

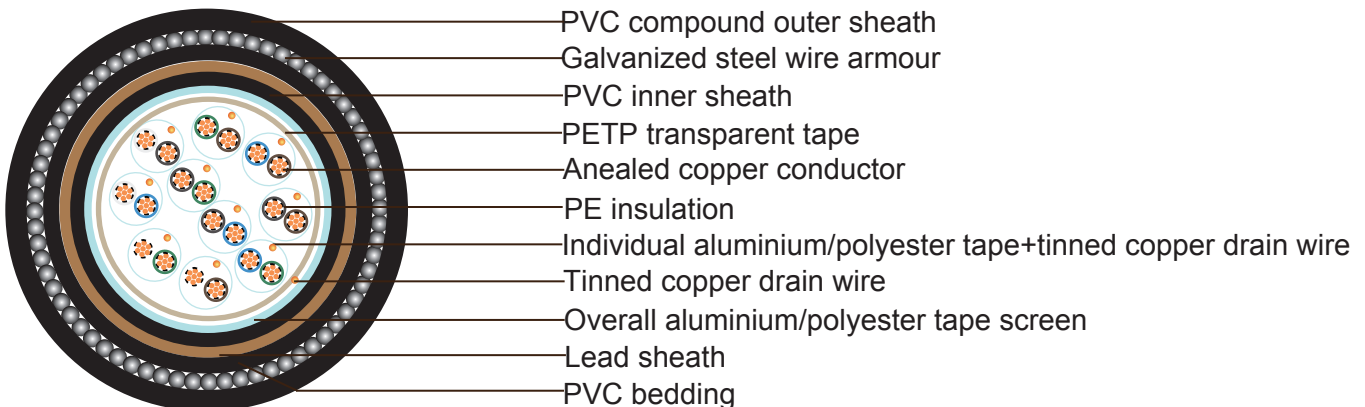


## PAS 5308 Cable Part 1 Type 3 IS-OS-Lead SWA

### 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



<b>Conductor</b>	Annealed copper, sizes: 0.5mm <sup>2</sup> multistranded(Class 5), 0.5 mm <sup>2</sup> and 1.0 mm <sup>2</sup> solid(Class 1), 1.5mm <sup>2</sup> or 2.5 multistranded(Class 2) to BS EN 60228
<b>Insulation</b>	thermoplastic PE to BS EN 50290-2-23:2002, grade L/MD or a cross-linked PE to BS EN 50290-2-29
<b>Pairing</b>	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
<b>Colour code</b>	See technical information
<b>Individual screen</b>	Aluminium/polyester tape is applied over each pair metallic side down in contact with tinned copper drain wire, 0.5mm <sup>2</sup>
<b>Binder tape</b>	Non-hygroscopic binder tape of minimum thickness 0.023 mm





<b>Collective screen</b>	Aluminium/polyester tape is applied over the laid up pairs metallic side down in contact with tinned copper drain wire, 0.5mm <sup>2</sup>
<b>Inner Sheath</b>	Extruded sheath of a PVC compound conforming to BS EN 50290-2-22:2002, grade TM51
<b>Lead Sheath</b>	Lead Alloy conforming to BS EN 50307
<b>Bedding</b>	Extruded sheath of a PVC compound conforming to BS EN 50290-2-22:2002, grade TM51
<b>Amour</b>	Galvanized steel wire armour
<b>Outer sheath</b>	extruded sheath of a PVC compound conforming to BS EN 50290-2-22:2002, grade TM51
<b>Sheath colour</b>	Generally black

## Electrical Properties

Temperature range: above 0°C( fixed installation)

-15°C to +65°C(during operation )

<b>Conductor Area Size</b>		mm <sup>2</sup>	0.5	0.5	1	1.5	2.5
<b>Conductor Stranding</b>		No. x mm	1 x 0.8	16 x 0.2	1 x 1.13	7 x 0.53	7 x 0.67
<b>Conductor resistance max</b>		ohm/km	36.8	39.7	18.4	12.3	7.6
<b>Insulation resistance min</b>	<b>Individual conductor</b>	Gohm/km	5	5	5	5	5
	<b>individual screen</b>	Mohm/km	1	1	1	1	1
<b>Capacitance unbalance at 1 kHz(pair to pair screen)</b>		pF/250m	250				
<b>Max. Mutual Capacitance @ 1 kHz for Non OS or OS cables (except one-pair and two-pairs)</b>		pF/m	75	75	75	85	105
<b>Max. Mutual Capacitance @ 1 kHz IS/OS cables (include 1 pair and 2 pair)</b>		pF/m	115	115	115	120	140
<b>Max. L/R Ratio for adjacent cores(Inductance/ Resistance)</b>		µH/ohm	25	25	25	40	60
<b>Test voltage</b>		V	2000	2000	2000	2000	2000
<b>Rated voltage</b>		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
<b>solid conductor 0.5mm<sup>2</sup> (1/0.80mm)</b>											
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
<b>stranded conductor 0.5 mm<sup>2</sup> (16/0.20mm)</b>											
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
<b>solid conductor 1.0mm<sup>2</sup> (1/1.13mm)</b>											
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





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
<b>stranded conductor 1.5 mm<sup>2</sup> (7/0.53mm)</b>											
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
<b>stranded conductor 2.5 mm<sup>2</sup> (7/0.67mm)</b>											
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

