

# H05Z-K / H07Z-K

## BS EN 50525-3-41 LSZH Wire

pro-POWER

RoHS  
Compliant



### 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 gases when burnt which is particularly important where electronic equipment is installed.

### Construction:

#### Conductor

Class 5 flexible copper conductor according to BS EN 60228 (previously BS 6360)

#### Insulation

LSZH (Low Smoke Zero Halogen) Type EI5 thermosetting insulation according to BS EN 50363-5.

### Cable Standards

Made in accordance with the following:

BS EN 50525-3-41 (previously BS 7211 Table 3 and 4b CENELEC HD22.9), BS EN/IEC 60332-1-2, BS EN 50267-2-1, BS EN/IEC 61034-1

### 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 16mm<sup>2</sup>: 450/750V

#### Temperature Rating

-25°C to +90°C

#### Minimum Bending Radius

Up to 16mm<sup>2</sup> : 4 × overall diameter

#### Insulation Colour

Black, Blue, Brown, Green/Yellow & Grey

### Dimensions:

#### 2491B - H05Z-K

Part Number	Colour	Nominal Cross Sectional Area mm <sup>2</sup>	Thickness of Insulation mm	Nominal Overall Diameter		Min. Resistance of Insulation at 90°C MΩ/km
				Lower Limit mm	Upper Limit mm	
PP000435	Black	0.5	0.6	1.9	2.4	0.015
PP000436		0.75	0.6	2.2	2.8	0.011
PP000432		1	0.6	2.4	2.9	0.01
PP000441	Blue	0.75	0.6	2.2	2.8	0.011
PP000437		1	0.6	2.4	2.9	0.01

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Part Number	Colour	Nominal Cross Sectional Area mm <sup>2</sup>	Thickness of Insulation mm	Nominal Overall Diameter		Min. Resistance of Insulation at 90°C MΩ/km
				Lower Limit mm	Upper Limit mm	
PP000445	Brown	0.75	0.6	2.2	2.8	0.011
PP000442		1	0.6	2.4	2.9	0.01
PP000449	Green/Yellow	0.5	0.6	1.9	2.4	0.015
PP000451		0.75	0.6	2.2	2.8	0.011
PP000446		1	0.6	2.4	2.9	0.01

### 6701B – H07Z-K

Part Number	Colour	Nominal Cross Sectional Area mm <sup>2</sup>	Thickness of Insulation mm	Nominal Overall Diameter		Min. Resistance of Insulation at 90°C MΩ/km
				Lower Limit mm	Upper Limit mm	
PP000433	Black	1.5	0.7	2.8	3.5	0.01
PP000434		2.5	0.8	3.4	4.3	0.009
PP001062		10	1	5.7	7.1	0.0056
PP001063		16	1	6.7	8.4	0.0046
PP000438	Blue	1.5	0.7	2.8	3.5	0.01
PP000439		2.5	0.8	3.4	4.3	0.009
PP000440		6	0.8	4.4	5.5	0.006
PP001054		10	1	5.7	7.1	0.0056
PP001055		16	1	6.7	8.4	0.0046
PP000443	Brown	1.5	0.7	2.8	3.5	0.01
PP000444		2.5	0.8	3.4	4.3	0.009
PP001058		10	1	5.7	7.1	0.0056
PP001059		16	1	6.7	8.4	0.0046
PP000447	Green/Yellow	1.5	0.7	2.8	3.5	0.01
PP000448		2.5	0.8	3.4	4.3	0.009
PP000450		6	0.8	4.4	5.5	0.006
PP001060		10	1	5.7	7.1	0.0056
PP001061		16	1	6.7	8.4	0.0046
PP001056	Grey	10	1	5.7	7.1	0.0056
PP001057		16	1	6.7	8.4	0.0046

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### Conductors

Class 5 Flexible Copper Conductors for Single Core Cables

Nominal Cross Sectional Area mm <sup>2</sup>	Max. Diameter of Wires in Conductor mm	Max. Resistance of Conductor at 20°C Plain Wires Ω / km
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
6	0.31	3.3
10	0.41	1.91
16	0.41	1.21

### Electrical Characteristics:

Current Carrying Capacity

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	
										Horizon- tal	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	-	-	-	-	-
6	45	40	54	48	59	54	-	-	-	-	-
10	61	54	75	66	81	74	-	-	-	-	-
16	81	73	100	88	109	99	-	-	-	-	-

Ambient temperature : 30°C

Conductor operating temperature : 90°C

- 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.
- 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.

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### 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
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

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.

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.

### 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	-	-	-

### Part Number Table

Description	Harmonised Type	Nominal Cross Sectional Area mm <sup>2</sup>	Colour	Reel Length	Part Number
BS EN 50525-3-41 LSZH Wire	H05Z-K	0.5	Black	100m	PP000435
		0.75			PP000436
		1			PP000432
		0.75	Blue		PP000441
		1			PP000437
		0.75	Brown		PP000445
		1			PP000442

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Description	Harmonised Type	Nominal Cross Sectional Area mm <sup>2</sup>	Colour	Reel Length	Part Number			
BS EN 50525-3-41 LSZH Wire	H05Z-K	0.5	Green/Yellow	100m	PP000449			
		0.75			PP000451			
		1			PP000446			
	H07Z-K	Black	1.5	Black	100m	PP000433		
			2.5			PP000434		
			10			PP001062		
			50m		16	PP001063		
					Blue	1.5	100m	PP000438
						2.5		PP000439
		6	PP000440					
		50m	10	PP001054				
			Brown	16	PP001055			
				1.5	100m	PP000443		
		2.5		PP000444				
		10	PP001058					
		50m	16	PP001059				
			Green/Yellow	1.5	100m	PP000447		
				2.5		PP000448		
		6		PP000450				
		Grey	50m	10	PP001060			
				16	PP001061			
				10	PP001056			
				16	PP001057			

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