# Building Wires — LSZH Fire-Resistant

## Low-Smoke Halogen-Free, Flame-Retardant (Class B1) & Fire-Resistant XLPO Insulated Wire

**Standards:** IEC 60228 (conductor), IEC 60331 (fire resistance), IEC 60332-3-23 Cat. B (flame retardance), IEC 60754 (halogen-free), IEC 61034 (low smoke); ref. GB/T 32129, BS EN 50525-3-31

## Technical Data

Rated voltage (U0/U): 450/750 V
Max. conductor temperature: 90 °C (continuous, XLPO)
Max. short-circuit temperature: 250 °C (max. 5 s)
Min. installation temperature: ≥ 0 °C
Min. bending radius: ≥ 4 × OD (D ≤ 16 mm); ≥ 6 × OD (D > 16 mm)

## Fire Performance

Flame spread (flame retardance): ≤ 1.5 m flame spread height under bunched-cable test
Fire-resistance rating: circuit integrity maintained ≥ 90 minutes under 750 °C–950 °C high-temperature flame
Smoke & gas emission: low smoke (light transmittance ≥ 60%), zero halogen / low corrosivity

## Application

For fixed wiring of power and lighting circuits at rated AC voltages up to 450/750 V in buildings and installations where life safety, low smoke emission, and circuit survival during fire are critical — such as high-rise buildings, hospitals, airports, metro/rail systems, data centres, and petrochemical plants. The cable continues to supply essential circuits (alarms, emergency lighting, smoke control) while exposed to fire.

## Construction

①Annealed copper conductor ② Fire-resistant mica tape ③ XLPO low-smoke halogen-free insulation

| DIMENSION & WEIGHT | | | | | ELECTRICAL PROPERTIES | | |
|---|---|---|---|---|---|---|---|
| Nominal Cross Section | Conductor Class | Insulation Thickness (nom) | Overall Diameter (approx) | Net Weight (approx) | Delivery Length | DC Conductor Resistance 20°C Max | Current Capacity (air) |
| mm² | — | mm | mm | kg/km | m | Ω/km | A |
| 1.5 | 1 (solid) | 0.7 | 3.4 | 21 | 100 | 12.10 | 23 |
| 2.5 | 1 (solid) | 0.8 | 4.0 | 32 | 100 | 7.41 | 31 |
| 4 | 1 (solid) | 0.8 | 4.5 | 47 | 100 | 4.61 | 42 |
| 6 | 1 (solid) | 0.8 | 5.0 | 67 | 100 | 3.08 | 54 |
| 10 | 1 (solid) | 1.0 | 6.2 | 109 | 100 | 1.83 | 75 |
| 16 | 1 (solid) | 1.0 | 7.1 | 166 | 100 | 1.15 | 100 |
| 25 | 2 (stranded) | 1.2 | 8.7 | 256 | 500 | 0.7270 | 133 |
| 35 | 2 (stranded) | 1.2 | 9.7 | 350 | 500 | 0.5240 | 164 |
| 50 | 2 (stranded) | 1.4 | 11.4 | 496 | 500 | 0.3870 | 198 |
| 70 | 2 (stranded) | 1.4 | 13.0 | 682 | 300 | 0.2680 | 253 |
| 95 | 2 (stranded) | 1.6 | 15.0 | 923 | 300 | 0.1930 | 306 |
| 120 | 2 (stranded) | 1.6 | 16.4 | 1153 | 300 | 0.1530 | 354 |
| 150 | 2 (stranded) | 1.8 | 18.3 | 1440 | 200 | 0.1240 | 407 |
| 185 | 2 (stranded) | 2.0 | 20.4 | 1775 | 200 | 0.0991 | 464 |
| 240 | 2 (stranded) | 2.2 | 23.1 | 2295 | 200 | 0.0754 | 546 |

*Note: Single-core non-sheathed wire. Conductors per IEC 60228 (Class 1 solid up to 16 mm², Class 2 stranded above); DC conductor resistance is the maximum at 20 °C. Dimensions and weights are approximate and for reference only and include the mica fire-barrier tape. Current-carrying capacity is indicative for a single insulated conductor in free air at 30 °C ambient with 90 °C conductor — apply derating factors per installation method and grouping. Delivery length follows packaging practice (100 m coils for small sizes; wooden drums of 500/300/200 m for larger sizes); other lengths available on request.*