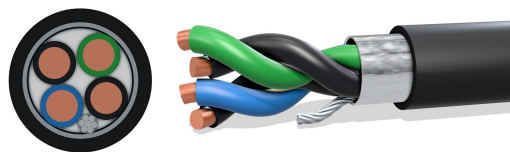


Application

BS 5308 Part 1 Type 1 with an overall screen (near-equivalent to EN 50288-7) is a polyethylene-insulated, unarmoured instrumentation and process-control cable for measuring, control, signal and alarm circuits. The plain copper conductors are insulated with polyethylene (PE) and twisted into pairs (or triples), which are laid up and enclosed by a single overall (collective) screen of aluminium/polyester foil in contact with a tinned copper drain wire; there are no individual pair screens. A polyvinyl chloride (PVC) outer sheath protects the cable for fixed installation indoors and outdoors, in cable trays, ducts and trunking. 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. It is the British near-equivalent of EN 50288-7 RE-2Y(St)Y. 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 (traditional BS 5308 set: 0.5 mm ² = 1/0.8 solid, 1.0 mm ² = 1/1.13 solid, 0.75 mm ² = 24/0.2, 1.5 mm ² = 7/0.53).
Insulation	Polyethylene (PE).
Screen	Collective (overall) screen of aluminium/polyester foil in contact with a tinned copper drain wire (0.5 mm ²).
Sheath	Polyvinyl chloride (PVC); black (UV-resistant) or blue for intrinsically safe circuits.
Core identification	Collective screen: pairs colour-coded to the BS 5308 Part 1 table (pair 1 black/blue, pair 2 black/green, pair 3 blue/green and so on); two pairs as a quad in black, blue, green and brown. 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Standard	BS 5308 Part 1 Type 1 (withdrawn; current standard EN 50288-7); conductor acc.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 IEC 60332-1-2 (and IEC 60332-3-24 for bunched cables).
Max. conductor temperature	+70 °C.
Permitted outer cable temperature, fixed	-30 °C to +70 °C.
Min. bending radius, fixed	6 × overall diameter.
Reaction to fire (CPR)	Eca acc. to EN 50575 / EN 13501-6; Cca on request.

DIMENSIONS & TECHNICAL DATA

Pairs × mm ²	Cond. R @20°C (Ω/km)	Nominal O.D. (mm)	Weight (kg/km)
1 × 0.5	36.8	5.5	35
2 × 0.5	36.8	6.8	55
5 × 0.5	36.8	10.9	125
10 × 0.5	36.8	14.4	215
15 × 0.5	36.8	16.5	300
20 × 0.5	36.8	18.8	385
30 × 0.5	36.8	22.3	545
50 × 0.5	36.8	28.5	875
1 × 0.75	26.5	6.7	75
2 × 0.75	26.5	8.4	100
5 × 0.75	26.5	13.8	250
10 × 0.75	26.5	18.4	450
15 × 0.75	26.5	21.1	600
20 × 0.75	26.5	24.4	920
30 × 0.75	26.5	29.5	980
50 × 0.75	26.5	37.6	1690
1 × 1	18.2	6.6	85
2 × 1	18.2	8	115
5 × 1	18.2	13.5	290
10 × 1	18.2	17.7	500
15 × 1	18.2	20.6	670
20 × 1	18.2	23.8	950
30 × 1	18.2	28.4	1030
50 × 1	18.2	36.6	1750
1 × 1.5	12.3	7.5	100
2 × 1.5	12.3	9.3	150
5 × 1.5	12.3	15.6	360
10 × 1.5	12.3	20.9	690
15 × 1.5	12.3	24.6	880
20 × 1.5	12.3	27.8	1230
30 × 1.5	12.3	33.7	1560
50 × 1.5	12.3	43	2400

Outer diameters, weights and conductor resistances are nominal manufacturer values for the collective-screened pair ($n \times 2 \times \text{mm}^2$) constructions to the traditional BS 5308 conductor set; all values are indicative and non-binding. Triple ($n \times 3 \times \text{mm}^2$) constructions are available to the same standard (see notes).