

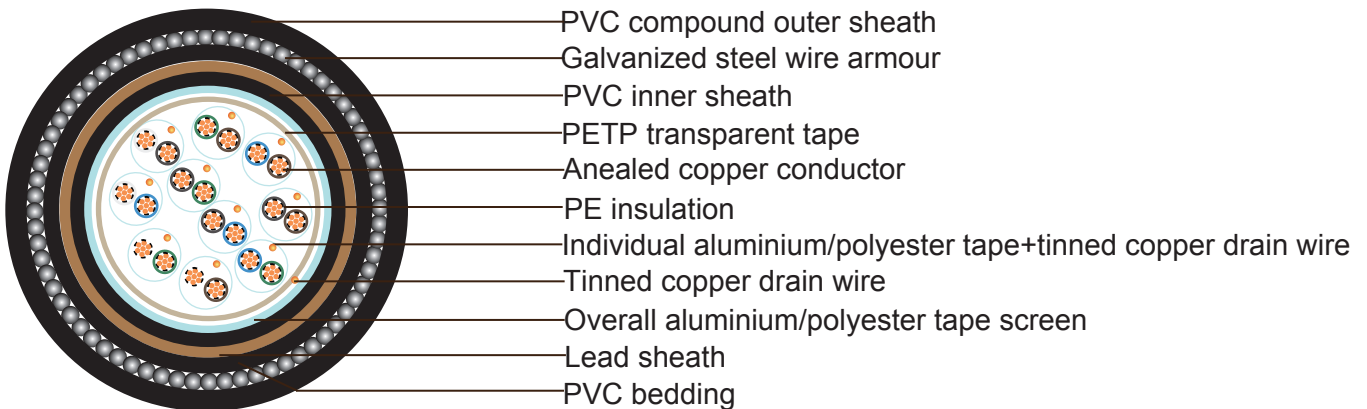


PAS 5308 Cable Part 1 Type 3 IS-OS-Lead SWA

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. They are well adapted to underground use in industrial applications, in moist areas, where chemical and mechanical protections are needed. The lead sheath brings an enhanced resistance to aromatic hydrocarbons.

Construction



Conductor	Annealed copper, sizes: 0.5mm ² multistranded(Class 5), 0.5 mm ² and 1.0 mm ² solid(Class 1), 1.5mm ² or 2.5 multistranded(Class 2) to BS EN 60228
Insulation	thermoplastic PE to BS EN 50290-2-23:2002, grade L/MD or a cross-linked PE to BS EN 50290-2-29
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, 0.5mm ²
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, 0.5mm ²
Inner Sheath	Extruded sheath of a PVC compound conforming to BS EN 50290-2-22:2002, grade TM51
Lead Sheath	Lead Alloy conforming to BS EN 50307
Bedding	Extruded sheath of a PVC compound conforming to BS EN 50290-2-22:2002, grade TM51
Amour	Galvanized steel wire armour
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		mm ²	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

NO. of Pairs	Thick-ness of Insula-tion	Thick-ness of Inner sheath	Dia-meter over Inner sheath	Thick-ness of Lead Sheath	Dia-meter over Lead Sheath	Thick-ness of Bedding	Dia-meter over Bedding	Thick-ness of Armour	Dia-meter over Armor	Thick-ness of Sheath	Dia-meter of Cable
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
solid conductor 0.5mm² (1/0.80mm)											
2	0.5	0.9	8.5	1.1	10.7	0.8	12.3	1.25	14.8	1.5	17.8
5	0.5	0.9	10.9	1.1	13.1	0.8	14.7	1.25	17.2	1.6	20.4
10	0.5	1.1	15.6	1.2	18	1	20	1.6	23.2	1.7	26.6
15	0.5	1.2	18.1	1.2	20.5	1	22.5	1.6	25.7	1.8	29.3
20	0.5	1.3	20.4	1.3	23	1	25	1.6	28.2	1.9	32
30	0.5	1.4	24.2	1.4	27	1.2	29.4	2	33.4	2	37.4
50	0.5	1.7	31.2	1.6	34.4	1.2	36.8	2	40.8	2.2	45.2
stranded conductor 0.5 mm² (16/0.20mm)											
2	0.6	0.9	9.7	1.1	11.9	0.8	13.5	1.25	16	1.5	19
5	0.6	1	12.6	1.1	14.8	0.8	16.4	1.25	18.9	1.6	22.1
10	0.6	1.2	18	1.2	20.4	1	22.4	1.6	25.6	1.8	29.2
15	0.6	1.3	20.9	1.3	23.5	1	25.5	1.6	28.7	1.9	32.5
20	0.6	1.4	23.6	1.4	26.4	1.2	28.8	2	32.8	2	36.8
30	0.6	1.6	28.2	1.5	31.2	1.2	33.6	2	37.6	2.2	42
50	0.6	1.8	36.1	1.8	39.7	1.4	42.5	2.5	47.5	2.4	52.3
solid conductor 1.0mm² (1/1.13mm)											
2	0.6	0.9	10.3	1.1	12.5	0.8	14.1	1.25	16.6	1.6	19.8
5	0.6	1	13.5	1.1	15.7	1	17.7	1.6	20.9	1.7	24.3
10	0.6	1.2	19.4	1.3	22	1	24	1.6	27.2	1.9	31.0
15	0.6	1.4	22.7	1.4	25.5	1.2	27.9	2	31.9	2.0	35.9
20	0.6	1.5	25.7	1.5	28.7	1.2	31.1	2	35.1	2.1	39.3
30	0.6	1.6	30.4	1.6	33.6	1.2	36	2	40	2.2	44.4
50	0.6	1.9	39.1	1.9	42.9	1.4	45.7	2.5	50.7	2.5	55.7





Caledonian

Any inquiries, please feel free to contact

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NO. of Pairs	Thick-ness of Insula-tion	Thick-ness of Inner sheath	Dia-meter over Inner sheath	Thick-ness of Lead Sheath	Dia-meter over Lead Sheath	Thick-ness of Bedding	Dia-meter over Bedding	Thick-ness of Armour	Dia-meter over Armor	Thick-ness of Sheath	Dia-meter of Cable
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
stranded conductor 1.5 mm² (7/0.53mm)											
2	0.6	1	12.1	1.1	14.3	0.8	15.9	1.25	18.4	1.6	21.6
5	0.6	1.1	15.8	1.2	18.2	1	20.2	1.6	23.4	1.8	27
10	0.6	1.4	22.9	1.4	25.7	1.2	28.1	2	32.1	2	36.1
15	0.6	1.5	26.6	1.5	29.6	1.2	32	2	36	2.1	40.2
20	0.6	1.6	30.1	1.6	33.3	1.2	35.7	2	39.7	2.2	44.1
30	0.6	1.8	35.8	1.8	39.4	1.4	42.2	2.5	47.2	2.4	52
50	0.6	2.2	46.2	2.1	50.4	1.6	53.6	2.5	58.6	2.7	64
stranded conductor 2.5 mm² (7/0.67mm)											
2	0.6	1	13.5	1.1	15.7	1	17.7	1.6	20.9	1.7	24.3
5	0.6	1.2	17.9	1.2	20.3	1	22.3	1.6	25.5	1.8	29.1
10	0.6	1.5	25.9	1.5	28.9	1.2	31.3	2	35.3	2.1	39.5
15	0.6	1.6	30.1	1.6	33.3	1.2	35.7	2	39.7	2.2	44.1
20	0.6	1.8	34.3	1.7	37.7	1.4	40.5	2.5	45.5	2.4	50.3
30	0.6	2	40.8	1.9	44.6	1.4	47.7	2.5	52.4	2.6	57.6
50	0.6	2.4	52.6	2.3	57.2	1.6	60.4	2.5	65.4	2.9	71.2

