circuit Temperature: 250°C (max. 5 sec.)
- Rated voltage: 0.6/1kV
- Cable Code: AER

CONSTRUCTION

- Solid or Stranded Aluminium Conductor
- PE or XLPE Insulation
- Messenger wire

APPLICATION

It is preferred to use of AER cables instead of uninsulated conductors at low voltage networks. AER cables are especially used at areas where the cost of underground networks is expensive and also for electrification of rural areas like villages.

PHASE CONDUCTOR							MESSENGER WIRE						COMPLETED CABLE		
NOMINAL CROSS-SECTIONAL AREA	NUMBER OF CORES	MINIMUM NUMBER OF WIRES	NOMINAL INSULATION THICKNESS	DIAMETER OF INSULATED CORE	MAX. D.C. RESISTANCE AT 20°C	CURRENT RATING AT STILL WIND A.T. : 30°C C.T. : 75°C	NOMINAL CROSS-SECTIONAL AREA	MINIMUM NUMBER OF WIRES	NOMINAL INSULATION THICKNESS	DIAMETER OF INSULATED CORE	MAX. D.C. RESISTANCE AT 20°C	MIN. BREAKING LOAD	APPROX. OVERALL DIAMETER	APPROX WEIGHT OF CABLE	PACKING LENGHT
mm^2			mm	mm	Ω/km	A	mm^2		mm	mm	Ω/km	Kn	mm	kg/km	m/drum
25	1	6	1.3	8.8	1.20	84	25	6	1.3	8.8	1.20	8.2	17.6	210	1,000
35	1	6	1.3	9.8	0.868	04	35	6	1.3	9.8	0.868	11.2	19.6	270	1,000
50	1	6	1.5	11.5	0.64	129	50	6	1.5	11.5	0.64	15.2	23.0	360	1,000
70	1	12	1.5	13.2	0.443	167	70	12	1.5	13.2	0.443	22.0	26.4	500	1,000
95	1	15	1.7	15.3	0.320	209	95	15	1.7	15.3	0.320	30.6	30.6	680	500
25	3	6	1.3	8.8	1.20	84	25	6	1.3	8.8	1.20	6.4	21.2	4 0	1,000
35	3	6	1.3	9.8	0.868	04	35	6	1.3	9.8	0.868	22.4	23.7	550	1,000
50	3	6	1.5	11.5	0.64	129	50	6	1.5	11.5	0.64	30.4	27.8	730	1,000
70	3	12	1.5	13.2	0.443	167	70	12	1.5	13.2	0.443	44.0	31.9	1000	1,000
95	3	15	1.7	15.3	0.320	209	95	15	1.7	15.3	0.320	61.2	36.9	1370	500
120	3	15	1.7	6.8	0.253	283	120	15	1.7	6.8	0.253	77.6	40.6	1690	500

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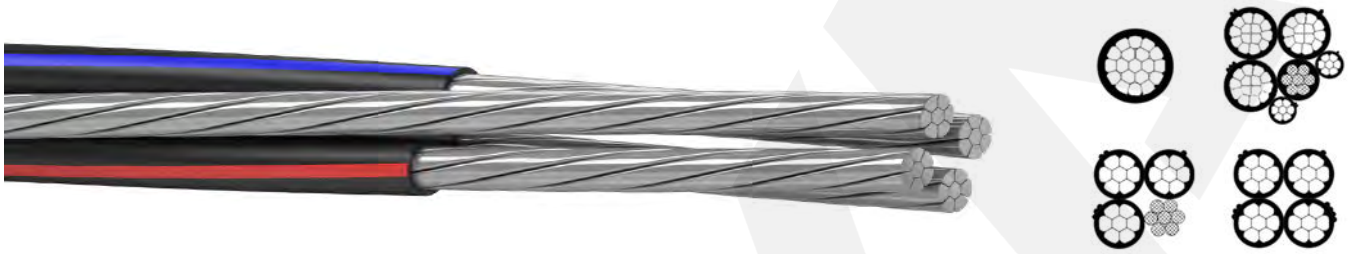
AERIAL BUNDLED CABLES (ABC)
Acc. to SFS 2200



TECHNICAL DATA

- Max Operating Temperature: 90°C
- Max. short Circuit Temperature: 250°C (max. 5 sec.)
- Rated voltage: 0.6/1kV
- Cable Code: AER

CONSTRUCTION

- Solid or Stranded Aluminium Conductor
- PE or XLPE Insulation
- Messenger wire

APPLICATION

It is preferred to use of AER cables instead of uninsulated conductors at low voltage networks. AER cables are especially used at areas where the cost of underground networks is expensive and also for electrification of rural areas like villages.

NUMBER OF CONDUCTOR CROSS SECTION	INSULATED WIRES							MESSENGER WIRE			FINISHED CABLE	
	CONDUCTOR SIZE	NUMBER OF WIRES	DIAMETER OF CONDUCTOR	RESISTANCE OF 20°C	CURRENT CARRYING CAPACITY	NUMBER OF WIRES	CURRENT CARRYING CAPACITY	DIAMETER OF MESSENGER WIRE	MIN.TENSILE STRENGHT	MAX. RESISTANCE OF 20°C	APP MAX. BUNDLE DIAMETER	APP. NET. WEIGHT
mm²	mm²		mm	Ω/km	A	mm²	A	mm	kN	Ω/km	mm	kg/km
1x16+1x16+25	1x16	1	4.4	1.91	70	1x16	60	5.9	7.4	1.38	15	225
3x16+1x16+25	3x16	1	4.4	1.91	60	1x16	60	5.9	7.1	1.38	22	350
3x25+1x16+35	3x25	7	5.9	1.2	80	1x16	60	6.9	10.3	0.986	26	475
3x35+1x16+50	3x35	7	6.9	0.868	95	1x16	60	8xl	14.2	0.72	30	625
3x50+1x16+70	3x50	7	8.1	0.641	120	1x16	60	9.6	20.6	0.493	35	800
3x70+1x16+95	3x70	7	9.6	0.443	150	1x16	60	11.4	27.9	0.363	41	1100
4x16+1x16+25	4x16	1	4.4	1.91	60	1x16	60	5.9	7.4	1.38	25	410
4x25+1x16+35	4x25	7	5.9	1.2	80	1x16	60	6.9	10.3	0.986	30	610
4x35+1x16+50	4x35	7	6.9	0.868	95	1x16	60	8.1	14.2	0.72	34	810
4x50+1x16+70	4x50	7	8.1	0.641	120	1x16	60	9.63	20.6	0.493	40	1060
4x70+1x16+95	4x70	7	9.3	0.443	150	1x16	60	11.4	27.9	0.363	47	1420

NUMBER OF CONDUCTOR CROSS SECTION	INSULATED WIRES							MESSENGER WIRE			FINISHED CABLE	
	CONDUCTOR SIZE	NUMBER OF WIRES	DIAMETER OF CONDUCTOR	RESISTANCE OF 20°C	CURRENT CARRYING CAPACITY	NUMBER OF WIRES	CURRENT CARRYING CAPACITY	DIAMETER OF MESSENGER WIRE	MIN.TENSILE STRENGHT	MAX. RESISTANCE OF 20°C	APP MAX. BUNDLE DIAMETER	APP. NET. WEIGHT
mm²	mm²		mm	Ω/km	A	mm²	A	mm	kN	Ω/km	mm	kg/km
1x16+25	1x16	1	4.4	1.91	75	-	-	5.9	7.4	1.38	15	140
1x25+35	1x25	7	5.9	1.2	10	-	-	6.9	10.3	0.986	17	200
1x35+50	1x35	7	6.9	0.868	125	-	-	8.1	14.2	0.72	20	275
3x16+25	3x16	1	4.4	1.91	70	-	-	5.9	7.4	1.38	22	275
3x25+35	3x25	7	5.9	1.2	90	-	-	6.9	10 .3	0.986	26	400
3x35+50	3x35	7	6.9	0.868	115	-	-	8.1	14.2	0.72	30	575
3x50+70	3x50	7	8.1	0.641	140	-	-	9.6	20.6	0.493	35	750
3x70+95	3x70	7	9.6	0.443	180	-	-	11.4	27.9	0.363	41	1050
3x120+95	3x120	19	12. 8	0. 253	250	-	-	11.4	27.9	0.363	47	1550
4x16+25	4x16	1	4.4	1.91	70	-	-	5.9	7.4	1.38	24	375
4x25+35	4x25	7	5.9	1.2	90	-	-	6.9	10.3	0.986	28	500
4x35+50	4x35	7	6.9	0.868	115	-	-	8.1	14.2	0.72	32	680
4x50+70	4x50	7	8.1	0.641	140	-	-	9.6	20.6	0.493	38	900

NUMBER OF CONDUCTOR CROSS SECTION	INSULATED WIRES							MESSENGER WIRE			FINISHED CABLE	
	CONDUCTOR SIZE	NUMBER OF WIRES	DIAMETER OF CONDUCTOR	RESISTANCE OF 20°C	CURRENT CARRYING CAPACITY	NUMBER OF WIRES	CURRENT CARRYING CAPACITY	DIAMETER OF MESSENGER WIRE	MIN.TENSILE STRENGHT	MAX. RESISTANCE OF 20°C	APP MAX. BUNDLE DIAMETER	APP. NET. WEIGHT
mm²	mm²		mm	Ω/km	A	mm²	A	mm	kN	Ω/km	mm	kg/km
2x16	2x16	7	4.6	1.91	93	-	-	-	-	-	15	132
2x25	2x25	7	5 .9	1.20	122	-	-	-	-	-	18,5	200
2x35	2x35	7	6.9	0.868	129	-	-	-	-	-	22,0	280
2x50	2x50	7	8.1	0.641	158	-	-	-	-	-	24,0	370
4x16	4x16	7	4.6	1.91	83	-	-	-	-	-	18,0	265
4x25	4x25	7	5.9	I x20	111	-	-	-	-	-	22,0	400
4x35	4x35	7	6.9	0.868	131	-	-	-	-	-	26,0	550
3x25+54.6	3x25	7	5.9	1.20	112	-	-	9.6	16 .0	0.63	30,0	470
3x25+1x16+54.6	3x25	7	5.9	1.20	112	1x16	60	9.6	16.0	0.63	30,0	570
3x25+2x16+54.6	3x 25	7	5.9	1.20	112	2x16	-	9.6	16 .0	0.63	30,0	640
3x35+54.6	3x35	7	6.9	0.86	138		-	9.6	16.0	0.63	33,0	580
3x3S+1x16+54.6	3x35	7	6.9	0.868	138	1x16	60	9.6	16 .0	63	33,0	690
3x35+2x16+54.6	3x35	7	6.9	0.868	138	2x16	-	9.6	16.0	0.63	33,0	750
3x50+54.6	3x50	7	8.1	0.641	168		-	9.6	16.0	0.63	36,0	720
3x50+1x16+54.6	3x50	7	8.1	0.641	168	1x16	60	9.6	16.0	0.63	36,0	820
3x50+2x16+54.6	3x50	7	8.1	0.641	168	2x16	-	9.6	16 .0	0.63	36,0	890
3x70+54.6	3x70	12	9.7	0.443	213		-	9.6	16.0	0.63	38,0	930
3x70+1x16+54.6	3x70	12	9.7	0.443	213	1x16	60	9.6	16 .0	0.63	38,0	1030
3x70+2x16+54.6	3x70	12	9.7	0.443	213	2x16	-	9.6	16.0	0.63	38,0	1100
3x70+1x25+54 .6	3x70	12	9.7	0.443	213	1x25	-	9.6	16.0	0.63	40,0	1070
3x70+2x25+54.6	3x70	12	9.7	0.443	213	2x25	-	9.6	16.0	0.63	40,0	1170
3x70+70	3x70	12	9.7	0.443	213		-	10.2	20.6	0.50	41,0	970
3x70+1x16+70	3x70	12	9.7	0.443	213	1x16	60	10.2	20.6	0.50	41,0	1080
3x70+2x16+70	3x70	12	9.7	0.443	213	2x16	-	10.2	20.6	0.50	41,0	1150
3x95+70	3x95	19	11.5	0.320	258	-	-	10.2	20.6	0.50	44,0	1200
3x95+1x16+70	3x95	19	11.5	0.320	258	1x16	60	10.2	20.6	0.50	44,0	1300
3x95+2x16+70	3x95	19	11.5	0.320	258	2x16	-	10.2	20.6	0.50	44,0	1380
3x120+70	3x120	19	12.8	0.253	300	-	-	10.2	20.6	0.50	46,0	1430

NUMBER OF CONDUCTOR CROSS SECTION	INSULATED WIRES							MESSENGER WIRE			FINISHED CABLE	
	CONDUCTOR SIZE	NUMBER OF WIRES	DIAMETER OF CONDUCTOR	RESISTANCE OF 20°C	CURRENT CARRYING CAPACITY	NUMBER OF WIRES	CURRENT CARRYING CAPACITY	DIAMETER OF MESSENGER WIRE	MIN.TENSILE STRENGHT	MAX. RESISTANCE OF 20°C	APP MAX. BUNDLE DIAMETER	APP. NET. WEIGHT
mm²	mm²		mm	Ω/km	A	mm²	A	mm	kN	Ω/km	mm	kg/km
3x120+2x1+670	3x120	19	12.8	0.253	300	2x16	-	10.2	20.6	0.50	46	1600
3x150+70	3x150	19	14.5	0.206	344		-	10.2	20.6	0.50	48	1680
3x150+1x1+670	3x150	19	14.5	0.206	344	1x16	60	10.2	20.6	0.50	48	1780
3x150+2x16+70	3x150	19	14.5	0.206	344	2x16	-	10.2	20.6	0.50	48	1850
3x120+95	3x120	19	12.8	0.253	300		-	12.9	27.9	0.343	47	1500
3x120+1x16+95	3x120	19	12.8	0.253	300	1x16	60	12.9	27.9	0.343	47	1620
3x120+2x61+95	3x120	19	12.8	0.253	300	2x16	-	12.9	27.9	0.343	47	1680
3x150+95	3x150	19	14.5	0.206	344		-	12.9	27.9	0.343	49	1740
3x150+1x1+695	3x150	19	14.5	0.206	344	1x16	60	12.9	27.9	0.343	49	1880
3x150+2x16+95	3x150	19	14.5	0.206	344	2x16	-	12.9	27.9	0.343	49	1940

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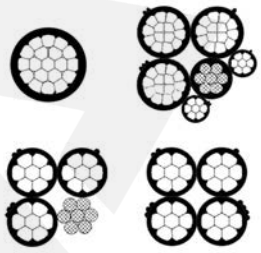
AERIAL BUNDLED CABLES (ABC)
Acc. to SANS 1418



TECHNICAL DATA

- Max Operating Temperature: 90°C
- Max. short Circuit Temperature: 250°C (max. 5 sec.)
- Rated voltage: 0.6/1kV
- Cable Code: AER

CONSTRUCTION

- Solid or Stranded Aluminium Conductor
- PE or XLPE Insulation
- Messenger wire

APPLICATION

It is preferred to use of AER cables instead of uninsulated conductors at low voltage networks. AER cables are especially used at areas where the cost of underground networks is expensive and also for electrification of rural areas like villages.

NOMINAL CROSS-SECTIONAL AREA	NUMBER of WIRES	DIAMETER OF CONDUCTOR		RESISTANCE at 20 C	BREAKING FORCE	THICKNESS of INSULATION	OUTER DIAMETER OF CORE	
		mm		Ω/km	N		mm	
mm²		Min.	Max.	Max.	Min.	mm	Min.	Max.
16	7/1.65	4.6	5.1	1.91	2070	1.2	7.0	7.8
25	7/2.15	5.8	6.3	1.2	3300	1.4	8.6	9.4
35	7/2.55	6.8	7.3	0.868	4500	1.6	10.0	10.9
50	7/2.99	7.9	8.4	0.641	6200	1.6	11.1	12.0
70	14/2.59	9.7	10.2	0.443	8900	1.8	13.3	14.2
95	19/2.59	11.0	12.0	0.320	12300	1.8	14.6	16.0
120	19/2.99	12.5	13.5	0.253	15600	1.8	16.3	17.5
150	30/2.59	13.9	15.0	0.206	19200	1.8	17.1	18.6
16	7/1.65	4.6	5.2	1.91	2070	1.2	7.0	8.0
25	7/2.15	5.6	6.5	1.2	3300	1.4	8.6	9.6
10	7/1.35	-	4.2	1.83	3600	1.2	6.2	7.0
16	7/1.69	-	5.3	1.15	5760	1.2	7.2	8.0
25	7/2.19	-	6.6	0.727	8750	1.4	8.6	9.6
16	7/1.71	5.1	5.2	2.053	5070	1.4	7.9	8.0
25	7/2.15	6.4	6.5	1.314	8000	1.4	9.2	9.3
35	7/2.48	6.6	7.5	0.986	10300	1.6	10.7	10.8
50	7/2.89	7.7	8.4	0.720	14200	1.6	11.9	12.0
54.6	7/3.15	9.2	9.6	0.630	16600	1.6	12.3	13.0
70	7/3.50	10.0	10.4	0.500	20100	1.6	12.9	13.6