2491B/6701B Cable H05Z-K/H07Z-K

Eland Product Group **A2Z**

Application

In pipes or ducts and internal wiring of appliances with maximum operating temperatures of 90°C, and generally in areas (such as public and government buildings) where smoke and toxic fumes may cause a threat to life and equipment. The cables produce no corrosive gasses when burnt which is particularly important where electronic equipment is installed.

Standards

BS7211, CENELEC HD22.9, IEC 60332-3-24

Technical Data

Conductor
Class 5 flexible plain copper conductor to BS EN 60228:2005 (previously BS6360)

Insulation
LSZH (Low Smoke Zero Halogen) Type EI5 thermosetting insulation

Insulation Colour
Black, Blue, Green/Yellow, Red, Yellow, White, Violet, Brown, Grey, Orange, Pink

Voltage Rating
2491B (H05Z-K) 0.5mm² to 1.0mm²: 300/500V
6701B (H07Z-K) 1.5mm² and above: 450/750V

Temperature Rating
0°C to +90°C

Minimum Bending Radius
Up to 35mm²: 3 x overall diameter
50mm² and above: 4 x overall diameter

Dimensions

Eland Part Number	No of Cores x Nominal Cross Sectional Area # x mm²	Nominal Thickness of Insulation mm	Nominal Overall Diameter mm	Nominal Weight kg/Km
A2Z*0075	1 x 0.75	0.6	2.3	11
A2Z*0010	1 x 1.00	0.6	2.4	14
A2Z*0015	1 x 1.50	0.7	2.9	20
A2Z*0025	1 x 2.50	0.8	3.5	31
A2Z*0040	1 x 4.00	0.8	4.1	46
A2Z*0060	1 x 6.00	0.8	4.8	65
A2Z*010	1 x 10.00	1.0	6.0	108
A2Z*016	1 x 16.00	1.0	7.2	167
A2Z*025	1 x 25.00	1.2	8.8	258
A2Z*035	1 x 35.00	1.2	9.7	341
A2Z*050	1 x 50.00	1.4	11.5	496
A2Z*070	1 x 70.00	1.4	13.3	680
A2Z*095	1 x 95.00	1.6	15.4	919
A2Z*120	1 x 120.00	1.6	17.2	1146

*Eland Part numbers shown above designate the sheath colour (*). For each colour substitute * for a colour code as listed below. e.g. A2TRD0040 = 4.0mm² Red, A2TPK0015 = 1.5mm² Pink

Colour	Black	Blue	Green	Grey	Green/ Yellow	Orange	Red	Pink	Yellow	Violet	Brown	White
Code	BK	BL	GN	GR	GY	OR	RD	PK	YW	VI	BR	WH

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Conductors

Class 5 flexible Copper Conductors for Single Core and Multi-Core cables

1	2	3
Nominal Cross Sectional Area mm²	**Maximum Diameter of Wires in Conductor** mm	**Maximum Resistance of Conductor at 20°C** **Plain Wires** ohms/km
0.50	0.21	39.0000
0.75	0.21	26.0000
1.00	0.21	19.5000
1.50	0.26	13.3000
2.50	0.26	7.9800
4.00	0.31	4.9500
6.00	0.31	3.3000
10.00	0.41	1.9100
16.00	0.41	1.2100
25.00	0.41	0.7800
35.00	0.41	0.5540
50.00	0.41	0.3860
70.00	0.51	0.2720
95.00	0.51	0.2060
120.00	0.51	0.1610

Table in accordance with BS EN 60228:2005 (previously BS6360)

Electrical Characteristics

Current Carrying Capacity (amperes)

Conductor Cross Sectional Area mm²	**Reference Method A (enclosed in conduit in thermally insulating wall etc.)** Amps		**Reference Method B (enclosed in conduit on a wall or in a trunking etc)** Amps		**Reference Method C (clipped direct)** Amps		**Reference Method F (in free air or on a perforated cable tray etc horizontal or vertical etc) touching** Amps			**Reference Method G (in free air) Spaced by one cable diameter** Amps	
	2 Cables Single Phase AC or DC	**3 or 4 Cables Three Phase AC**	**2 Cables Single Phase AC or DC**	**3 or 4 Cables Three Phase AC**	**2 Cables Single Phase AC or DC flat or touching**	**3 or 4 Cables Three Phase AC flat and touching or trefoil**	**2 Cables Single Phase AC or DC flat**	**3 Cables Three Phase AC flat**	**3 Cables Three Phase AC trefoil**	**2 Cables Single Phase AC or DC or 3 Cables Three Phase AC flat**	
										Horizontal	**Vertical**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
1.0	14	13	17	15	19	17.5	-	-	-	-	-
1.5	19	17	23	20	25	23.0	-	-	-	-	-
2.5	26	23	31	28	34	31.0	-	-	-	-	-
4.0	35	31	42	37	46	41.0	-	-	-	-	-
6.0	45	40	54	48	59	54.0	-	-	-	-	-
10.0	61	54	75	66	81	74.0	-	-	-	-	-
16.0	81	73	100	88	109	99.0	-	-	-	-	-
25.0	106	95	133	117	143	130.0	161	141	135	182	161
35.0	131	117	164	144	176	161.0	200	176	169	226	201
50.0	158	141	198	175	228	209.0	242	216	207	275	246
70.0	200	179	253	222	293	268.0	310	279	268	353	318
95.0	241	216	306	269	355	326.0	377	342	328	430	389
120.0	278	249	354	312	413	379.0	437	400	383	500	454

Ambient temperature: 30°C

Conductor operating temperature: 90°C

1. Where a conductor operates at a temperature exceeding 70°C it must be ascertained that the equipment connected to the conductor is suitable for the conductor operating temperature (see also Regulation 512.1.2).

2. Where cables in this table are connected to equipment or accessories designed to operate at a temperature not exceeding 70°C, the current ratings given in the equivalent table for 70°C thermoplastic insulated cables (Table 4D1A) must be used (see Regulation 523.1).

The above table is in accordance with Table 4E1A of the 17th Edition of IEE Wiring Regulations.

Voltage Drop (per ampere per metre)

Conductor Cross Sectional Area mm²	2 Cables DC mV/A/m	2 Cables Single Phase AC mV/A/m									3 or 4 Cables Three Phase AC mV/A/m									
		Reference Methods A & B (enclosed in conduit or trunking)			Reference Methods C, F & G (clipped direct, on tray or in free air)						Reference Methods A & B (enclosed in conduit or tunking)			Reference Methods C, F & G (clipped direct, on tray or in free air)								
					Cable Touching			Cable Spaced*						Cable Touching Trefoil			Cable Touching Flat			Cable Spaced* Flat		
1	2	3			4			5			6			7			8			9		
1.0	46.000	46.0			46.0			46.0			40.0			40.0			40.0			40.0		
1.5	31.000	31.0			31.0			31.0			27.0			27.0			27.0			27.0		
2.5	19.000	19.0			19.0			19.0			16.0			16.0			16.0			16.0		
4.0	12.000	12.0			12.0			12.0			10.0			10.0			10.0			10.0		
6.0	7.900	7.9			7.9			7.9			6.8			6.8			6.8			6.8		
10.0	4.700	4.7			4.7			4.7			4.0			4.0			4.0			4.0		
16.0	2.900	2.9			2.9			2.9			2.5			2.5			2.5			2.5		
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
25.0	1.850	1.850	0.31	1.90	1.850	0.190	1.85	1.850	0.28	1.85	1.600	0.27	1.65	1.600	0.165	1.600	0.600	0.190	1.60	1.600	0.27	1.65
35.0	1.350	1.350	0.29	1.35	1.350	0.180	1.35	1.350	0.27	1.35	1.150	0.25	1.15	1.150	0.155	1.150	0.150	0.180	1.15	1.150	0.26	1.20
50.0	0.990	1.000	0.29	1.05	0.990	0.180	1.00	0.990	0.27	1.00	0.870	0.25	0.90	0.860	0.155	0.870	0.860	0.180	0.87	0.860	0.26	0.89
70.0	0.680	0.700	0.28	0.75	0.680	0.175	0.71	0.680	0.26	0.73	0.600	0.24	0.65	0.590	0.150	0.610	0.590	0.175	0.62	0.590	0.25	0.65
95.0	0.490	0.510	0.27	0.58	0.490	0.170	0.52	0.490	0.26	0.56	0.440	0.23	0.50	0.430	0.145	0.450	0.430	0.170	0.46	0.430	0.25	0.49
120.0	0.390	0.410	0.26	0.48	0.390	0.165	0.43	0.390	0.25	0.47	0.350	0.23	0.42	0.340	0.140	0.370	0.340	0.165	0.38	0.340	0.24	0.42

Conductor operating temperature: 90°C

* Spacings larger than one cable diameter will result in a larger voltage drop.

The above table is in accordance with Table 4E1B of the 17th Edition of IEE Wiring Regulations.

For cables having conductors of 16mm² or less cross-sectional area their inductances can be ignored and (mV/A/m)r values only are tabulated. For cables having conductors greater than 16mm², cross-sectional area the impedance values are given as (mV/A/m)z, together with the resistive component (mV/A/m)r and the reactive component (mV/A/m)x.

The above paragraph is extracted from Appendix 4 of the 16th Edition of IEE Wiring Regulations.

The information contained within this datasheet is for guidance only. When selecting accessories such as cleats, glands, etc please note that actual cable dimensions may vary due to manufacturing tolerances.