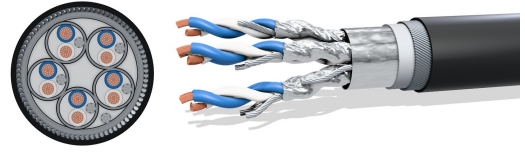


Application

BS 5308 Part 2 Type 2 with individual and overall screens (near-equivalent to EN 50288-7) is a galvanised-steel-wire-armoured, PVC-insulated instrumentation and process-control cable for measuring, control, signal and alarm circuits in the process, chemical and petrochemical industries, where interference immunity between individual signal circuits and high mechanical protection are required. The plain copper conductors are insulated with polyvinyl chloride (PVC) and stranded into pairs; each pair is individually screened with an aluminium/polyester (Al/PET) 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 layer of galvanised round steel wires over a PVC inner sheath (bedding) provides mechanical protection for direct burial and heavy-duty routes, and a PVC outer sheath completes the cable. 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. Because Type 2 denotes the armour, this armoured construction is Part 2 Type 2. The individual pair screens suppress crosstalk between circuits; the cable is not intended for power distribution.



CONSTRUCTION

Conductor	Plain (bare) annealed copper, solid class 1 or stranded class 2 acc. to IEC 60228 / BS EN 60228 (0.5-0.75 mm ² are commonly supplied as class 5 flexible, see notes).
Insulation	Polyvinyl chloride (PVC), radial-thickness type per BS 5308-2 / EN 50290-2-22.
Individual screen (IAM)	Aluminium/polyester (Al/PET) foil on every pair, applied metallic side down, in contact with a tinned copper drain wire (nom. 0.5 mm ²).
Collective screen (CAM)	The assembled pairs are enclosed by an overall aluminium/polyester (Al/PET) foil screen with a further tinned copper drain wire (nom. 0.5 mm ²).
Inner sheath (bedding)	Polyvinyl chloride (PVC) bedding over the collective screen.
Armour	Galvanised round steel wires (GSWA) over the PVC inner sheath.
Sheath	Polyvinyl chloride (PVC) acc. to BS 5308-2 / EN 50290-2-22; black or blue (blue for intrinsically safe circuits).
Core identification	Each pair white/blue, individually screened and numbered; black/blue on agreement. Triples: colour code on request.

ELECTRICAL & THERMAL PROPERTIES

Rated voltage U₀/U	300 / 500 V.
Standard	BS 5308 Part 2 Type 2 (withdrawn; current standard EN 50288-7); conductor acc. to IEC 60228.
Flame-retardant	Acc. to IEC/EN 60332-1-2 (and IEC/EN 60332-3-24).
Max. conductor temperature	+70 °C (PVC).
Permitted outer cable temperature, fixed	-40 °C to +70 °C.
Min. bending radius, fixed	12 × 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)
2 × 0.5	39.7	15	505
5 × 0.5	39.7	19.1	830
10 × 0.5	39.7	24.8	1420
20 × 0.5	39.7	32.1	2040
50 × 0.5	39.7	47.1	4270
2 × 0.75	26.5	16.1	545
5 × 0.75	26.5	21.2	1005
10 × 0.75	26.5	27.5	1400
20 × 0.75	26.5	34.7	2300
50 × 0.75	26.5	52.7	4800
2 × 1.5	12.3	17.6	800
5 × 1.5	12.3	23.2	1290
10 × 1.5	12.3	30.3	1990
20 × 1.5	12.3	38.5	3310
50 × 1.5	12.3	58.3	6260

Outer diameters, weights and conductor resistances are nominal manufacturer values for the steel-wire-armoured individually-screened pair ($n \times 2 \times \text{mm}^2$) construction; all values are indicative and non-binding. Screening: IAM = individual per-pair Al/PET foil screen; CAM = overall (collective) Al/PET foil screen; GSWA = galvanised steel wire armour.