

# H05Z-K / H07Z-K

BS EN 50525-3-41 LSZH Wire

**multicomp** PRO

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

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 6mm<sup>2</sup> : 450/750V

### Temperature Rating

-25°C to +90°C

### Minimum Bending Radius

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

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

### Insulation Colour

Black, Blue, Brown & Green/Yellow

## Dimensions:

### 2491B - H05Z-K

Part Number	Colour	Nominal Cross Sectional Area mm <sup>2</sup>	No. of Strands × Strand Size	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	16 × 0.19mm	0.6	1.9	2.4	0.015
PP000436		0.75	24 × 0.19mm	0.6	2.2	2.8	0.011
PP000432		1	32 × 0.19mm	0.6	2.4	2.9	0.01
PP000441	Blue	0.75	24 × 0.19mm	0.6	2.2	2.8	0.011
PP000437		1	32 × 0.19mm	0.6	2.4	2.9	0.01

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Part Number	Colour	Nominal Cross Sectional Area mm <sup>2</sup>	No. of Strands × Strand Size	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	24 × 0.19mm	0.6	2.2	2.8	0.011
PP000442		1	32 × 0.19mm	0.6	2.4	2.9	0.01
PP000449	Green/ Yellow	0.5	32 × 0.19mm	0.6	1.9	2.4	0.015
PP000451		0.75	24 × 0.19mm	0.6	2.2	2.8	0.011
PP000446		1	32 × 0.19mm	0.6	2.4	2.9	0.01

### 6701B – H07Z-K

Part Number	Colour	Nominal Cross Sectional Area mm <sup>2</sup>	No. of Strands × Strand Size	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	30 × 0.24mm	0.7	2.8	3.5	0.01
PP000434		2.5	45 × 0.25mm	0.8	3.4	4.3	0.009
PP000438	Blue	1.5	30 × 0.24mm	0.7	2.8	3.5	0.01
PP000439		2.5	45 × 0.25mm	0.8	3.4	4.3	0.009
PP000440		6	75 × 0.3mm	0.8	4.4	5.5	0.006
PP000443	Brown	1.5	30 × 0.24mm	0.7	2.8	3.5	0.01
PP000444		2.5	45 × 0.25mm	0.8	3.4	4.3	0.009
PP000447	Green/ Yellow	1.5	30 × 0.24mm	0.7	2.8	3.5	0.01
PP000448		2.5	45 × 0.25mm	0.8	3.4	4.3	0.009
PP000450		6	75 × 0.3mm	0.8	4.4	5.5	0.006

## Conductors

Class 5 Flexible Copper Conductors for Single Core and Multi-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

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## 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	
										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	-	-	-	-	-
6	45	40	54	48	59	54	-	-	-	-	-

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.
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.

## 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

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.

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For cables having conductors of 16mm<sup>2</sup> or less cross-sectional area their inductances can be ignored and (mV/A/m)<sub>r</sub> 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)<sub>z</sub>, together with the resistive component (mV/A/m)<sub>r</sub> and the reactive component (mV/A/m)<sub>x</sub>.

### 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
		0.5	Green/Yellow		PP000449
		0.75			PP000451
		1			PP000446
	H07Z-K	1.5	Black		PP000433
		2.5			PP000434
		1.5	Blue		PP000438
		2.5			PP000439
		6	Brown		PP000440
		1.5			PP000443
		2.5			PP000444
		1.5	Green/Yellow		PP000447
		2.5			PP000448
		6			PP000450

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