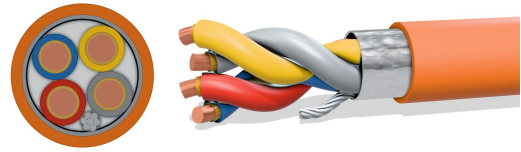


Application

JE-H(St)H Bd FE180 is a halogen-free, fire-resistant, collectively screened installation cable for fire-detection and alarm systems, signalling and telecommunication circuits that must keep operating during a fire. Solid bare-copper pairs (0.8 mm) are wrapped with a mica-glass fire-barrier tape and halogen-free cross-linked insulation to maintain circuit integrity to FE180 (IEC 60331); the assembled, bundle-stranded ('Bd') elements are enclosed by a collective (overall) screen (St) of aluminium/polyester foil in contact with a tinned copper drain wire, which protects the signal pairs against electromagnetic interference. The complete cable reaches system integrity classes E30 to E90 to DIN 4102-12 depending on the mounting. The low smoke zero halogen (LSZH) sheath is orange and, when burning, emits low smoke and no corrosive halogen gases. The cable is not intended for power distribution.



CONSTRUCTION

Conductor	Solid bare (plain) annealed copper, 0.8 mm diameter ($\sim 0.5 \text{ mm}^2$), class 1 acc. to IEC 60228 / VDE 0815.
Fire barrier	Mica-glass fire-resistant tape over the cores, the barrier that maintains insulation integrity under flame (FE180).
Insulation	Halogen-free cross-linked compound (HX).
Screen (St)	Collective (overall) screen of aluminium/polyester (Al/PET) foil in contact with a tinned copper drain wire (CAM).
Sheath	Halogen-free, flame-retardant, low-smoke (LSZH) compound; orange (red also available).
Core identification	Pairs colour-coded and numbered; the elements are bundle-stranded ('Bd').

ELECTRICAL & THERMAL PROPERTIES

Operating voltage	225 V peak operating voltage (225/400 V; not for power distribution).
Test voltage	800 V.
Fire resistance (circuit integrity)	FE180 acc. to IEC 60331 (insulation integrity maintained 180 min under flame).
System integrity	E30 to E90 acc. to DIN 4102-12 (30 to 90 min functional integrity of the installed circuit, depending on the mounting system).
Standard	DIN VDE 0815 (installation/telecom cables); conductors acc. to IEC 60228; fire tests IEC 60331 and DIN 4102-12.
Flame-retardant	Acc. to IEC 60332-3-24 category C (bunched).
Halogen-free / low smoke	Halogen-free acc. to IEC 60754-1/-2 (corrosive gas); low smoke acc. to IEC 61034-1/-2.
Loop resistance	max. 73.2 Ω/km (per conductor $\sim 36.6 \Omega/\text{km}$ at 20 °C).
Mutual capacitance	max. 120 nF/km at 800 Hz.
Insulation resistance	min. 100 M $\Omega \times \text{km}$.
Max. conductor temperature	+70 °C in normal operation.
Min. bending radius, fixed	6 $\times$ overall diameter.
Reaction to fire (CPR)	Cca-s1,d1,a1 (EN 50575, halogen-free); B2ca-s1a,d1,a1 on request. Circuit integrity: FE180 / E30-E90 (IEC 60331 / DIN 4102-12).

DIMENSIONS & TECHNICAL DATA

Pairs × mm	Cond. R @20°C (Ω/km)	Nominal O.D. (mm)	Weight (kg/km)
2 × 0.8	36.6	7.5	74
4 × 0.8	36.6	10.9	127
8 × 0.8	36.6	14.5	232
12 × 0.8	36.6	17.1	318
16 × 0.8	36.6	19.6	430
20 × 0.8	36.6	21.5	514
32 × 0.8	36.6	27	730
40 × 0.8	36.6	28.9	962
52 × 0.8	36.6	33.2	1200

The pairs column lists number of pairs × conductor diameter; every pair is 2 × 0.8 mm solid bare copper (0.8 mm diameter ~0.5 mm²). Conductor resistance is per conductor at 20 °C (loop resistance max. 73.2 Ω/km). Nominal outer diameters and weights are the manufacturer values of the leading reference source; all figures are indicative and non-binding. A one-pair (1 × 2 × 0.8) size is also available.