



# BS5308 Cable Part 1

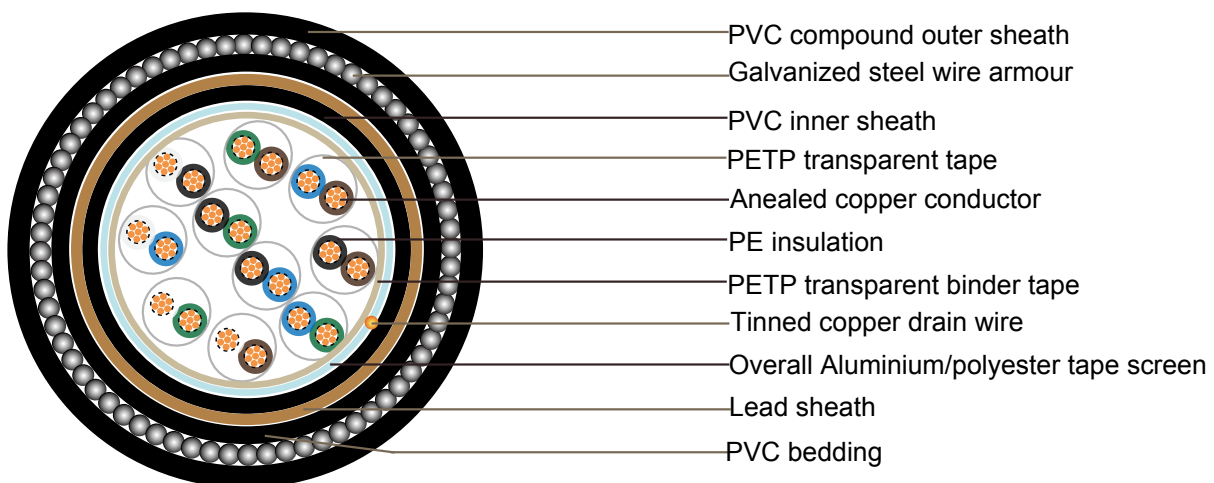
## Type 3 PE-OS-Lead-SWA-PVC/

### RE-2Y(St)Y MY SWA Y

### Application

The armoured versions (Part 1 Type 3) are generally used when the risk of mechanical damage is increased. The galvanised steel wire armour provides excellent protection. Generally used within industrial process manufacturing plants for communication, data and voice transmission signals and services, Also used for the interconnection of electrical equipment and instruments, typically in petroleum industry. 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 or tinned copper, sizes: 0.5mm <sup>2</sup> and 0.75mm <sup>2</sup> multistranded(Class 5), 0.5 mm <sup>2</sup> , 1.0 mm <sup>2</sup> solid(Class 1), 1.5mm <sup>2</sup> or 2.5mm <sup>2</sup> , multistranded(Class 2) to BS6360
<b>Insulation</b>	PE (Polyethylene) type 03 to BS6234
<b>Pairing</b>	Two insulated conductors uniformly twisted together with a lay not exceeding 100mm
<b>Colour code</b>	See technical information
<b>Binder tape</b>	PETP transparent tape



<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>	PVC (polyvinyl chloride), type TM 1 or type 6 to BS 6746
<b>Lead Sheath</b>	Lead Alloy
<b>Bedding</b>	PVC (polyvinyl chloride), TM 1 to BS 6746
<b>Amour</b>	Galvanized steel wire armour
<b>Outer sheath</b>	PVC Sheath, type TM 1 or type 6 to BS 6746
<b>Sheath colour</b>	Black or blue

## Mechanical and Electrical Properties

**Operating temperature:** -40°C up to + 70°C( fixed installation)  
0°C to +50°C(during operation )

**Minimum bending radius:** 15 x overall diameter

<b>Conductor Area Size</b>		mm <sup>2</sup>	0.5	0.5	0.75	1.0	1.5
<b>Conductor Stranding</b>		No. x mm	1 x 0.8	16 x 0.2	24 x 0.2	1 x 1.13	7 x 0.53
<b>Conductor resistance max</b>		ohm/km	36.8	39.7	26.5	18.2	12.3
<b>Insulation resistance min</b>		Gohm/km	5	5	5	5	5
<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	115	115	115	115	120
<b>Max. Mutual Capacitance @ 1 kHz IS/OS cables (include 1 pair and 2 pair)</b>		pF/m	75	75	75	75	85
<b>Max. L/R Ratio for adjacent cores(Inductance/ Resistance)</b>		μH/ohm	25	25	25	25	40
<b>Test voltage</b>	<b>Core to core</b>	V	1000	1000	1000	1000	1000
	<b>Core to screen</b>	V	1000	1000	1000	1000	1000
<b>Rated voltage max</b>		V	300/500	300/500	300/500	300/500	300/500



### Parameter

No. of Pairs	No. and Dia. of Wires	Nominal Conductor Cross-Sectional Area	Nominal Thickness of Insulation	Nominal Dia. over Bedding	Nominal Thickness of Armour	Nominal Dia. of Cable	Approx. Weight
	no./mm	mm <sup>2</sup>	mm	mm	mm	mm	kg/km
1	1/0.80	0.5	0.5	6.3	0.9	10.7	200
2	1/0.80	0.5	0.5	7.1	0.9	11.5	260
5	1/0.80	0.5	0.5	11.6	0.9	16.2	460
10	1/0.80	0.5	0.5	15	1.25	20.7	790
15	1/0.80	0.5	0.5	17.1	1.25	22.8	1100
20	1/0.80	0.5	0.5	19.4	1.6	26	1280
30	1/0.80	0.5	0.5	23	1.6	29.8	1520
50	1/0.80	0.5	0.5	28.9	1.6	26.1	2100
1	16/0.20	0.5	0.6	7	0.9	11.4	250
2	16/0.20	0.5	0.6	7.9	0.9	12.3	300
5	16/0.20	0.5	0.6	13.1	0.9	17.9	560
10	16/0.20	0.5	0.6	17.2	1.25	22.9	970
15	16/0.20	0.5	0.6	19.8	1.6	26.4	1240
20	16/0.20	0.5	0.6	22.3	1.6	29.1	1640
30	16/0.20	0.5	0.6	26.9	1.6	33.9	1770
50	16/0.20	0.5	0.6	33.9	2	42.1	2770
1	1/1.13	1	0.6	7.4	0.9	11.8	290
2	1/1.13	1	0.6	8.4	0.9	13	345
5	1/1.13	1	0.6	14.2	1.25	19.7	790
10	1/1.13	1	0.6	17.4	1.25	24.3	1310
15	1/1.13	1	0.6	21.3	1.6	28.1	1740
20	1/1.13	1	0.6	24.4	1.6	31.2	2040
30	1/1.13	1	0.6	29	1.6	36.2	2180
50	1/1.13	1	0.6	37.3	2	45.7	3500
1	7/0.53	1.5	0.6	8.3	0.9	12.9	320
2	7/0.53	1.5	0.6	9.7	0.9	14.3	420
5	7/0.53	1.5	0.6	16.4	1.25	22.1	940
10	7/0.53	1.5	0.6	21.6	1.6	28.4	1500
15	7/0.53	1.5	0.6	25.2	1.6	32.2	1970
20	7/0.53	1.5	0.6	28.5	2	36.5	2400
30	7/0.53	1.5	0.6	34.3	2	42.5	3170
50	7/0.53	1.5	0.6	43.6	2.5	53.4	5020