



# 2491B / 6701B - H05Z-K / H07Z-K EN 50525-3-41 Cable



Eland Product Group: A2Z

## APPLICATION

LSZH panel wiring for 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 gases when burnt which is particularly important where electronic equipment is installed.

## CHARACTERISTICS

### Voltage Rating Uo/U

H05Z-K - 0.5mm<sup>2</sup> to 1mm<sup>2</sup>: 300/500V

H07Z-K - 1.5mm<sup>2</sup> to 240mm<sup>2</sup>: 450/750V

### Temperature Rating

-25°C to +90°C

### Minimum Bending Radius

Up to 35mm<sup>2</sup>: 4 x overall diameter

50mm<sup>2</sup> and above: 6 x overall diameter

## CONSTRUCTION

### Conductor

Class 5 flexible copper conductor

### Insulation

LSZH (Low Smoke Zero Halogen)

### Insulation Colour

● Red ● Black ● Blue ● Orange ○ White ● Yellow  
● Green/Yellow ● Grey ● Brown ● Violet ● Pink

## CABLE THIRD-PARTY ACCREDITATION



Cables are tested and accredited by BASEC, The British Approvals Service for Cables

## STANDARDS

EN 50525-3-41, EN 60228,

Flame Retardant according to IEC/EN 60332-1-2, IEC/EN 60332-3-24

Halogen Free according to IEC/EN 61034-1/2, IEC/EN 60754-1/2

## ISO/IEC 17025 LABORATORY TESTED

This product is subject to the Quality Assurance protocols of The Cable Lab®, an ISO/IEC 17025 accredited cable testing laboratory. Testing includes vertical flame, conductor resistance, tensile & elongation, and dimensional consistency, verified to published standards and approved product drawings.



8578



FS 672069



EMS 672067



OHS 672066

## REGULATORY COMPLIANCE

This cable is compliant with European Regulation EN 50575, the Construction Products Regulation.



This cable meets the requirements of the Low Voltage Directive 2014/35/EU and the RoHS Directive 2011/65/EU. RoHS compliance has been tested and confirmed by The Cable Lab® as meeting the requirements of the BSI RoHS Trusted Kitemark™.



KM ES0267





## DIMENSIONS

ELAND PART NO.	NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	NOMINAL THICKNESS OF INSULATION mm	NOMINAL OVERALL DIAMETER mm		MINIMUM RESISTANCE OF INSULATION AT 90°C Mohms/km	NOMINAL WEIGHT kg/km
			Lower Limit	Upper Limit		
A2Z*0005	0.5	0.6	2.1	2.6	0.015	8.7
A2Z*00075	0.75	0.6	2.2	2.8	0.011	11.3
A2Z*0010	1	0.6	2.4	2.9	0.01	13.9
A2Z*0015	1.5	0.7	2.8	3.5	0.010	19.3
A2Z*0025	2.5	0.8	3.4	4.3	0.009	30.9
A2Z*0040	4	0.8	3.9	4.9	0.007	44.9
A2Z*0060	6	0.8	4.4	5.5	0.006	64.2
A2Z*010	10	1	5.7	7.1	0.0056	108.2
A2Z*016	16	1	6.7	8.4	0.0046	163.4
A2Z*025	25	1.2	8.4	10.6	0.0044	248.1
A2Z*035	35	1.2	9.7	12.1	0.0038	340.6
A2Z*050	50	1.4	11.5	14.4	0.0037	484.2
A2Z*070	70	1.4	13.2	16.6	0.0032	671
A2Z*095	95	1.6	15.1	18.8	0.0032	895.8
A2Z*120	120	1.6	16.7	20.9	0.0029	1111.1
A2Z*150	150	1.8	18.6	23.3	0.0029	1389.2
A2Z*185	185	2	20.6	25.8	0.0029	1724.1
A2Z*240	240	2.2	23.5	29.4	0.0028	2225.4

\* Designates the sheath colour. For each Eland Cables part number replace with the colour code as listed below: e.g. A2ZRD0015 = 1.5mm<sup>2</sup> Red

## COLOUR CODES

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

## CONDUCTORS

Class 5 Flexible Copper Conductors for Single Core and Multi-Core Cables

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	MAXIMUM DIAMETER OF WIRES IN CONDUCTOR mm	MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C ohms/km
		Plain Wires
0.5	0.21	39
0.75	0.21	26
1	0.21	19.5
1.5	0.26	13.3
2.5	0.26	7.98
4	0.31	4.95
6	0.31	3.3
10	0.41	1.91
16	0.41	1.21
25	0.41	0.78
35	0.41	0.554
50	0.41	0.386
70	0.51	0.272
95	0.51	0.206
120	0.51	0.161



NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	MAXIMUM DIAMETER OF WIRES IN CONDUCTOR mm	MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C ohms/km	
		Plain Wires	
150	0.51	0.129	
185	0.51	0.106	
240	0.51	0.0801	

The above table is in accordance with EN 60228

## ELECTRICAL CHARACTERISTICS

### Current Carrying Capacity and Voltage Drop

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	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	14	13	17	15	19	17.5	-	-	-	-	-
1.5	19	17	23	20	25	23	-	-	-	-	-
2.5	26	23	31	28	34	31	-	-	-	-	-
4	35	31	42	37	46	41	-	-	-	-	-
6	45	40	54	48	59	54	-	-	-	-	-
10	61	54	75	66	81	74	-	-	-	-	-
16	81	73	100	88	109	99	-	-	-	-	-
25	106	95	133	117	143	130	161	141	135	182	161
35	131	117	164	144	176	161	200	176	169	226	201
50	158	141	198	175	228	209	242	216	207	275	246
70	200	179	253	222	293	268	310	279	268	353	318
95	241	216	306	269	355	326	377	342	328	430	389
120	278	249	354	312	413	379	437	400	383	500	454
150	318	285	393	342	476	436	504	464	444	577	527
185	362	324	449	384	545	500	575	533	510	661	605
240	424	380	528	450	644	590	679	634	607	781	719

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 18th Edition of IEE Wiring Regulations BS7671 and IEC 60364-5-52.



## VOLTAGE DROP

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	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 and B (enclosed in conduit or trunking)			Reference Methods C, F and G (clipped direct, on tray or in free air)						Reference Methods A and B (enclosed in conduit or trunking)			Reference Methods C, F and G (clipped direct, on tray or in free air)								
					Cable Touching			Cable Spaced						Cable Touching Trefoil		Cable Touching Flat		Cable Spaced* Flat				
1	46	46			46			46			40			40		40		40				
1.5	31	31			31			31			27			27		27		27				
2.5	19	19			19			19			16			16		16		16				
4	12	12			12			12			10			10		10		10				
6	7.9	7.9			7.9			7.9			6.8			6.8		6.8		6.8				
10	4.7	4.7			4.7			4.7			4			4		4		4				
16	2.9	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	1.85	1.850	0.310	1.900	1.850	0.190	1.85	1.850	0.280	1.850	1.600	0.270	1.650	1.600	0.165	1.600	1.600	0.190	1.600	1.600	0.270	1.650
35	1.35	1.350	0.290	1.350	1.350	0.180	1.35	1.350	0.270	1.350	1.150	0.250	1.150	1.150	0.155	1.150	1.150	0.180	1.150	1.150	0.260	1.200
50	0.99	1.000	0.290	1.050	0.990	0.180	1.000	0.990	0.270	1.000	0.870	0.250	0.900	0.860	0.155	0.870	0.860	0.180	0.870	0.860	0.260	0.890
70	0.68	0.700	0.280	0.750	0.680	0.175	0.710	0.680	0.260	0.730	0.600	0.240	0.650	0.590	0.150	0.610	0.590	0.175	0.620	0.590	0.250	0.650
95	0.49	0.510	0.270	0.580	0.490	0.170	0.520	0.490	0.260	0.560	0.440	0.230	0.500	0.430	0.145	0.450	0.430	0.170	0.460	0.430	0.250	0.490
120	0.39	0.410	0.260	0.480	0.390	0.165	0.430	0.390	0.250	0.470	0.350	0.230	0.420	0.340	0.140	0.370	0.340	0.165	0.380	0.340	0.240	0.420

Conductor operating temperature: 90°C

r = Resistive Component  
x = Reactive Component  
z = Impedance Value

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

The above table is in accordance with Table 4E1B of the 18th Edition of IEE Wiring Regulations BS7671 and IEC 60364-5-52.

For cables having conductors of 16mm<sup>2</sup> 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 16mm<sup>2</sup>, 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 18th Edition of IEE Wiring Regulations BS7671 and IEC 60364-5-52.

## DE-RATING FACTORS

AMBIENT TEMPERATURE	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C	65°C	70°C	85°C	90°C	95°C
DE-RATING FACTOR	1.02	1.00	0.96	0.91	0.87	0.82	0.76	0.71	0.65	0.58	-	-	-

The information contained within this datasheet is for guidance only and is subject to change without notice or liability. All the information is provided in good faith and is believed to be correct at the time of publication. When selecting cable accessories, please note that actual cable dimensions may vary due to manufacturing tolerances.