

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 armoured version are well adapted to underground use in industrial applications where chemical and mechanical protections are needed (refinery areas, chemical plant...).

Construction

CONDUCTOR	Annealed copper, sizes: 0.5mm ² and 0.75mm ² multistranded(Class 5), 1.5mm ² and 2.5mm ² 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	Multicore cables: up to 40 cores yellow with black numbers, 41 - 80 cores black with yellow numbers. Multipair cables:See technical information
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
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

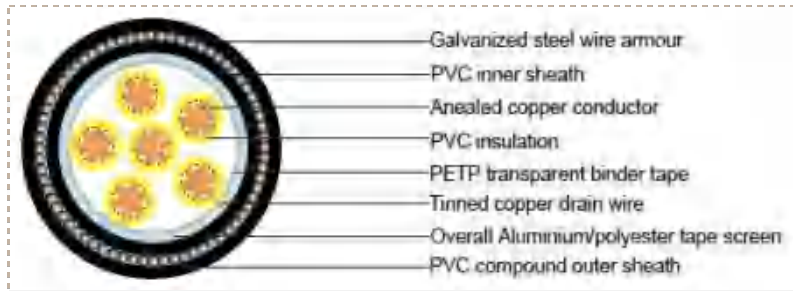
Electrical Properties

Temperature range: above 0°C(fixed installation)

-15°C to +65°C(during operation)

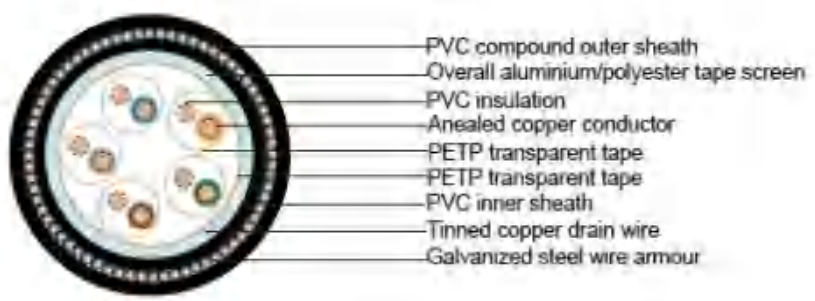
CONDUCTOR AREA SIZE	MM²	0.5	0.5	1.0	1.5	2.5
CONDUCTOR STRANDING	NO. X MM	1 x 0.8	16 x 0.2	1 x 1.13	7 x 0.53	7 x 0.67
CONDUCTOR RESISTANCE MAX	OHM/KM	36.8	39.7	18.4	12.3	7.6
INSULATION RESISTANCE MIN	INDIVIDUAL CONDUCTOR	GOHM/KM	5	5	5	5
	INDIVIDUAL SCREEN	MOHM/KM	1	1	1	1
CAPACITANCE UNBALANCE AT 1 KHZ(PAIR 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	PF/M	115	115	115	120	140

IS/OS CABLES (INCLUDE 1 PAIR AND 2 PAIR)						
MAX. L/R RATIO FOR ADJACENT CORES(INDUCTANCE/RESISTANCE)	MH/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
Multicore**


NUMBER OF CORES	NOMINAL THICKNESS OF INSULATION	NOMINAL THICKNESS OF BEDDING	NOMINAL DIAMETER OVER BEDDING	NOMINAL THICKNESS OF ARMOUR	NOMINAL DIAMETER OVER ARMOUR	NOMINAL THICKNESS OF SHEATH	NOMINAL DIAMETER OF CABLE
	MM	MM	MM	MM		MM	MM
stranded conductor 0.5 mm ² (16/0.20mm)							
2	0.6	0.8	6	0.9	7.8	1.3	10.4
3	0.6	0.8	6.3	0.9	8.1	1.3	10.7
4	0.6	0.8	6.9	0.9	8.7	1.3	11.3
6	0.6	0.8	8.1	0.9	9.9	1.4	12.7
10	0.6	0.9	10.4	1.25	12.9	1.5	15.9
20	0.6	1	13.5	1.25	16	1.5	19
40	0.6	1.2	18.2	1.6	21.4	1.7	24.8
80	0.6	1.4	25.1	2	29.1	1.9	32.9
stranded conductor 0.75 mm ² (24/0.20mm)							
2	0.6	1.3	10.8	0.8	6.4	0.9	8.2
3	0.6	1.3	11.2	0.8	6.8	0.9	8.6
4	0.6	1.4	12	0.8	7.4	0.9	9.2
6	0.6	1.4	13.5	0.9	8.9	0.9	10.7
10	0.6	1.5	17	1	11.5	1.25	14

20	0.6	1.6	20.5	1.1	14.8	1.25	17.3
40	0.6	1.7	26.5	1.3	19.9	1.6	23.1
80	0.6	2	35.5	1.5	27.5	2	31.5
stranded conductor 1.5 mm ² (7/0.53mm)							
2	0.6	0.8	7.3	0.9	9.1	1.4	11.9
3	0.6	0.8	7.7	0.9	9.5	1.4	12.3
4	0.6	0.9	8.7	0.9	10.5	1.4	13.3
6	0.6	0.9	10.3	1.25	12.8	1.5	15.8
10	0.6	1	13.3	1.25	15.8	1.5	18.8
20	0.6	1.2	17.4	1.6	20.6	1.7	24
40	0.6	1.4	23.4	1.6	26.6	1.8	30.2
80	0.6	1.7	32.6	2	36.6	2.1	40.8
stranded conductor 2.5 mm ² (7/0.67mm)							
2	0.6	0.8	8.1	0.9	9.9	1.4	12.7
3	0.6	0.9	8.8	0.9	10.6	1.4	13.4
4	0.6	0.9	9.7	0.9	11.5	1.4	14.3
6	0.6	1	11.7	1.25	14.2	1.5	17.2
10	0.6	1.1	15.1	1.6	18.3	1.6	21.5
20	0.6	1.3	19.9	1.6	23.1	1.7	26.5
40	0.6	1.5	26.7	2	30.7	2	34.7
80	0.6	1.9	37.3	2.5	42.3	2.3	46.9

Multipair


Number of Pairs	Nominal Thickness of Insulation	Nominal Thickness of bedding	Nominal Diameter over Bedding	Nominal Thickness of Armour	Nominal Diameter over Armour	Nominal Thickness of Sheath	Nominal Diameter of Cable
	mm	mm	mm	mm	mm	mm	mm

stranded conductor 0.5 mm² (16/0.20mm)

1	0.6	0.8	6	0.9	7.8	1.3	10.4
2	0.6	0.8	6.9	0.9	8.7	1.3	11.3
5	0.6	1	11.9	0.9	13.7	1.5	16.7
10	0.6	1.1	16.4	1.25	18.9	1.6	22.1
15	0.6	1.2	19	1.6	22.2	1.7	25.6
20	0.6	1.3	21.5	1.6	24.7	1.8	28.3
30	0.6	1.5	25.7	1.6	28.9	1.9	32.7
50	0.6	1.7	32.9	2	36.9	2.1	41.1

stranded conductor 0.75 mm² (24/0.20mm)

1	0.6	0.8	6.4	0.9	8.2	1.3	10.8
2	0.6	0.8	7.4	0.9	9.2	1.4	12
5	0.6	1	12.8	1.25	15.3	1.5	18.3
10	0.6	1.2	17.9	1.6	21.1	1.7	24.5
15	0.6	1.3	20.9	1.6	24.1	1.8	27.7
20	0.6	1.4	23.6	1.6	26.8	1.9	30.6
30	0.6	1.5	27.9	1.6	31.1	2	35.1
50	0.6	1.8	35.9	2	39.9	2.2	44.3

stranded conductor 1.5 mm² (7/0.53mm)

1	0.6	0.8	7.3	0.9	9.1	1.4	11.9
2	0.6	0.9	8.7	0.9	10.5	1.4	13.3
5	0.6	1.1	15.1	1.25	17.6	1.6	20.8
10	0.6	1.3	21.1	1.6	24.3	1.8	27.9
15	0.6	1.4	24.6	1.6	27.8	1.9	31.6
20	0.6	1.5	27.7	1.6	30.9	2	34.9
30	0.6	1.7	33	2	37	2.1	41.2
50	0.6	2.1	42.7	2.5	47.7	2.4	52.5

stranded conductor 2.5 mm² (7/0.67mm)

1	0.6	0.8	8.1	0.9	9.9	1.4	12.7
2	0.6	0.9	9.7	0.9	11.5	1.4	14.3

5	0.6	1.2	17.2	1.25	19.7	1.7	23.1
10	0.6	1.4	24.1	1.6	27.3	1.9	31.1
15	0.6	1.6	28.2	1.6	31.4	2	35.4
20	0.6	1.7	31.8	2	35.8	2.1	40
30	0.6	1.9	37.9	2	41.9	2.3	46.5
50	0.6	2.3	48.9	2.5	53.9	2.6	59.1