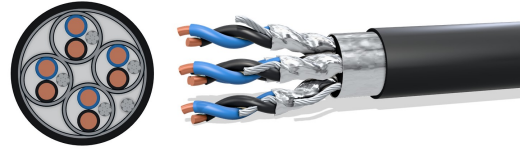


Application

BS 5308 Part 1 Type 1 with individual and overall screens and a low-smoke zero-halogen sheath (near-equivalent to EN 50288-7) is a halogen-free, unarmoured, polyethylene-insulated instrumentation and process-control cable for circuits with high requirements for interference immunity between individual signal pairs. The plain



copper conductors are insulated with polyethylene (PE) and stranded into pairs (or triples); each pair is individually screened with an aluminium/polyester foil in contact with a tinned copper drain wire, and all screened pairs are enclosed by a further overall (collective) aluminium/polyester foil screen with its own tinned copper drain wire (individual + overall, PiMF). A low-smoke zero-halogen (LSZH) outer sheath protects the cable and limits smoke density and corrosive gas emission in the event of fire. In BS 5308 / PAS 5308 the Part denotes the core insulation (Part 1 = polyethylene, Part 2 = PVC) and the Type denotes the armour (Type 1 = unarmoured, Type 2 = galvanised steel-wire-armoured); the screening, either an overall (collective) screen only or individual pair screens plus an overall screen, is specified separately. British near-equivalent of EN 50288-7 RE-2Y(St)H PiMF. The cable is not intended for power distribution.

CONSTRUCTION

Conductor	Plain (bare) annealed copper, solid class 1, stranded class 2 or flexible class 5 (0.5 mm ² : 1/0.80 mm solid or 16/0.20 mm flexible) acc. to IEC 60228 (BS EN 60228).
Insulation	Polyethylene (PE).
Screen	Individual screen on every pair (IAM): aluminium/polyester foil in contact with a tinned copper drain wire (0.5 mm ²); the assembled pairs are enclosed by a collective (overall) aluminium/polyester foil screen (CAM) with a further tinned copper drain wire (0.5 mm ²).
Sheath	Halogen-free, low-smoke (LSZH) thermoplastic compound; black (UV-resistant) or blue for intrinsically safe circuits.
Core identification	Each pair black/blue, individually screened and numbered; black/white on agreement. Triples: colour code on request.

ELECTRICAL & THERMAL PROPERTIES

Rated voltage Uo/U	300/500 V (300 V core to earth, 500 V core to core).
Test voltage	1.5 kV.
Standard	BS 5308 Part 1 Type 1 (withdrawn; current standard EN 50288-7); conductor acc. to IEC 60228.
Flame-retardant	Acc. to BS EN 60332-1-2 and IEC 60332-3-24.
Halogen-free	Acc. to IEC 60754-1/-2 (halogen-free) and IEC 61034-1/-2 (low smoke).
Max. conductor temperature	+70 °C.
Permitted outer cable temperature, fixed	-30 °C to +70 °C.
Min. bending radius, fixed	7.5 × overall diameter.
Reaction to fire (CPR)	Cca-s1,d1,a1 (EN 50575, halogen-free unarmoured); the armoured LSZH version may be classified Eca. The Declaration of Performance for the version supplied is available from Q Cables on request.

DIMENSIONS & TECHNICAL DATA

Pairs × mm2	Cond. R @20°C (Ω/km)	Nominal O.D. (mm)	Weight (kg/km)
2 × 0.5	36.7	8.7	85
4 × 0.5	36.7	10.2	120
5 × 0.5	36.7	11.2	145
6 × 0.5	36.7	12.1	170
8 × 0.5	36.7	13.1	214
10 × 0.5	36.7	15.1	265
12 × 0.5	36.7	15.7	286
16 × 0.5	36.7	17.8	380
20 × 0.5	36.7	19.7	475
24 × 0.5	36.7	21.5	561
2 × 0.75	25	9.7	101
4 × 0.75	25	11.2	159
5 × 0.75	25	12.5	183
6 × 0.75	25	13.6	215
8 × 0.75	25	14.4	272
10 × 0.75	25	16.6	333
12 × 0.75	25	17.4	383
16 × 0.75	25	19.8	492
20 × 0.75	25	22	603
24 × 0.75	25	24	704
2 × 1	18.5	10.4	112
4 × 1	18.5	12.1	179
5 × 1	18.5	13.5	220
6 × 1	18.5	14.7	256
8 × 1	18.5	15.8	323
10 × 1	18.5	18	401
12 × 1	18.5	19	454
16 × 1	18.5	21.5	601
20 × 1	18.5	23.9	719
24 × 1	18.5	26.1	884
2 × 1.5	12.3	11.8	164
4 × 1.5	12.3	13.9	235
5 × 1.5	12.3	15.5	289
6 × 1.5	12.3	16.9	366
8 × 1.5	12.3	18.2	446
10 × 1.5	12.3	21	565
12 × 1.5	12.3	21.9	637
16 × 1.5	12.3	25.1	828
20 × 1.5	12.3	27.8	1024
24 × 1.5	12.3	30.4	1219

Triples × mm2	Cond. R @20°C (Ω/km)	Nominal O.D. (mm)	Weight (kg/km)
2 × 0.5	36.7	9.7	104
4 × 0.5	36.7	11.1	151
5 × 0.5	36.7	12.4	183

Triples × mm ²	Cond. R @20°C (Ω/km)	Nominal O.D. (mm)	Weight (kg/km)
6 × 0.5	36.7	14	225
8 × 0.5	36.7	14.9	283
10 × 0.5	36.7	17	348
12 × 0.5	36.7	17.6	385
16 × 0.5	36.7	20.1	504
20 × 0.5	36.7	22.3	616
24 × 0.5	36.7	24.4	749
2 × 0.75	25	10.6	121
4 × 0.75	25	12.4	186
5 × 0.75	25	13.7	242
6 × 0.75	25	15.4	280
8 × 0.75	25	16.7	362
10 × 0.75	25	19	446
12 × 0.75	25	19.7	495
16 × 0.75	25	22.5	652
20 × 0.75	25	24.9	833
24 × 0.75	25	27.2	966
2 × 1	18.5	11.5	154
4 × 1	18.5	13.4	227
5 × 1	18.5	14.8	286
6 × 1	18.5	16.9	348
8 × 1	18.5	18.1	443
10 × 1	18.5	20.7	545
12 × 1	18.5	21.4	621
16 × 1	18.5	24.4	836
20 × 1	18.5	27.1	1001
24 × 1	18.5	29.6	1207
2 × 1.5	12.3	13.2	207
4 × 1.5	12.3	15.4	314
5 × 1.5	12.3	17.1	396
6 × 1.5	12.3	19.5	482
8 × 1.5	12.3	21.1	617
10 × 1.5	12.3	24.1	765
12 × 1.5	12.3	24.9	867
16 × 1.5	12.3	28.4	1140
20 × 1.5	12.3	31.6	1421
24 × 1.5	12.3	34.4	1691

Outer diameters, weights and conductor resistances are nominal manufacturer values for the individually-screened pair ($n \times 2 \times \text{mm}^2$) and triple ($n \times 3 \times \text{mm}^2$) constructions; all values are indicative and non-binding.