

BS EN 60332-3-24 NHXH - FE180-E90 0.6/1kV Cable



Eland Product Group: **A5N**

APPLICATION

Safety cables are used in all locations where a high degree of protection against fire and fire-damage has to be provided for human life and equipment and are, therefore, subject to high security requirements. These cables may be used indoors and outdoors. They may not be installed directly into the ground or into water. Fire resistant to FE 180 and Circuit Integrity to E 90.

CABLE STANDARDS

DIN VDE 0266, DIN VDE 0276-604
BS/DIN EN 60228 class 1 and 2 (construction)
HD 308 S2 (core identification), DIN VDE 0472-814
DIN 4102-12, IEC 60332-3-Cat.C, BS EN 60332-3-24



The electrical and dimensional properties of this product are measured by the Technical and Quality Assurance department at the Eland Cables laboratory. Cable performance in respect of conductor resistance, construction quality (workmanship), dimensional consistency, and other parameters are verified to published standards and approved product drawings. Conformance to RoHS (Restriction of the use of Hazardous Substances) is determined and confirmed.

CONSTRUCTION

Conductor

Solid or stranded copper conductor

Class 1 solid copper conductor to BS EN 60228
(previously BS 6360)

Class 2 stranded copper conductor to BS EN 60228
(previously BS 6360)

Insulation

Flame protecting wrapping

Halogen free polymer Type HXI 1 according to VDE 0266

Inner Sheath

Halogen free compound

Outer Sheath

Halogen free polymer Type HM 4 according to VDE 0207

CHARACTERISTICS

Voltage Rating (U₀/U)

600/1000V

Test Voltage

4000V

Temperature Rating

-5°C to +90°C

Short Circuit Temperature

+250°C

Minimum Bending Radius

Single core: 12 x overall diameter

Multi-core: 15 x overall diameter

Outer Sheath Colour

● Orange

DIMENSIONS

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm ²	CONDUCTOR CLASS	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
A5KNHE90-1006	1	16	2	10.5	250
A5KNHE90-1025	1	25	2	12.5	355
A5KNHE90-1035	1	35	2	13.5	460
A5KNHE90-1050	1	50	2	15	596
A5KNHE90-1070	1	70	2	16.5	810
A5KNHE90-1095	1	95	2	19	1100
A5KNHE90-1120	1	120	2	20.5	1350
A5KNHE90-1150	1	150	2	22.5	1650
A5KNHE90-1185	1	185	2	25	2050
A5KNHE90-1240	1	240	2	28	2650
A5KNHE90-1300	1	300	2	31	3275
A5KNHE90-20015	2	1.5	1	14.3	275
A5KNHE90-20025	2	2.5	1	14.9	320
A5KNHE90-30015	3	1.5	1	15	315
A5KNHE90-30025	3	2.5	1	15.9	371
A5KNHE90-30040	3	4	1	16.7	435
A5KNHE90-30060	3	6	1	17.8	526
A5KNHE90-3010	3	10	1	19.5	691
A5KNHE90-3016	3	16	2	22.3	982
A5KNHE90-3025	3	25	2	25.8	1392
A5KNHE90-3035	3	35	2	28.4	1778
A5KNHE90-3035/16	3	35/16	2	29.5	1964
A5KNHE90-3050/25	3	50/25	2	33.6	2633
A5KNHE90-3070/35	3	70/35	2	38.1	3563
A5KNHE90-3095/50	3	95/50	2	43.4	4768
A5KNHE90-3120/70	3	120/70	2	46.9	5856
A5KNHE90-40015	4	1.5	1	16.1	365
A5KNHE90-40025	4	2.5	1	17	429
A5KNHE90-40040	4	4	1	18	515
A5KNHE90-40060	4	6	1	19.2	628
A5KNHE90-4010	4	10	1	21.1	839
A5KNHE90-4016	4	16	2	24.3	1210
A5KNHE90-4025	4	25	2	28.1	1717
A5KNHE90-4035	4	35	2	31	2209
A5KNHE90-4050	4	50	2	35.1	2921
A5KNHE90-4070	4	70	2	40	3980
A5KNHE90-4095	4	95	2	45.2	5321
A5KNHE90-4120	4	120	2	49	6475
A5KNHE90-4150	4	150	2	53	7725
A5KNHE90-50015	5	1.5	1	17.4	429
A5KNHE90-50025	5	2.5	1	18.4	506
A5KNHE90-50040	5	4	1	19.5	612
A5KNHE90-50060	5	6	1	20.9	752
A5KNHE90-5010	5	10	1	23	1009
A5KNHE90-5016	5	16	2	26.6	1465
A5KNHE90-5025	5	25	2	30.9	2105
A5KNHE90-5035	5	35	2	36	2500

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm ²	CONDUCTOR CLASS	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
A5KNHE90-70015	7	1.5	105	18.6	497
A5KNHE90-70025	7	2.5	175	19.8	599
A5KNHE90-120015	12	1.5	180	23.5	744
A5KNHE90-120025	12	2.5	300	25.2	910

CONDUCTORS

Class 1 Solid Conductors for Single Core and Multi-Core Cables

NOMINAL CROSS SECTIONAL AREA mm ²	MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C
	Circular Annealed Copper Conductors
	Plain Wires ohms/km
1.5	12.1
2.5	7.41
4	4.61
6	3.08
10	1.83

Class 2 Stranded Conductors for Single Core and Multi-Core Cables

NOMINAL CROSS SECTIONAL AREA mm ²	MINIMUM NO. OF WIRES IN CONDUCTOR						MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C
	Circular		Circular Compacted		Shaped		Annealed Copper Conductor
	Cu	Al	Cu	Al	Cu	Al	Plain Wires ohms/km
16	7	7	6	6	-	-	1.15
25	7	7	6	6	6	6	0.727
35	7	7	6	6	6	6	0.524
50	19	19	6	6	6	6	0.387
70	19	19	12	12	12	12	0.268
95	19	19	15	15	15	15	0.193
120	37	37	18	15	18	15	0.153
150	37	37	18	15	18	15	0.124
185	37	37	30	30	30	30	0.0991
240	37	37	34	30	34	30	0.0754
300	61	61	34	30	34	30	0.0601

ELECTRICAL CHARACTERISTICS

Current Carrying Capacity

NOMINAL CROSS SECTIONAL AREA mm ²	CURRENT CARRYING CAPACITY					
	2 Core Cables			3 Core Cables		
	Clipped Direct	In Air	In Conduit	Clipped Direct	In Air	In Conduit
1.5	24	-	22	22	-	19.5
2.5	33	-	30	30	-	26
4	45	-	40	40	-	35
6	58	-	51	52	-	44
10	80	-	69	71	-	60
16	107	-	91	96	-	80
25	138	161	119	119	135	105
35	171	200	146	147	169	128
50	209	242	175	179	207	154
70	269	310	221	229	268	194
95	328	377	265	278	328	233
120	382	437	305	322	383	268
150	441	504	-	371	444	-
185	506	575	-	424	510	-
240	599	679	-	500	607	-
300	693	783	-	576	703	-