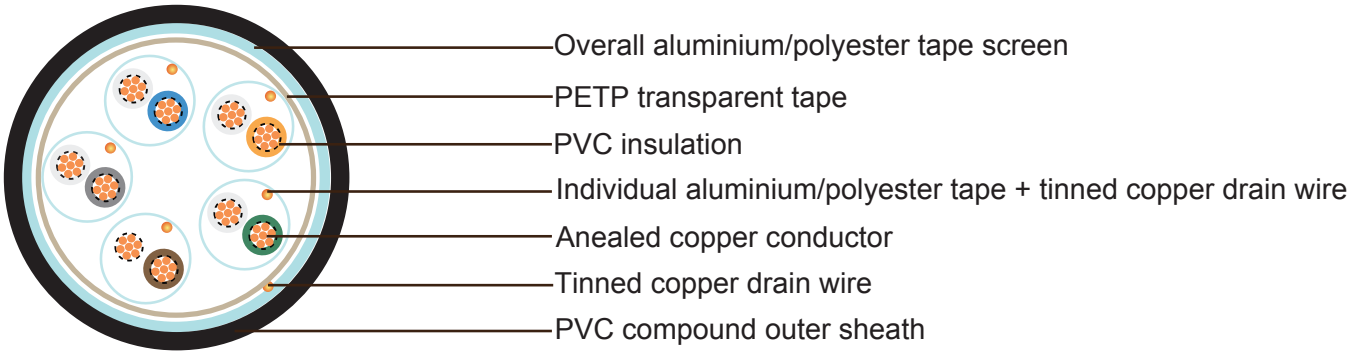
PAS 5308 Cable Part 2 Type 1 PVC-IS-OS-PVC

Application

These cables are designed to connect electrical instrumentation and communication systems in and around process plants and similar applications, Generally used to transmit analogue or digital signals in measurement and process control where chemicals may be present. The individual screening of each pair limits the consequence of crosstalk.

Construction



Conductor	Annealed copper, sizes: 0.5mm² and 0.75mm² mulitistranded(Class 5), 1.5mm² and 2.5mm² multistranded(Class 2) to BS EN 60228
Insulation	PVC to BS EN 50290-2-21:2002, grade TI51
Pairing	Two insulated conductors uniformly twisted together with a lay not exceeding 100mm, Two-pair cables without individual pair screens (quads) shall have four cores laid in quad formation round a central dummy
Colour code	See technical information
Individual screen	Aluminium/polyester tape is applied over each pair metallic side down in contact with tinned copper drain wire, 0.5mm²
Binder tape	Non-hygroscopic binder tape of minimum thickness 0.023 mm
Collective screen	Aluminium/polyester tape is applied over the laid up pairs metallic side down in contact with tinned copper drain wire, 0.5mm²
Outer sheath	Extruded sheath of a PVC compound conforming to BS EN 50290-2-22:2002, grade TM51
Sheath colour	Generally black

Electrical Properties

Temperature range: above 0˚C(fixed installation)

-15˚C to +65˚C(during operation)

Conductor Area Size		mm²	0.5	0.5	1	1.5	2.5
Conductor Stranding		No. x mm	1 x 0.8	16 x 0.2	1 x 1.13	7 x 0.53	7 x 0.67
Conductor resistance max		ohm/km	36.8	39.7	18.4	12.3	7.6
Insulation resistance min	**Individual conductor**	Gohm/km	5	5	5	5	5
	individual screen	Mohm/km	1	1	1	1	1
Capacitance unbalance at 1 kHz(pair to pair screen)		pF/250m	250				
Max. Mutual Capacitance @ 1 kHz for Non OS or OS cables (except one-pair and two-pairs)		pF/m	75	75	75	85	105
Max. Mutual Capacitance @ 1 kHz IS/OS cables (include 1 pair and 2 pair)		pF/m	115	115	115	120	140
Max. L/R Ratio for adjacent cores(Inductance/ Resistance)		μH/ohm	25	25	25	40	60
Test voltage		V	2000	2000	2000	2000	2000
Rated voltage		V	300/500	300/500	300/500	300/500	300/500

Parameter

Number of Pairs	Number and Diameter of Wires	Nominal Conductor Cross-Sectional Area	Nominal Thickness of Insulation	Nominal Thickness of Sheath	Nominal Diameter of Cable
	no./mm	mm²	mm	mm	mm
stranded conductor 0.5 mm² (16/0.20mm)					
2	16/0.2	0.5	0.6	0.9	9.7
5	16/0.2	0.5	0.6	1	12.6
10	16/0.2	0.5	0.6	1.2	18
15	16/0.2	0.5	0.6	1.3	20.9

Number of Pairs	Number and Diameter of Wires	Nominal Conductor Cross-Sectional Area	Nominal Thickness of Insulation	Nominal Thickness of Sheath	Nominal Diameter of Cable
	no./mm	mm²	mm	mm	mm
20	16/0.2	0.5	0.6	1.4	23.6
30	16/0.2	0.5	0.6	1.6	28.2
50	16/0.2	0.5	0.6	1.8	36.1
stranded conductor 0.75 mm² (24/0.20mm)					
2	24/0.2	0.75	0.6	0.9	10.4
5	24/0.2	0.75	0.6	1	13.5
10	24/0.2	0.75	0.6	1.2	19.4
15	24/0.2	0.75	0.6	1.4	22.8
20	24/0.2	0.75	0.6	1.5	25.8
30	24/0.2	0.75	0.6	1.6	30.5
50	24/0.2	0.75	0.6	1.9	39.3
stranded conductor 1.5 mm² (7/0.53mm)					
2	7/0.53	1.5	0.6	1	12.1
5	7/0.53	1.5	0.6	1.1	15.8
10	7/0.53	1.5	0.6	1.4	22.9
15	7/0.53	1.5	0.6	1.5	26.6
20	7/0.53	1.5	0.6	1.6	30.1
30	7/0.53	1.5	0.6	1.8	35.8
50	7/0.53	1.5	0.6	2.2	46.2
stranded conductor 2.5 mm² (7/0.67mm)					
2	7/0.67	2.5	0.6	1	13.5
5	7/0.67	2.5	0.6	1.2	17.9
10	7/0.67	2.5	0.6	1.5	25.9
15	7/0.67	2.5	0.6	1.6	30.1
20	7/0.67	2.5	0.6	1.8	34.3
30	7/0.67	2.5	0.6	2	40.8
50	7/0.67	2.5	0.6	2.4	52.6