



OmanCables
الكابلات العمانية

**BUILDING
SUSTAINABLE
GROWTH**

INSTRUMENTATION CABLES CATALOGUE





CONTENTS

Introduction

Introduction to Instrumentation Cables.....

Typical Cable Construction

Electrical Parameters.....

Technical Parameters.....

01

03

05

07

09

Table Nos.	Cable Code	Cable Type
Table-1	Y(St)Y	CU/PVC/OSCR/PVC
Table-2	Y(Stst)Y	CU/PVC/IOSCR/PVC
Table-3	Y(St)WY	CU/PVC/OSCR/SWA/PVC
Table-4	Y(Stst)WY	CU/PVC/IOSCR/SWA/PVC
Table-5	2X(St)Y	CU/XLPE/OSCR/PVC
Table-6	2X(Stst)Y	CU/XLPE/IOSCR/PVC
Table-7	2X(St)WY	CU/XLPE/OSCR/SWA/PVC
Table-8	2X(Stst)WY	CU/XLPE/IOSCR/SWA/PVC
Table-9	FS 2X(St)WZ	FS CU/MICA/XLPE/OSCR/SWA/LSZH
Table-10	FS 2X(Stst)WZ	FS CU/MICA/XLPE/IOSCR/SWA/LSZH
Table-11	2X(St)LCWY	CU/XLPE/OSCR/LEAD/SWA/PVC
Table-12	2X(Stst)LCWY	CU/XLPE/IOSCR/LEAD/SWA/PVC
Table-13	2X(St)(DRL)WY	CU/XLPE/OSCR/DRYLAM/SWA/PVC
Table-14	2X(Stst)(DRL)WY	CU/XLPE/IOSCR/DRYLAM/SWA/PVC

Quality Guidelines: General.....

Certificates

44

46

OMAN CABLES

INDUSTRY

DEDICATED TO

DELIVERING EXCELLENCE

IN THE CABLE


MANUFACTURING

INDUSTRY


Oman Cables Industry SAOG develops, manufactures and markets a totally integrated variety of electrical products, which include medium voltage power cables, low voltage power & control cables, instrumentation cables, pilot cables, overhead power transmission line conductors and building wires. Oman Cables also offers cables with special features and customized solutions.

Our cable and wire products provide a comprehensive range of construction material putting quality, compliance and a strong customer focus at the heart of operations.


MARKET SEGMENTS




Utilities
(Power & Water)




Building and
Construction
Industries




Oil & Gas and
Petrochemicals



Industrial, Mining
& Processing
Plants



Transportation
& Infrastructure



Renewables

Being a leading cable supplier, we believe cables are fundamental to every project. By sharing our technical expertise and creating a highly customer-centric approach to how we operate, we can help our clients create cable connections that deliver the performance their projects demand.

INTRODUCTION TO INSTRUMENTATION CABLES

INTRODUCTION TO INSTRUMENTATION CABLES

Instrumentation cables are multi-conductor cables that carry and transport low voltage electrical signals. These low voltage signals are used to control and monitor electrical power systems. Instrumentation cables have many different industrial applications that include broadcasting, equipment control such as drilling and pumping in the oil and gas industry, and data transfer which includes analog and digital signals. They are manufactured according to the BS EN 50288-7 and BS EN 50288-1 standards to ensure quality.

Instrumentation cables come in twisted pairs, triads, and quads depending on the customers applications; twisting reduces any electromagnetic interference by reducing the chances of electrical voltages and currents being induced in the conductor. Individual and overall screening are also applied in instrumentation cables to optimize the signal transferred and further reduce any electromagnetic interference. Screening of pairs, triads or quads also includes a drain wire earthed to the ground which ensures a noise free signal transmission.

Depending on the application, instrumentation cables can be insulated with PVC or XLPE; the cables can be armoured or unarmoured. The sheathing materials can be of PVC, LSZH or PE. The cables can have additional flame retardant or flame retardant properties, and they can be manufactured with special protections such as lead sheaths, or DRYLAM or AIRBAG technology.



TYPICAL CABLE CONSTRUCTION

CONSTRUCTION

Conductor

Instrumentation cable shall have annealed plain copper conductor or tinned copper conductor. Depending upon cable application, conductor can be solid (Class-1), Stranded (Class-2) or flexible (Class-5) type as defined in BS EN / IEC 60228.

Insulation

Instrumentation cable shall have PVC, XLPE or HR-PVC insulation. Insulation material shall be selected based on maximum operating temperature. PVC insulation is suitable for continuous operating temperature of 70°C whereas XLPE or HR-PVC is suitable for continuous operating temperature of 90°C. Fire rated / fire resistance instrumentation cables shall have Glass Mica Tape layer below insulation & shall have XLPE insulation.

Individual and Overall Screen

The screen is made of aluminum mylar tape + ATC drain wire. Aluminum mylar tape is made of aluminum with a thin layer of polyester. It helps in minimizing the cross talk and prevents shorting.

Armour

Steel wire armour is applied to cables to shield against mechanical stresses and ensure that the core of the cable remains protected.

Inner and Outer Sheath

The sheath can be made of PVC, Polyethylene or LSZH.



ELECTRICAL PARAMETERS

ELECTRICAL PARAMETERS

Voltage Grades: 90V, 300V, 500V, 1000V

Cable Type: Pair, Triad, Quad

Cable Standards: BS EN 50288-7, IEC 60502-1 (General)

Conductor Size	Max. Conductor DC Resistance at 20 °C for Plain Copper		Max. Conductor DC Resistance at 20 °C for Tinned Copper	
	Solid, Class–1 & Stranded, Class–2	Flexible, Class–5	Solid, Class–1 & Stranded, Class–2	Flexible, Class–5
[mm²]	[Ω/km]	[Ω/km]	[Ω/km]	[Ω/km]
0.50	36.72	39.78	37.434	40.902
0.75	24.99	26.52	25.296	27.234
1.00	18.462	19.89	18.564	20.4
1.50	12.342	13.566	12.444	13.974
2.50	7.5582	8.1396	7.7112	8.3742

Conductor Size	Insulation Thickness			
	90V	300V	500V	1000V
[mm²]	[mm]	[mm]	[mm]	[mm]
0.50	0.20	0.26	0.44	0.70
0.75	0.20	0.26	0.44	0.70
1.00	0.26	0.26	0.44	0.70
1.50	0.30	0.35	0.44	0.70
2.50	-	-	0.53	0.70

Conductor Size	Mutual Capacitance		Max. Continuous Operating Temperature		Inductance to Resistance Ratio (L/R)
	XLPE	PVC	XLPE or HR–PVC	PVC	
[mm²]	[nF/km]	[nF/km]	[°C]	[°C]	[μH/Ω]
0.50	150	250	90	70	< 25
0.75	150	250	90	70	< 25
1.00	150	250	90	70	< 25
1.50	150	250	90	70	< 40
2.50	150	250	90	70	< 60

TECHNICAL PARAMETERS

Y(S+Y):
CU/PVC/OSCR/PVC

CONSTRUCTION:

1. Conductor

Annealed plain copper or tinned copper.

Conductor type: solid conductor (class-1) or stranded conductor (class-2) or flexible conductor (class-5).

2. Insulation

PVC TI-51 or HR PVC

3. Screen

Overall screen with aluminium polyester (mylar) tape in electrically contact with atc drain wire.

4. Outer Sheath

Outer sheath shall be of PVC.

Voltage Grade:

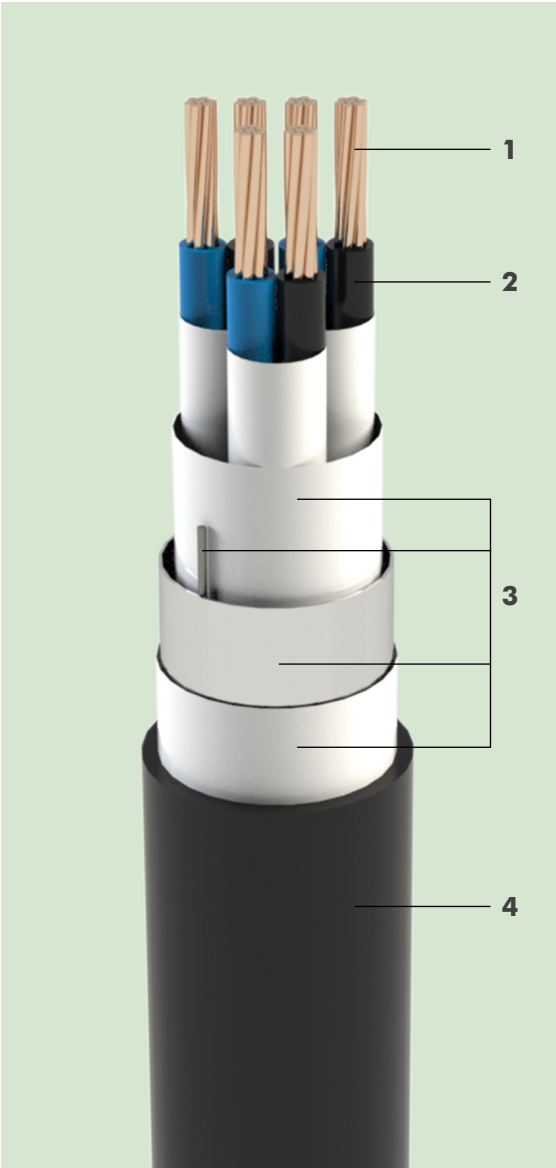
90V, 300V, 500V, 1000V

Cable Type :

Pair, Triad, Quad

Applicable Standard:

BS EN 50288-7, IEC 60502-1 (General)



CORE IDENTIFICATION



Paired Cores



Triad Cores




Quad Cores

Paired/Triad/Quad Identification: number print (on cores or tape).
Core's & Pair/Triad/Quad's identification can be provided based on project requirements too.


CABLE PERFORMANCE & CHARACTERISTICS

MINIMUM
INSTALLATION
TEMPERATURE




-15°C (PVC)
-15°C (LSZH)
(-40°C For Arctic
Grade)

CONTINUOUS
OPERATING
TEMPERATURE




+90°C (HR-PVC)
+70°C (PVC)

SHORT
CIRCUIT
TEMPERATURE




+160°C
(HR-PVC & PVC)

MINIMUM
BENDING
RADIUS



10 X OD

FLAME
BEHAVIOUR



IEC 60332-1
ICE 60332-3-22 or
ICE 60332-2-24

Table 1: Instrumentation Cables — PVC Insulated, Overall Screened, Unarmoured PVC Sheathed Cables.

Number of Pair	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
1	6.5	7.0	7.5	8.0	9.0	50	60	70	80	110	1000
2	9.0	10.0	10.5	11.5	14.0	85	105	120	145	205	1000
5	11.5	13.0	13.5	15.0	17.5	155	195	230	285	415	1000
10	16.5	17.5	19.0	21.0	25.5	280	350	415	535	800	1000
20	21.0	23.0	24.5	27.5	33.0	495	635	765	990	1490	1000
30	24.5	27.0	29.0	32.5	-	705	910	1110	1445	-	500

Number of Triad	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
1	7	7.5	7.5	8.5	10	60	75	85	100	145	1000
2	10	11	11.5	13	15	110	135	155	195	275	1000
5	13	14	15	16.5	20	210	260	310	400	590	1000
10	18	20	21	23.5	28.5	375	485	585	750	1135	1000
20	23.5	26	27.5	31	-	690	895	1085	1405	-	500
30	28	30.5	33	-	-	990	1290	1585	-	-	500

Number of Quad	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
1	7.5	8	8.5	9	10.5	75	85	100	125	180	1000
2	12.5	13.5	14.5	16	19.5	140	175	205	260	375	1000
5	16	17.5	19	21	25	275	345	410	530	795	1000
10	23	25	27	30	36	510	645	785	1015	1525	1000
20	29.5	32.5	35	-	-	930	1205	1455	-	-	500
30	35.5	-	-	-	-	1345	-	-	-	-	500

Note: Cable OD and Cable weight are subjected to change based on latest manufacturing practice.

Y(Stst)Y:
CU/PVC/IOSCR/PVC

CONSTRUCTION:

1. Conductor

Annealed plain copper or tinned copper.

Conductor type: solid conductor (class-1) or stranded conductor (class-2) or flexible conductor (class-5).

2. Insulation

PVC TI-51 or HR PVC

3. Screen

Individual screen & overall screen with aluminium polyester (mylar) tape in electrically contact with atc drain wire.

4. Outer Sheath

Outer sheath shall be of PVC.

Voltage Grade:

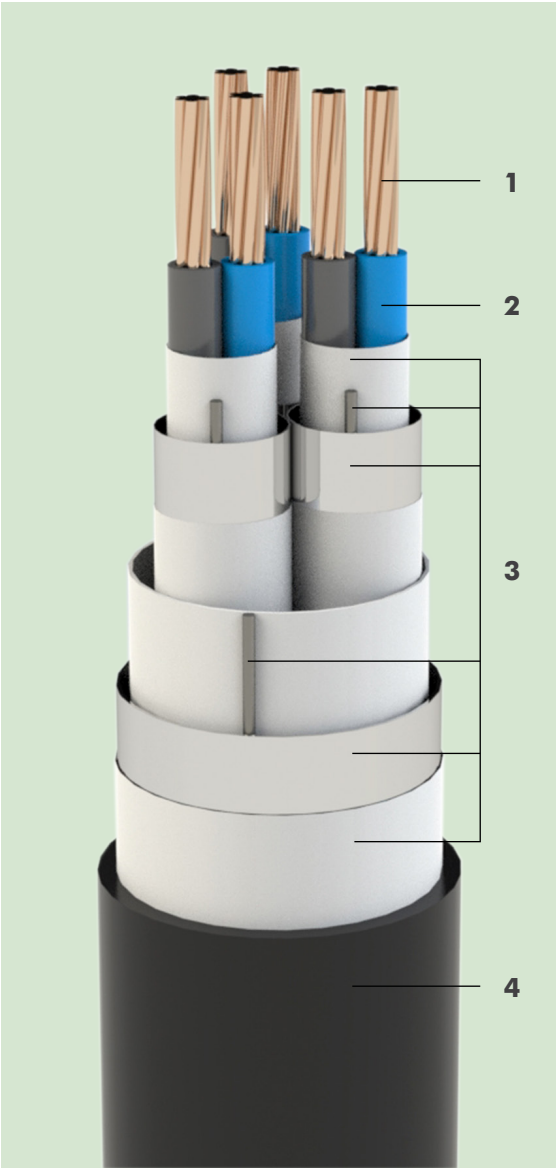
90V, 300V, 500V, 1000V

Cable Type:

Pair, Triad, Quad

Applicable Standard:

BS EN 50288-7, IEC 60502-1 (General)



CORE IDENTIFICATION



Paired Cores



Triad Cores



Quad Cores

Paired/Triad/Quad Identification: number print (on cores or tape).

Core's & Pair/Triad/Quad's identification can be provided based on project requirements too.

CABLE PERFORMANCE & CHARACTERISTICS

MINIMUM INSTALLATION TEMPERATURE	CONTINUOUS OPERATING TEMPERATURE	SHORT CIRCUIT TEMPERATURE	MINIMUM BENDING RADIUS	FLAME BEHAVIOUR
-15°C (PVC) -15°C (LSZH) (-40°C For Arctic Grade)	+90°C (HR-PVC) +70°C (PVC)	+160°C (HR-PVC & PVC)	10 X OD	IEC 60332-1 ICE 60332-3-22 or ICE 60332-2-24

Table 2: Instrumentation Cables — PVC Insulated, Individual & Overall Screened, Unarmoured PVC Sheathed Cables.

Number of Pair	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
2	10.0	11.0	11.5	12.5	15.0	105	120	135	170	230	1000
5	13.0	14.0	14.5	16.5	19.5	195	230	265	330	470	1000
10	18.0	19.5	20.5	23.0	27.5	360	430	495	620	895	1000
20	23.0	25.0	27.0	30.0	36.0	640	780	910	1165	1685	1000
30	27.5	30	32	36	-	925	1135	1330	1695	-	500

Number of Triad	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
2	11.0	12.0	13.0	14.0	16.5	125	155	180	215	300	1000
5	14.0	15.5	16.5	18.5	22.0	245	305	355	450	645	1000
10	20.0	22.0	23.5	26.0	31.0	455	565	670	845	1235	1000
20	26.0	28.5	30.5	34.0	-	840	1045	1260	1590	-	500
30	31.0	33.5	36.0	-	-	1220	1525	1820	-	-	500

Number of Quad	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
2	13.0	14.0	14.5	16.5	19.5	160	190	220	275	390	1000
5	16.5	18.0	19.0	21.5	25.5	310	385	455	575	835	1000
10	23.5	25.5	27.5	30.5	37.0	575	725	865	1100	1615	1000
20	30.5	33.5	35.5	-	-	1065	1350	1605	-	-	500
30	36.0	-	-	-	-	1550	-	-	-	-	500

Note: Cable OD and Cable weight are subjected to change based on latest manufacturing practice.

Y(S^t)WY:
CU/PVC/OSCR/SWA/PVC

CONSTRUCTION:

1. Conductor

Annealed plain copper or tinned copper.

Conductor type: solid conductor (class-1) or stranded conductor (class-2) or flexible conductor (class-5).

2. Insulation

PVC TI-51 or HR PVC

3. Screen

Overall screen with aluminium polyester (mylar) tape in electrically contact with ATC drain wire.

4. Inner Sheath

Inner sheath shall be of PVC.

5. Armour

Galvanised steel round wire armour.

6. Outer Sheath

Outer sheath shall be of PVC.

Voltage Grade:

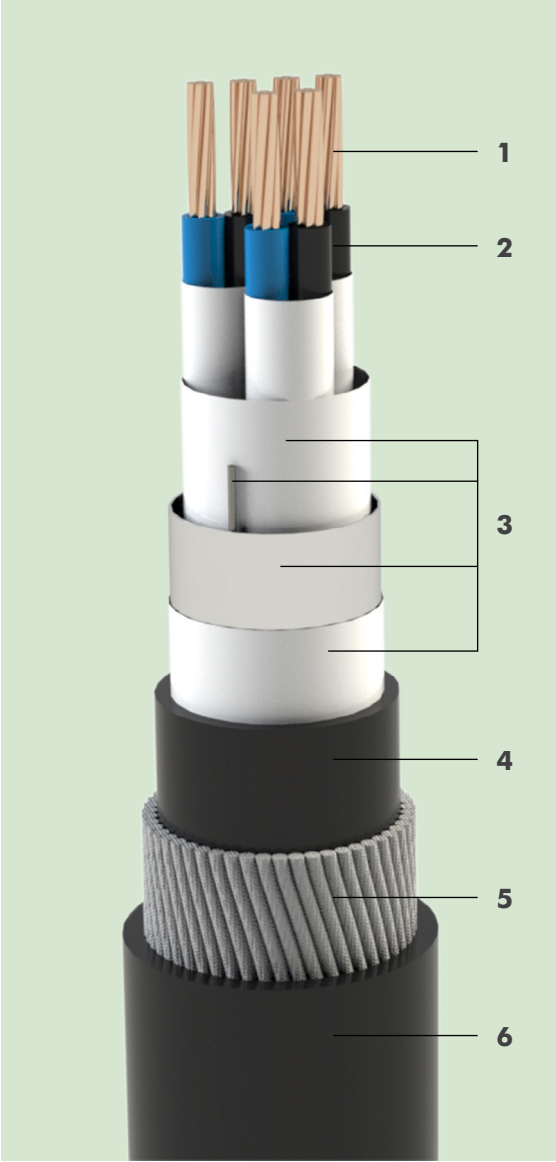
90V, 300V, 500V, 1000V

Cable Type:

Pair, Triad, Quad

Applicable Standard:

BS EN 50288-7, IEC 60502-1 (General)



CORE IDENTIFICATION



Paired/Triad/Quad Identification: number print (on cores or tape).
Core's & Pair/Triad/Quad's identification can be provided based on project requirements too.

CABLE PERFORMANCE & CHARACTERISTICS

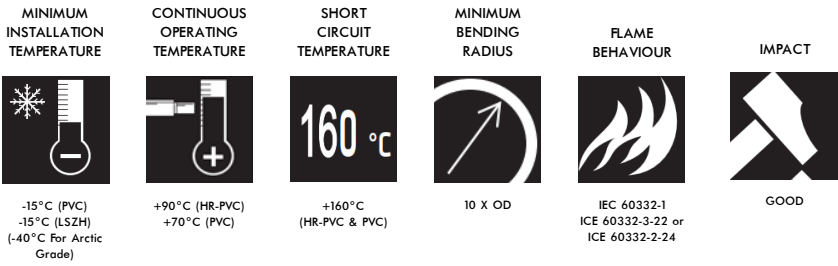


Table 3: Instrumentation Cables — PVC Insulated, Overall Screened, Wire Armoured PVC Sheathed Cables.

Number of Pair	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
1	10.0	10.5	11.0	11.5	13.0	190	205	220	245	300	1000
2	13.0	14.0	14.5	15.5	18.0	275	315	345	385	495	1000
5	15.5	17.0	17.5	19.0	22.5	395	470	520	595	900	1000
10	20.5	22.5	23.5	26.0	30.5	620	830	925	1105	1495	1000
20	26.0	28.0	29.5	32.5	39.0	1065	1255	1425	1740	2615	1000
30	30.0	32	34.5	38.5	-	1385	1655	1925	2545	-	500

Number of Triad	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
1	10.5	11.0	11.5	12.0	13.5	205	225	245	280	350	1000
2	14.0	15.0	15.5	17.0	19.0	325	365	400	470	595	1000
5	17.0	18.0	19.0	21.0	25.0	485	555	625	760	1130	1000
10	23.0	25.0	26.5	28.5	34.0	870	1030	1165	1400	1930	1000
20	28.5	31.0	33.0	37.0	-	1325	1605	1845	2455	-	500
30	33.0	36.5	39.0	-	-	1755	2315	2710	-	-	500

Number of Quad	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
1	11.0	11.5	12.0	13.0	14.5	225	255	275	315	405	1000
2	16.5	17.5	18.5	20.0	24.0	400	465	510	600	895	1000
5	20.0	22.5	23.5	26.0	30.5	615	825	920	1100	1490	1000
10	28.0	30.0	32.0	36.0	42.5	1135	1330	1525	2025	2770	1000
20	36.0	39.0	41.0	-	-	1935	2325	2645	-	-	500
30	41.5	-	-	-	-	2555	-	-	-	-	500

Note: Cable OD and Cable weight are subjected to change based on latest manufacturing practice.

Y(Stst)WY:
CU/PVC/IOSCR/SWA/PVC

CONSTRUCTION:

1. Conductor

Annealed plain copper or tinned copper.

Conductor type: solid conductor (class-1) or stranded conductor (class-2) or flexible conductor (class-5).

2. Insulation

PVC TI-51 or HR PVC

3. Screen

Individual screen & overall screen with aluminium polyester (mylar) tape in electrically contact with atc drain wire.

4. Inner Sheath

Inner sheath shall be of PVC.

5. Armour

Galvanised steel round wire armour.

6. Outer Sheath

Outer sheath shall be of PVC.

Voltage Grade:

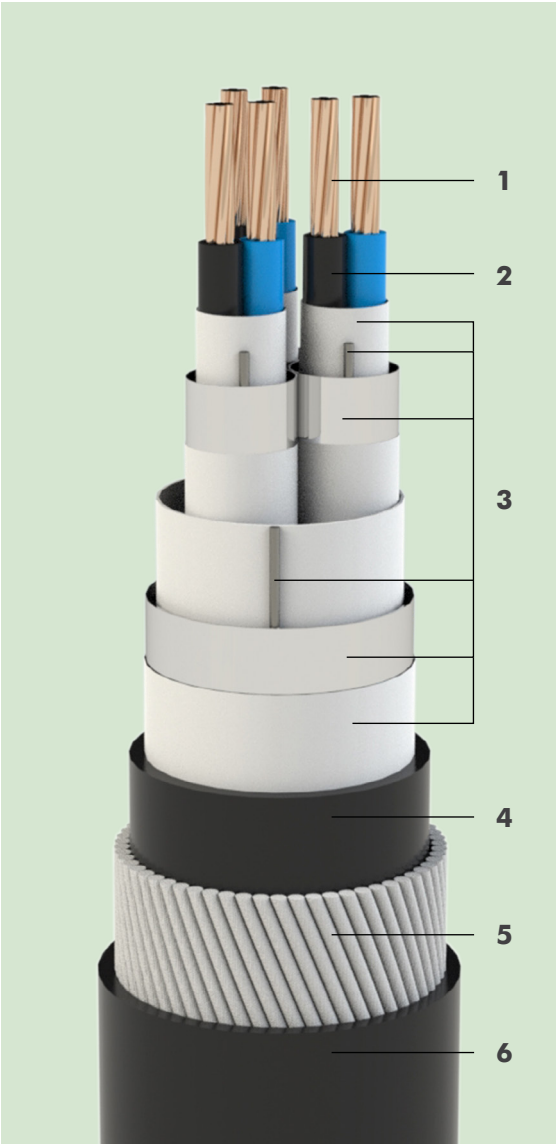
90V, 300V, 500V, 1000V

Cable Type:

Pair, Triad, Quad

Applicable Standard:

BS EN 50288-7, IEC 60502-1 (General)



CORE IDENTIFICATION



Paired/Triad/Quad Identification: number print (on cores or tape).
Core's & Pair/Triad/Quad's identification can be provided based on project requirements too.

CABLE PERFORMANCE & CHARACTERISTICS

MINIMUM INSTALLATION TEMPERATURE	CONTINUOUS OPERATING TEMPERATURE	SHORT CIRCUIT TEMPERATURE	MINIMUM BENDING RADIUS	FLAME BEHAVIOUR	IMPACT
-15°C (PVC) -15°C (LSZH) (-40°C For Arctic Grade)	+90°C (HR-PVC) +70°C (PVC)	+160°C (HR-PVC & PVC)	10 X OD	IEC 60332-1 ICE 60332-3-22 or ICE 60332-2-24	GOOD

Table 4: Instrumentation Cables — PVC Insulated, Individual & Overall Screened, Wire Armoured PVC Sheathed Cables.

Number of Pair	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
2	14.0	14.5	15.5	16.5	19.0	315	345	375	435	550	1000
5	17.0	18.0	18.5	20.5	24.5	470	520	575	680	1000	1000
10	23.0	24.5	25.5	28.0	34.0	840	960	1065	1265	1840	1000
20	28.0	30.5	32.0	36.5	42.5	1270	1480	1650	2200	2930	1000
30	32.5	36.0	38.0	42.0	-	1690	2160	2430	2935	-	500

Number of Triad	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
2	15.0	16.0	17.0	18.0	21.5	360	415	455	510	760	1000
5	18.0	19.5	20.5	23.0	27.0	545	630	710	945	1240	1000
10	25.0	27.0	28.5	31.0	37.5	1000	1160	1315	1555	2300	1000
20	31.0	34.5	36.5	40.0	-	1550	2010	2300	2755	-	500
30	37.0	40.0	42.5	-	-	2280	2685	3065	-	-	500

Number of Quad	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
2	17.0	18.0	18.5	20.5	24.5	435	485	530	630	920	1000
5	20.5	23.0	24.0	26.5	30.5	665	880	975	1160	1530	1000
10	28.5	30.5	33.0	37.0	43.0	1220	1430	1630	2140	2885	1000
20	36.5	39.5	42.0	-	-	2105	2495	2845	-	-	500
30	42.5	-	-	-	-	2795	-	-	-	-	500

Note: Cable OD and Cable weight are subjected to change based on latest manufacturing practice.

2X(St)Y:
CU/XLPE/OSCR/PVC

CONSTRUCTION:

1. Conductor

Annealed plain copper or tinned copper.

Conductor type: solid conductor (class-1) or stranded conductor (class-2) or flexible conductor (class-5).

2. Insulation

XLPE

3. Screen

Overall screen with aluminium polyester (mylar) tape in electrical contact with atc drain wire.

4. Outer Sheath

Outer sheath shall be of PVC.

Voltage Grade:

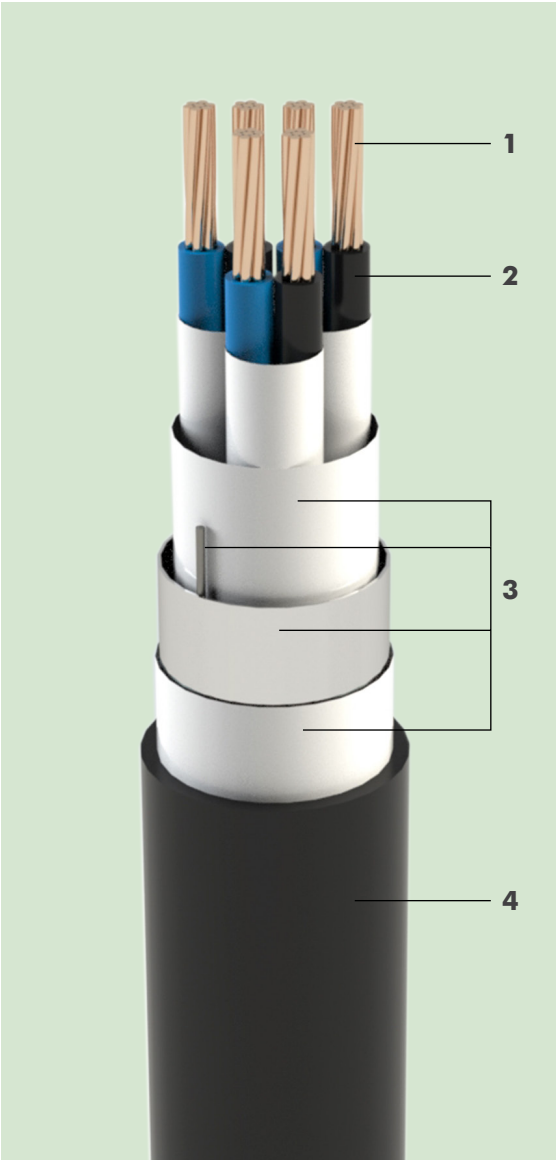
90V, 300V, 500V, 1000V

Cable Type:

Pair, Triad, Quad

Applicable Standard:

BS EN 50288-7, IEC 60502-1 (General)



CORE IDENTIFICATION



Paired Cores



Triad Cores



Quad Cores

Paired/Triad/Quad Identification: number print (on cores or tape).
Core's & Pair/Triad/Quad's identification can be provided based on project requirements too.

CABLE PERFORMANCE & CHARACTERISTICS

MINIMUM INSTALLATION TEMPERATURE	CONTINUOUS OPERATING TEMPERATURE	SHORT CIRCUIT TEMPERATURE	MINIMUM BENDING RADIUS	FLAME BEHAVIOUR	SMOKE DENSITY, CORROSIVITY AND TOXICITY
-15°C (PVC) -15°C (LSZH) (-40°C For Arctic Grade)	+90°C (XPLE)	+250°C (XPLE)	10 X OD	IEC 60332-1 ICE 60332-3-22 or ICE 60332-2-24	LOW EMISSION (only FRLS or FR-RT or LSZH version)

Table 5: Instrumentation Cables — XLPE Insulated, Overall Screened, Unarmoured PVC Sheathed Cables.

Number of Pair	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
1	6.5	7.0	7.5	8.0	9.0	50	55	65	75	100	1000
2	9.0	10.0	10.5	11.5	14.0	80	95	110	135	190	1000
5	11.5	13.0	13.5	15.0	17.5	140	175	210	265	385	1000
10	16.5	17.5	19.0	21.0	25.5	250	315	375	490	735	1000
20	21.0	23.0	24.5	27.5	33.0	435	565	685	900	1360	1000
30	24.5	27.0	29.0	32.5	-	615	805	1000	1310	-	500

Number of Triad	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
1	7	7.5	7.5	8.5	10	55	70	80	95	135	1000
2	10	11	11.5	13	15	100	120	145	180	255	1000
5	13	14	15	16.5	20	185	235	280	365	540	1000
10	18	20	21	23.5	28.5	330	435	525	685	1035	1000
20	23.5	26	27.5	31	-	600	790	970	1275	-	500
30	28	30.5	33	-	-	855	1135	1415	-	-	500

Number of Quad	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
1	7.5	8.0	8.5	9.0	10.5	65	80	95	115	165	1000
2	12.5	13.5	14.5	16.0	19.5	130	160	190	240	350	1000
5	16.0	17.5	19.0	21.0	25.0	245	310	375	485	730	1000
10	23.0	25.0	27.0	30.0	36.0	450	575	710	925	1395	1000
20	29.5	32.5	35.0	-	-	810	1065	1305	-	-	500
30	35.5	-	-	-	-	1165	-	-	-	-	500

Note: Cable OD and Cable weight are subjected to change based on latest manufacturing practice.

2X(Stst)Y:
CU/XLPE/IOSCR/PVC

CONSTRUCTION:

1. Conductor

Annealed plain copper or tinned copper.

Conductor type: solid conductor (class-1) or stranded conductor (class-2) or flexible conductor (class-5).

2. Insulation

XLPE

3. Screen

Individual screen & overall screen with aluminium polyester (mylar) tape in electrically contact with ATC drain wire.

4. Outer Sheath

Outer sheath shall be of PVC.

Voltage Grade:

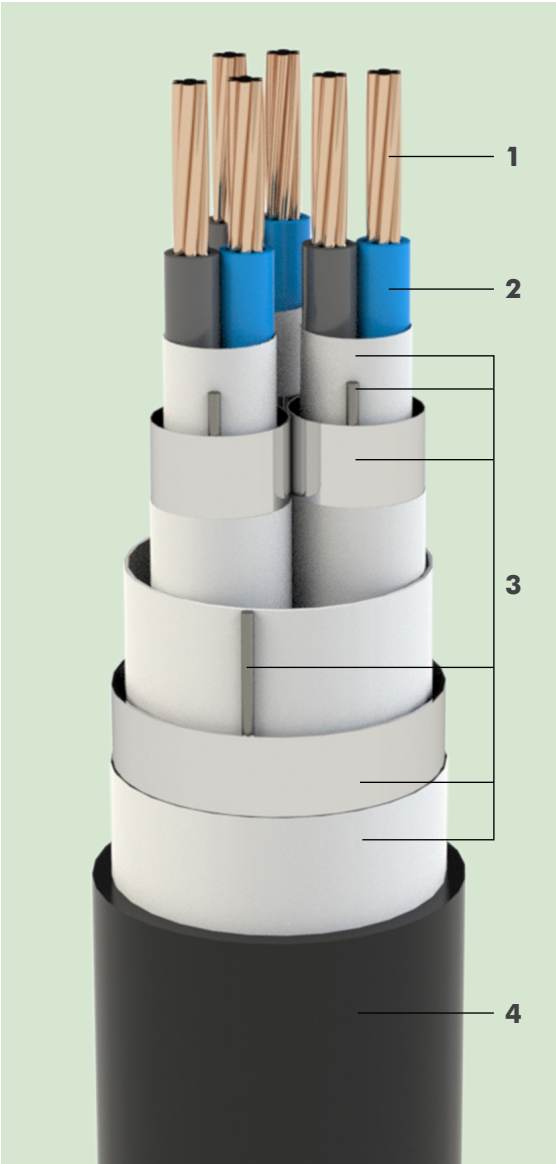
90V, 300V, 500V, 1000V

Cable Type:

Pair, Triad, Quad

Applicable Standard:

BS EN 50288-7, IEC 60502-1 (General)



CORE IDENTIFICATION



Paired Cores



Triad Cores



Quad Cores

Paired/Triad/Quad Identification: number print (on cores or tape).
Core's & Pair/Triad/Quad's identification can be provided based on project requirements too.

CABLE PERFORMANCE & CHARACTERISTICS

MINIMUM INSTALLATION TEMPERATURE	CONTINUOUS OPERATING TEMPERATURE	SHORT CIRCUIT TEMPERATURE	MINIMUM BENDING RADIUS	FLAME BEHAVIOUR	SMOKE DENSITY, CORROSIVITY AND TOXICITY
-15°C (PVC) -15°C (LSZH) (-40°C For Arctic Grade)	+90°C (XLPE)	+250°C (XLPE)	10 X OD	IEC 60332-1 ICE 60332-3-22 or ICE 60332-2-24	LOW EMISSION (only FRLS or FR-RT or LSZH version)

Table 6: Instrumentation Cables — XLPE Insulated, Individual & Overall Screened, Unarmoured PVC Sheathed Cables.

Number of Pair	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
2	10.0	11.0	11.5	12.5	15.0	100	115	130	160	220	1000
5	13.0	14.0	14.5	16.5	19.5	180	215	245	310	440	1000
10	18.0	19.5	20.5	23.0	27.5	330	395	455	575	835	1000
20	23.0	25.0	27.0	30.0	36.0	580	715	835	1075	1555	1000
30	27.5	30	32	36	-	835	1035	1215	1560	2265	500

Number of Triad	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
2	11.0	12.0	13.0	14.0	16.5	120	145	165	200	285	1000
5	14.0	15.5	16.5	18.5	22.0	225	280	330	415	595	1000
10	20.0	22.0	23.5	26.0	31.0	415	515	615	775	1140	1000
20	26.0	28.5	30.5	34.0	-	750	940	1145	1455	-	500
30	31.0	33.5	36.0	-	-	1085	1370	1650	-	-	500

Number of Quad	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
2	13.0	14.0	14.5	16.5	19.5	145	175	205	255	365	1000
5	16.5	18.0	19.0	21.5	25.5	280	355	415	530	770	1000
10	23.5	25.5	27.5	30.5	37.0	515	655	790	1010	1490	1000
20	30.5	33.5	35.5	-	-	945	1215	1455	-	-	500
30	36.0	-	-	-	-	1370	-	-	-	-	500

Note: Cable OD and Cable weight are subjected to change based on latest manufacturing practice.

2X(St)WY:
CU/XLPE/OSCR/SWA/PVC

CONSTRUCTION:

1. Conductor

Annealed plain copper or tinned copper.

Conductor type: solid conductor (class-1) or stranded conductor (class-2) or flexible conductor (class-5).

2. Insulation

XLPE

3. Screen

Overall screen with aluminium polyester (mylar) tape in electrically contact with ATC drain wire.

4. Inner Sheath

Inner sheath shall be of PVC.

5. Armour

Galvanised steel round wire armour.

6. Outer Sheath

Outer sheath shall be of PVC.

Voltage Grade:

90V, 300V, 500V, 1000V

Cable Type:

Pair, Triad, Quad

Applicable Standard:

BS EN 50288-7, IEC 60502-1 (General)

CORE IDENTIFICATION



Paired Cores

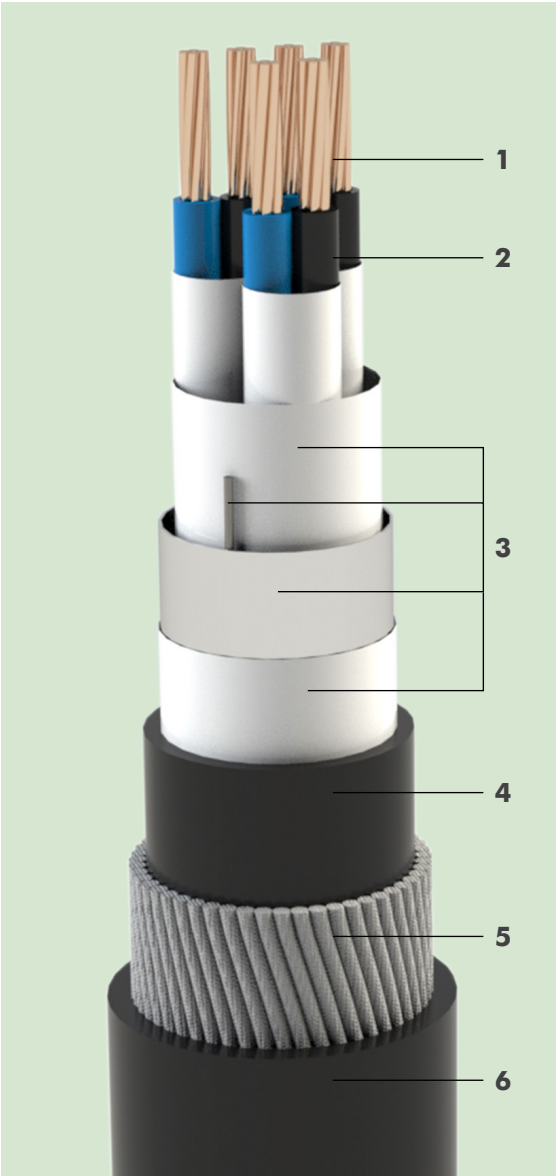


Triad Cores



Quad Cores

Paired/Triad/Quad Identification: number print (on cores or tape).
Core's & Pair/Triad/Quad's identification can be provided based on project requirements too.



CABLE PERFORMANCE & CHARACTERISTICS

MINIMUM INSTALLATION TEMPERATURE	CONTINUOUS OPERATING TEMPERATURE	SHORT CIRCUIT TEMPERATURE	MINIMUM BENDING RADIUS	FLAME BEHAVIOUR	SMOKE DENSITY, CORROSIVITY AND TOXICITY	IMPACT
-15°C (PVC) -15°C (LSZH) (-40°C For Arctic Grade)	+90°C (XLPE)	+250°C (XLPE)	10 X OD	IEC 60332-1 ICE 60332-3-22 or ICE 60332-2-24	LOW EMISSION (only FRLS or FR-RT or LSZH version)	GOOD

Table 7: Instrumentation Cables — XLPE Insulated, Overall Screened, Wire Armoured PVC Sheathed Cables.

Number of Pair	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
1	10.0	10.5	11.0	11.5	13.0	185	200	215	240	295	1000
2	13.0	14.0	14.5	15.5	18.0	270	310	335	375	480	1000
5	15.5	17.0	17.5	19.0	22.5	380	450	500	575	870	1000
10	20.5	22.5	23.5	26.0	30.5	590	795	885	1060	1435	1000
20	26.0	28.0	29.5	32.5	39.0	1005	1190	1350	1650	2485	1000
30	30.0	32	34.5	38.5	-	1295	1555	1810	2415	-	500

Number of Triad	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
1	10.5	11.0	11.5	12.0	13.5	200	220	240	270	340	1000
2	14.0	15.0	15.5	17.0	19.0	315	355	390	460	575	1000
5	17.0	18.0	19.0	21.0	25.0	460	530	600	725	1085	1000
10	23.0	25.0	26.5	28.5	34.0	825	975	1105	1330	1835	1000
20	28.5	31.0	33.0	37.0	-	1235	1500	1730	2320	-	500
30	33.0	36.5	39.0	-	-	1620	2160	2540	-	-	500

Number of Quad	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
1	11.0	11.5	12.0	13.0	14.5	220	245	265	305	390	1000
2	16.5	17.5	18.5	20.0	24.0	390	450	495	580	870	1000
5	20.0	22.5	23.5	26.0	30.5	585	795	880	1055	1425	1000
10	28.0	30.0	32.0	36.0	42.5	1075	1260	1450	1935	2645	1000
20	36.0	39.0	41.0	-	-	1815	2190	2495	-	-	500
30	41.5	-	-	-	-	2375	-	-	-	-	500

Note: Cable OD and Cable weight are subjected to change based on latest manufacturing practice.

2X(Stst)WY:
CU/XLPE/IOSCR/SWA/PVC

CONSTRUCTION:

1. Conductor

Annealed plain copper or tinned copper.

Conductor type: solid conductor (class-1) or stranded conductor (class-2) or flexible conductor (class-5).

2. Insulation

XLPE

3. Screen

Individual screen & overall screen with aluminium polyester (mylar) tape in electrically contact with ATC drain wire.

4. Inner Sheath

Inner sheath shall be of PVC.

5. Armour

Galvanised steel round wire armour.

6. Outer Sheath

Outer sheath shall be of PVC.

Voltage Grade:

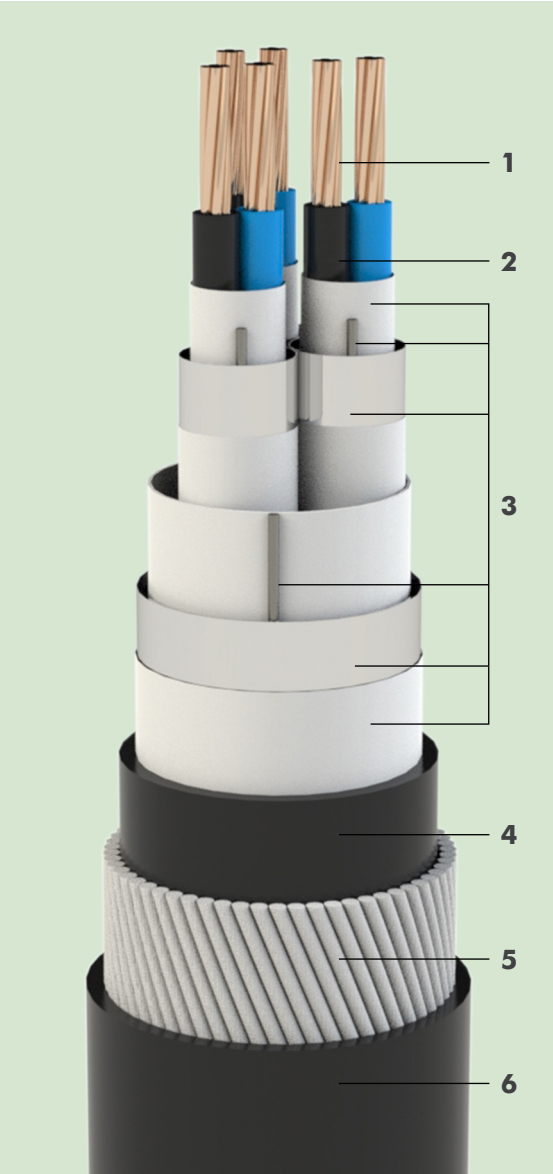
90V, 300V, 500V, 1000V

Cable Type:

Pair, Triad, Quad

Applicable Standard:

BS EN 50288-7, IEC 60502-1 (General)



CORE IDENTIFICATION



Paired Cores



Triad Cores



Quad Cores

Paired/Triad/Quad Identification: number print (on cores or tape).

Core's & Pair/Triad/Quad's identification can be provided based on project requirements too.

CABLE PERFORMANCE & CHARACTERISTICS

MINIMUM INSTALLATION TEMPERATURE	CONTINUOUS OPERATING TEMPERATURE	SHORT CIRCUIT TEMPERATURE	MINIMUM BENDING RADIUS	FLAME BEHAVIOUR	SMOKE DENSITY, CORROSIVITY AND TOXICITY	IMPACT
-15°C (PVC) -15°C (LSZH) (-40°C For Arctic Grade)	+90°C (XLPE)	+250°C (XLPE)	10 X OD	IEC 60332-1 ICE 60332-3-22 or ICE 60332-2-24	LOW EMISSION (only FRLS or FR-RT or LSZH version)	GOOD

Table 8: Instrumentation Cables – XLPE Insulated, Individual & Overall Screened, Wire Armoured PVC Sheathed Cables.

Number of Pair	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
2	14.0	14.5	15.5	16.5	19.0	310	340	370	430	535	1000
5	17.0	18.0	18.5	20.5	24.5	455	505	560	660	970	1000
10	23.0	24.5	25.5	28.0	34.0	810	925	1025	1220	1775	1000
20	28.0	30.5	32.0	36.5	42.5	1210	1410	1575	2115	2800	1000
30	32.5	36.0	38.0	42.0	-	1600	2055	2315	2800	-	500

Number of Triad	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
2	15.0	16.0	17.0	18.0	21.5	350	405	440	500	740	1000
5	18.0	19.5	20.5	23.0	27.0	520	605	685	910	1190	1000
10	25.0	27.0	28.5	31.0	37.5	955	1110	1260	1490	2205	1000
20	31.0	34.5	36.5	40.0	-	1460	1905	2185	2620	-	500
30	37.0	40.0	42.5	-	-	2145	2530	2895	-	-	500

Number of Quad	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
2	17.0	18.0	18.5	20.5	24.5	420	470	515	610	895	1000
5	20.5	23.0	24.0	26.5	30.5	635	845	935	1115	1465	1000
10	28.5	30.5	33.0	37.0	43.0	1160	1365	1555	2055	2755	1000
20	36.5	39.5	42.0	-	-	1990	2360	2695	-	-	500
30	42.5	-	-	-	-	2615	-	-	-	-	500

Note: Cable OD and Cable weight are subjected to change based on latest manufacturing practice.

FS 2X(S†)WZ: CU/GMT/XLPE/OSCR/SWA/LSZH

CONSTRUCTION:

1. Conductor

Annealed plain copper or tinned copper.

Conductor type: solid conductor (class-1) or stranded conductor (class-2) or flexible conductor (class-5).

2. Tape over Conductor

Glass mica

3. Insulation

XLPE

4. Screen

Overall screen with aluminium polyester (mylar) tape in electrically contact with ATC drain wire.

5. Inner Sheath

Inner sheath shall be of LSZH.

6. Armour

Galvanised steel round wire armour.

7. Outer Sheath

Outer sheath shall be of LSZH.

Voltage Grade:

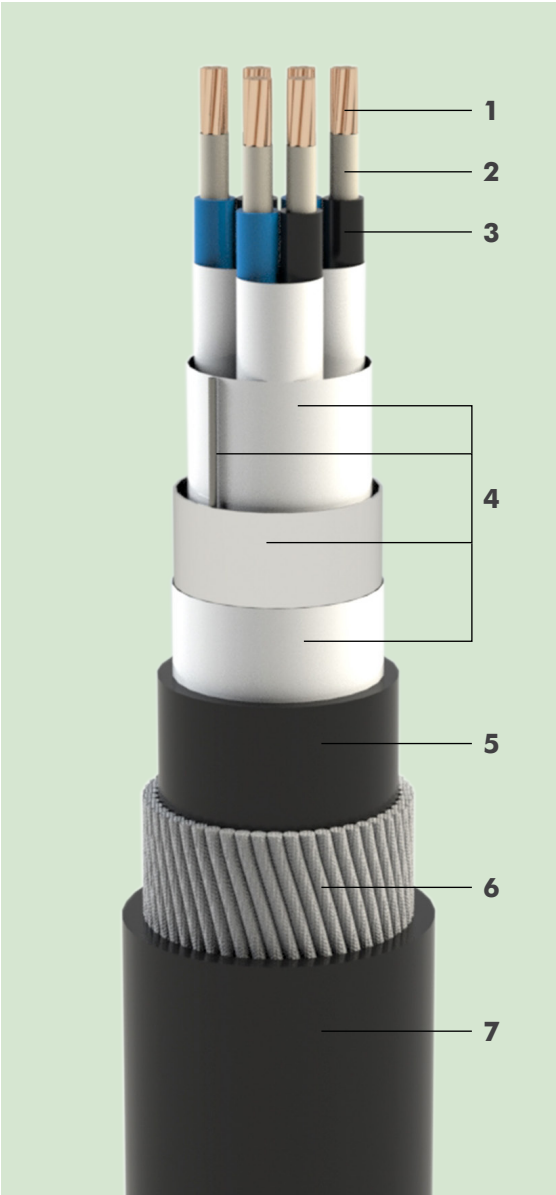
90V, 300V, 500V, 1000V

Cable Type:

Pair, Triad, Quad

Applicable Standard:

BS EN 50288-7, IEC 60502-1 (General)



CORE IDENTIFICATION



Paired/Triad/Quad Identification: number print (on cores or tape).
Core's & Pair/Triad/Quad's identification can be provided based on project requirements too.

CABLE PERFORMANCE & CHARACTERISTICS

MINIMUM INSTALLATION TEMPERATURE	CONTINUOUS OPERATING TEMPERATURE	SHORT CIRCUIT TEMPERATURE	MINIMUM BENDING RADIUS	FLAME BEHAVIOUR	SMOKE DENSITY, CORROSIVITY AND TOXICITY	IMPACT
-15°C (PVC) -15°C (LSZH) (-40°C For Arctic Grade)	+90°C (XPLE)	+250°C (XPLE)	10 X OD	IEC 60332-1 ICE 60332-3-22 or ICE 60332-2-24	LOW EMISSION (only FRLS or FR-RT or LSZH version)	GOOD

Table 9: Instrumentation Cables – Mica Tapped, XLPE Insulated, Overall Screened, Wire Armoured LSZH Sheathed Fire resistant Cables.

Number of Pair	Cable OD					Cable Weight					Drum Length
	0.5mm²	0.75mm²	1.0mm²	1.5mm²	2.5mm²	0.5mm²	0.75mm²	1.0mm²	1.5mm²	2.5mm²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
1	12.5	13.0	13.0	14.0	15.0	255	270	290	315	375	1000
2	16.5	17.5	18.0	19.0	21.5	395	435	465	510	625	1000
5	20.5	21.5	22.5	24.0	27.5	570	650	705	790	1130	1000
10	27.5	30.0	31.0	33.5	38.0	920	1180	1280	1475	1890	1000
20	35.5	37.5	39.5	-	-	1580	1795	1980	-	-	500

Number of Triad	Cable OD					Cable Weight					Drum Length
	0.5mm²	0.75mm²	1.0mm²	1.5mm²	2.5mm²	0.5mm²	0.75mm²	1.0mm²	1.5mm²	2.5mm²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
1	13.0	13.5	14.0	14.5	16.0	285	305	320	360	435	1000
2	18.5	19.0	19.5	21.0	23.5	465	505	540	625	750	1000
5	22.5	24.0	24.5	26.5	30.5	710	785	860	1000	1430	1000
10	31.5	33.5	34.5	37.0	-	1290	1465	1610	1865	-	500

Number of Quad	Cable OD					Cable Weight					Drum Length
	0.5mm²	0.75mm²	1.0mm²	1.5mm²	2.5mm²	0.5mm²	0.75mm²	1.0mm²	1.5mm²	2.5mm²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
1	13.5	14.0	14.5	15.5	17.0	315	340	365	410	500	1000
2	21.5	23.0	24.0	25.5	29.5	580	655	705	795	1130	1000
5	27.5	30.0	31.0	33.5	37.5	915	1165	1270	1470	1880	1000
10	39.0	-	-	-	-	1690	-	-	-	-	500

Note: Cable OD and Cable weight are subjected to change based on latest manufacturing practice.

FS 2X(Stst)WZ: CU/GMT/XLPE/IOSCR/SWA/LSZH

CONSTRUCTION:

1. Conductor

Annealed plain copper or tinned copper.

Conductor type: solid conductor (class-1) or stranded conductor (class-2) or flexible conductor (class-5).

2. Tape over Conductor

Glass mica

3. Insulation

XLPE

4. Screen

Individual screen & overall screen with aluminium polyester (mylar) tape in electrically contact with ATC drain wire.

5. Inner Sheath

Inner sheath shall be of LSZH.

6. Armour

Galvanised steel round wire armour.

7. Outer Sheath

Outer sheath shall be of LSZH.

Voltage Grade:

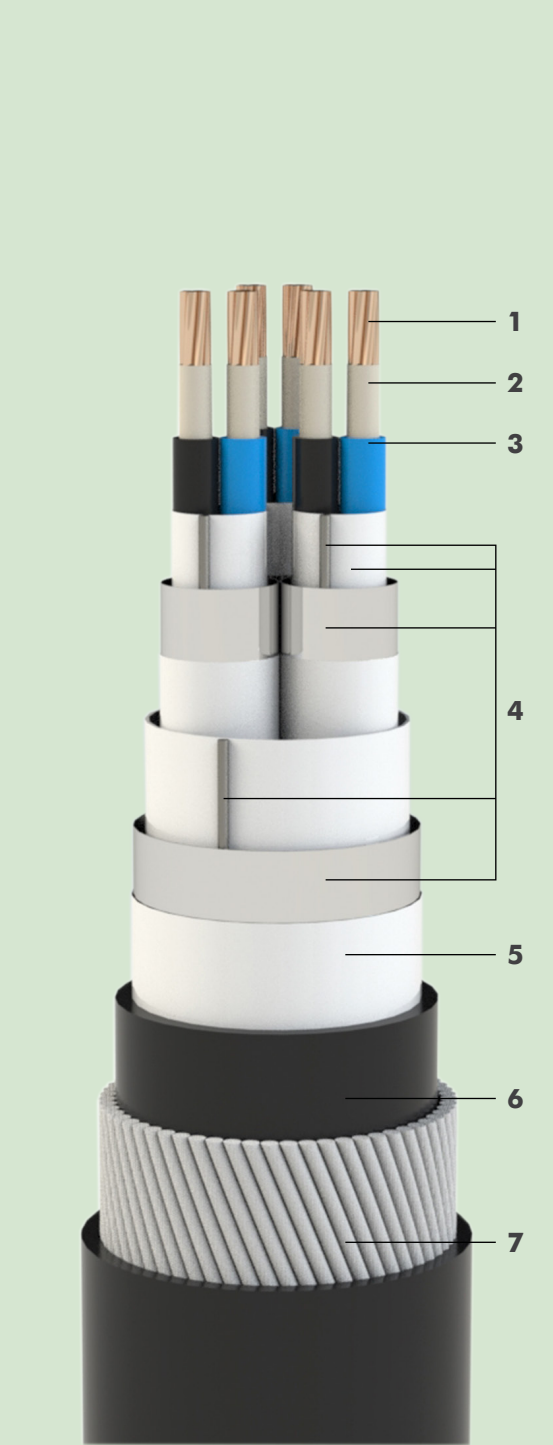
90V, 300V, 500V, 1000V

Cable Type:

Pair, Triad, Quad

Applicable Standard:

BS EN 50288-7, IEC 60502-1 (General)



CORE IDENTIFICATION



Paired/Triad/Quad Identification: number print (on cores or tape).
Core's & Pair/Triad/Quad's identification can be provided based on project requirements too.

CABLE PERFORMANCE & CHARACTERISTICS

MINIMUM INSTALLATION TEMPERATURE	CONTINUOUS OPERATING TEMPERATURE	SHORT CIRCUIT TEMPERATURE	MINIMUM BENDING RADIUS	FLAME BEHAVIOUR	SMOKE DENSITY, CORROSIVITY AND TOXICITY	IMPACT
-15°C (PVC) -15°C (LSZH) (-40°C For Arctic Grade)	+90°C (XPLE)	+250°C (XPLE)	10 X OD	IEC 60332-1 ICE 60332-3-22 or ICE 60332-2-24	LOW EMISSION (only FRLS or FR-RT or LSZH version)	GOOD

Table 10: Instrumentation Cables — Mica Tapped, XLPE Insulated, Individual & Overall Screened, Wire Armoured LSZH Sheathed Cables.

Number of Pair	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
2	18.0	18.5	19.5	20.5	23.0	440	475	505	570	690	1000
5	22.0	23.0	24.0	26.0	30.0	665	730	780	895	1255	1000
10	31.0	32.5	33.5	36.0	41.5	1205	1340	1450	1670	2300	1000
20	39.0	41.0	-	-	-	1840	2065	-	-	-	500

Number of Triad	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
2	19.5	20.5	21.5	22.5	26.0	505	570	610	675	950	1000
5	24.5	25.5	27.0	29.5	33.0	785	875	965	1240	1550	1000
10	34.0	36.0	37.5	40.0	-	1465	1630	1795	2070	-	500

Number of Quad	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
2	22.0	23.5	24.0	26.0	30.0	620	675	720	830	1160	1000
5	28.0	30.0	31.5	33.5	38.0	960	1225	1335	1535	1925	1000
10	39.5	41.5	-	-	-	1790	2015	-	-	-	500

Note: Cable OD and Cable weight are subjected to change based on latest manufacturing practice.

2X(S†)LCWY: CU/XLPE/OSCR/LEAD/SWA/PVC

CONSTRUCTION:

1. Conductor

Annealed plain copper or tinned copper.

Conductor type: solid conductor (class-1) or stranded conductor (class-2) or flexible conductor (class-5).

2. Insulation

XLPE

3. Screen

Overall screen with aluminium polyester (mylar) tape in electrically contact with ATC drain wire.

4. Inner Sheath

Inner sheath shall be of extruded/tapped bedding.

5. Metallic Sheath

Metallic sheath shall be of lead sheath

6. Separation Sheath

Separation sheath shall be of PVC.

7. Armour

Galvanised steel round wire armour.

8. Outer Sheath

Outer sheath shall be of PVC.

Voltage Grade:

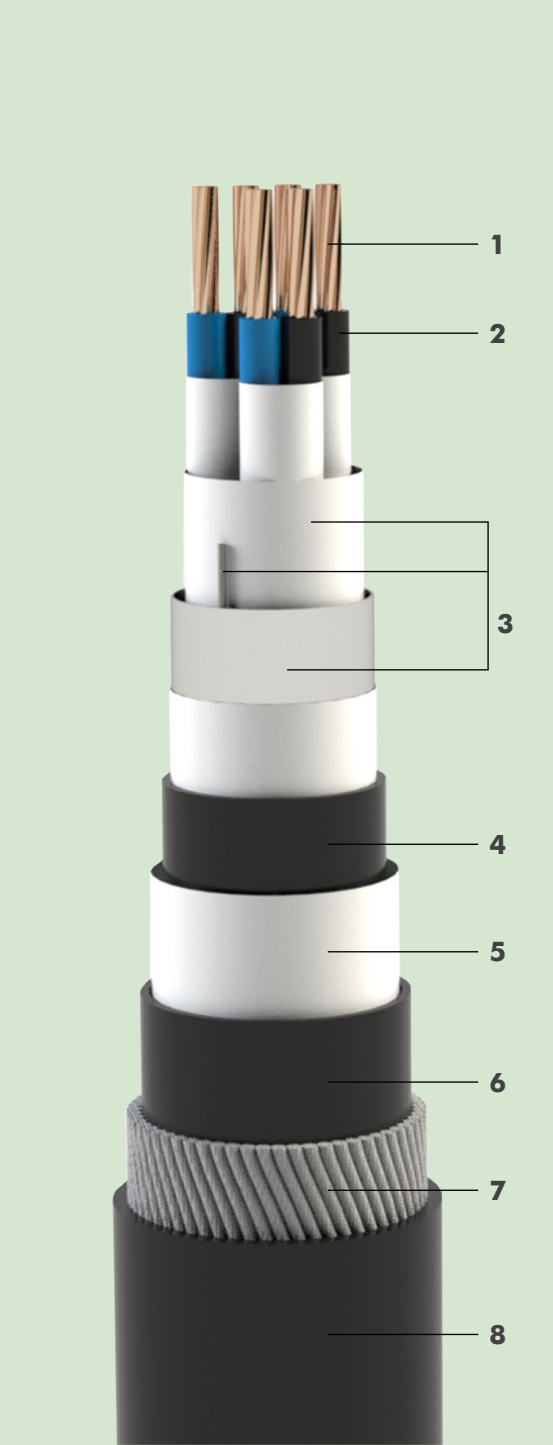
90V, 300V, 500V, 1000V

Cable Type:

Pair, Triad, Quad

Applicable Standard:

BS EN 50288-7, IEC 60502-1 (General)



CORE IDENTIFICATION



Paired/Triad/Quad Identification: number print (on cores or tape).
Core's & Pair/Triad/Quad's identification can be provided based on project requirements too.

CABLE PERFORMANCE & CHARACTERISTICS

MINIMUM INSTALLATION TEMPERATURE	CONTINUOUS OPERATING TEMPERATURE	SHORT CIRCUIT TEMPERATURE	MINIMUM BENDING RADIUS	FLAME BEHAVIOUR	SMOKE DENSITY, CORROSIVITY AND TOXICITY	IMPACT	HYDROCARBON CHEMICAL RESISTANCE
-15°C (PVC) -15°C (LSZH) (-40°C For Arctic Grade)	+90°C (XPLE)	+250°C (XPLE)	10 X OD	IEC 60332-1 ICE 60332-3-22 or ICE 60332-2-24	LOW EMISSION (only FRLS or FR-RT or LSZH version)	GOOD	EXCELLENT

Table 11: Instrumentation Cables – XLPE Insulated, Overall Screened, Lead Sheathed, Wire Armoured PVC Sheathed Cables.

Number of Pair	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
1	14.0	14.5	14.5	15.5	16.5	540	570	600	655	750	1000
2	16.5	17.5	18.5	19.5	22.5	730	840	895	980	1345	1000
5	19.5	20.5	22.0	23.5	27.0	990	1110	1290	1500	1910	1000
10	25.0	27.0	28.0	30.5	36.5	1605	1840	1990	2285	3310	1000
20	30.0	32.5	35.0	38.5	44.5	2225	2630	3060	3670	4950	1000
30	35.0	38	40	44	-	3015	3560	3960	4725	-	500

Number of Triad	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
1	14.0	14.5	15.0	16.0	17.5	570	605	635	700	870	1000
2	18.0	18.5	19.5	21.5	24.0	860	930	995	1220	1525	1000
5	21.5	23.0	24.0	25.5	29.0	1240	1415	1530	1755	2260	1000
10	27.0	29.0	30.5	33.5	39.5	1900	2145	2345	2805	4040	1000
20	33.0	36.5	38.5	42.0	-	2730	3395	3785	4540	-	500
30	38.5	42.0	44.0	-	-	3700	4385	4905	-	-	500

Number of Quad	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
1	14.5	15.0	16.0	16.5	18.5	605	655	695	760	955	1000
2	20.5	22.5	23.5	25.0	28.5	1035	1300	1390	1580	1990	1000
5	25.0	26.5	28.0	30.0	35.5	1600	1830	1980	2265	3245	1000
10	32.5	35.5	38.0	41.5	49.5	2495	2975	3430	4065	5790	1000
20	41.0	44.0	46.5	-	-	3960	4515	5110	-	-	500
30	48.0	-	-	-	-	5310	-	-	-	-	500

Note: Cable OD and Cable weight are subjected to change based on latest manufacturing practice.

2X(Stst)LCWY:
CU/XLPE/IOSCR/LEAD/SWA/PVC

CONSTRUCTION:

1. Conductor

Annealed plain copper or tinned copper.

Conductor type: solid conductor (class-1) or stranded conductor (class-2) or flexible conductor (class-5).

2. Insulation

XLPE

3. Screen

Individual screen & overall screen with aluminium polyester (mylar) tape in electrically contact with ATC drain wire.

4. Inner Sheath

Inner sheath shall be of extruded / tapped bedding.

5. Metallic Sheath

Metallic sheath shall be of lead sheath

6. Separation Sheath

Separation sheath shall be of PVC.

7. Armour

Galvanised steel round wire armour.

8. Outer Sheath

Outer sheath shall be of PVC.

Voltage Grade:

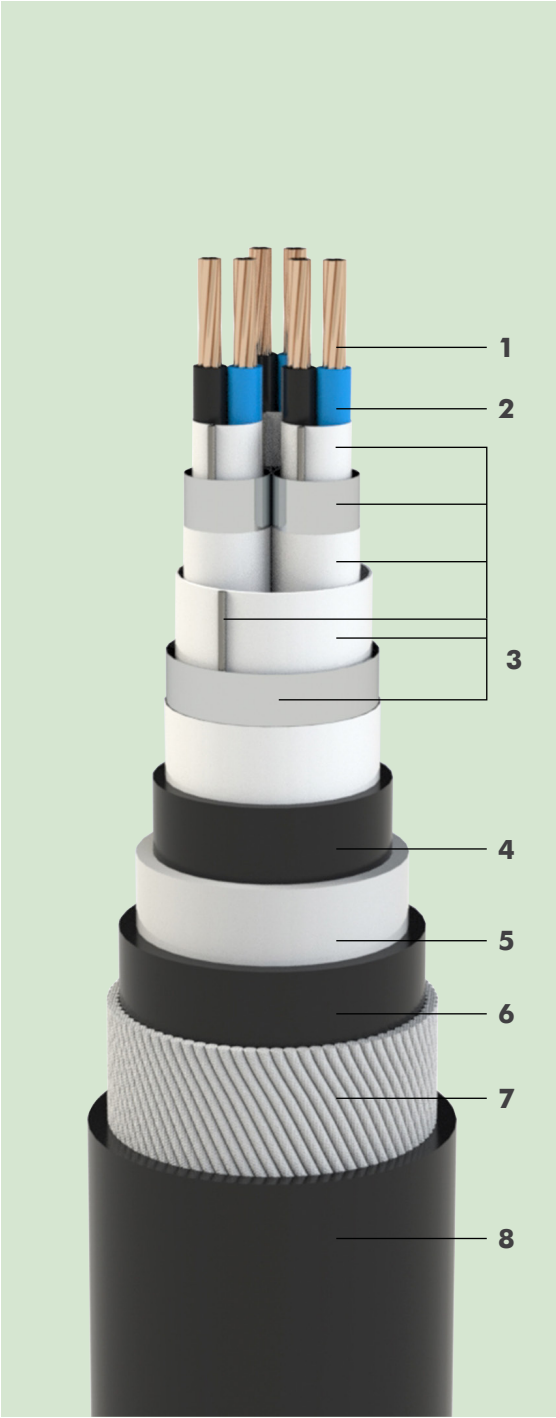
90V, 300V, 500V, 1000V

Cable Type:

Pair, Triad, Quad

Applicable Standard:

BS EN 50288-7, IEC 60502-1 (General)




CORE IDENTIFICATION



Paired/Triad/Quad Identification: number print (on cores or tape).
Core's & Pair/Triad/Quad's identification can be provided based on project requirements too.


CABLE PERFORMANCE & CHARACTERISTICS

MINIMUM
INSTALLATION
TEMPERATURE




-15°C (PVC)
-15°C (LSZH)
(-40°C For Arctic
Grade)

CONTINUOUS
OPERATING
TEMPERATURE



+90°C (XPLE)


SHORT
CIRCUIT
TEMPERATURE



250 °C


+250°C (XPLE)

MINIMUM
BENDING
RADIUS




10 X OD

FLAME
BEHAVIOUR




IEC 60332-1
ICE 60332-3-22 or
ICE 60332-2-24

SMOKE DENSITY,
CORROSIVITY
AND TOXICITY




LOW EMISSION
(only FRLS or FR-RT
or LSZH version)

IMPACT



GOOD

HYDROCARBON
CHEMICAL
RESISTANCE



EXCELLENT

Table 12: Instrumentation Cables — XLPE Insulated, Individual & Overall Screened, Lead Sheathed, Wire Armoured PVC Sheathed Cables.

Number of Pair	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
2	17.5	18.5	19.5	21.5	24.0	840	905	965	1170	1465	1000
5	21.5	22.5	23.5	25.0	28.5	1265	1375	1480	1660	2095	1000
10	27.0	28.5	30.0	33.5	39.0	1885	2065	2305	2790	3750	1000
20	33.5	36.0	38.0	41.5	49.5	2805	3270	3555	4240	5955	1000
30	38.5	41.5	43.5	49.0	-	3720	4185	4705	5930	-	500

Number of Triad	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
2	20.5	20.5	21.5	23.0	26.0	1120	1120	1185	1370	1720	1000
5	24.5	24.5	25.5	27.5	31.5	1570	1570	1695	1995	2555	1000
10	31.5	31.5	33.5	37.0	42.5	2485	2485	2870	3410	4525	1000
20	39.5	39.5	42.0	46.5	-	3955	3955	4360	5430	-	500
30	46.0	46.0	49.0	-	-	5320	5320	6080	-	-	500

Number of Quad	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
2	21.5	22.5	23.5	25.5	28.5	1165	1335	1435	1605	2025	1000
5	25.5	27.5	28.5	31.0	36.5	1715	1920	2070	2445	3355	1000
10	33.5	36.5	38.5	42.0	50.0	2770	3245	3560	4205	5950	1000
20	42.0	46.0	49.0	-	-	4165	5125	5835	-	-	500
30	49.5	-	-	-	-	5815	-	-	-	-	500

Note: Cable OD and Cable weight are subjected to change based on latest manufacturing practice.

2X(S†)(DRL)WY: CU/XLPE/OSCR/DRYLAM/SWA/PVC

CONSTRUCTION:

1. Conductor

Annealed plain copper or tinned copper.

Conductor type: solid conductor (class-1) or stranded conductor (class-2) or flexible conductor (class-5).

2. Insulation

XLPE

3. Screen

Overall screen with aluminium polyester (mylar) tape in electrically contact with ATC drain wire.

4. Moisture Barrier (DRYLAM / Tri-Barrier Layer)

Laminated tape
High density polyethylene
Modified polyamide

5. Armour

Galvanised steel round wire armour.

6. Outer Sheath

Outer sheath shall be of PVC.

Voltage Grade:

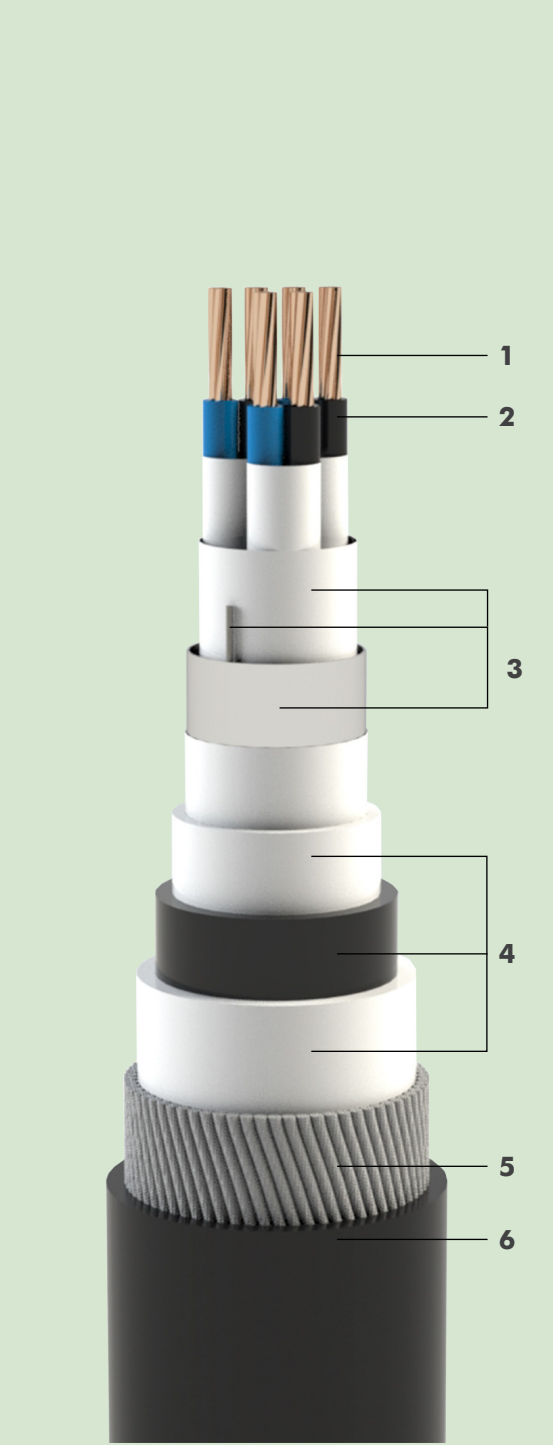
90V, 300V, 500V, 1000V

Cable Type:

Pair, Triad, Quad

Applicable Standard:

BS EN 50288-7, IEC 60502-1 (General)



CORE IDENTIFICATION



Paired/Triad/Quad Identification: number print (on cores or tape).
Core's & Pair/Triad/Quad's identification can be provided based on project requirements too.

CABLE PERFORMANCE & CHARACTERISTICS









MINIMUM INSTALLATION TEMPERATURE	CONTINUOUS OPERATING TEMPERATURE	SHORT CIRCUIT TEMPERATURE	MINIMUM BENDING RADIUS	FLAME BEHAVIOUR	SMOKE DENSITY, CORROSIVITY AND TOXICITY	IMPACT	HYDROCARBON CHEMICAL RESISTANCE
 -15°C (PVC) -15°C (LSZH) (-40°C For Arctic Grade)	 +90°C (XPLE)	 +250°C (XPLE)	 10 X OD	 IEC 60332-1 ICE 60332-3-22 or ICE 60332-2-24	 LOW EMISSION (only FRLS or FR-RT or LSZH version)	 GOOD	 EXCELLENT

Table 13: Instrumentation Cables – XLPE Insulated, Overall Screened, DRYLAM Layered, Wire Armoured PVC Sheathed Cables.

Number of Pair	Cable OD					Cable Weight					Drum Length
	0.5mm²	0.75mm²	1.0mm²	1.5mm²	2.5mm²	0.5mm²	0.75mm²	1.0mm²	1.5mm²	2.5mm²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
1	16.5	17.0	17.0	18.0	19.0	440	460	475	505	575	1000
2	19.0	20.0	20.5	21.5	24.0	555	590	620	670	805	1000
5	21.5	23.0	23.5	25.0	28.5	680	760	815	905	1275	1000
10	26.5	28.5	29.5	32.0	36.5	940	1200	1310	1505	1920	1000
20	32.0	34.0	35.5	38.5	45.0	1445	1655	1840	2155	3105	1000
30	36.0	38	40.5	44.5	-	1775	2055	2330	3030	-	500

Number of Triad	Cable OD					Cable Weight					Drum Length
	0.5mm²	0.75mm²	1.0mm²	1.5mm²	2.5mm²	0.5mm²	0.75mm²	1.0mm²	1.5mm²	2.5mm²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
1	16.5	17.0	17.5	18.5	19.5	455	480	500	545	620	1000
2	20.0	21.0	21.5	23.0	25.5	595	645	685	770	920	1000
5	23.0	24.0	25.0	27.0	31.0	780	855	930	1075	1520	1000
10	29.0	31.0	32.5	34.5	40.5	1235	1410	1555	1795	2585	1000
20	34.5	37.0	39.0	43.0	-	1705	1990	2240	2910	-	500
30	39.0	42.5	45.0	-	-	2125	2760	3155	-	-	500

Number of Quad	Cable OD					Cable Weight					Drum Length
	0.5mm²	0.75mm²	1.0mm²	1.5mm²	2.5mm²	0.5mm²	0.75mm²	1.0mm²	1.5mm²	2.5mm²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
1	17.0	17.5	18.5	19.0	20.5	480	510	540	585	680	1000
2	22.5	23.5	24.5	26.0	30.0	700	770	825	925	1295	1000
5	26.0	28.5	29.5	32.0	36.5	930	1195	1305	1500	1915	1000
10	34.0	36.5	38.0	42.0	48.5	1540	1760	1950	2530	3300	1000
20	42.0	45.0	47.5	-	-	2410	2805	3160	-	-	500
30	47.5	-	-	-	-	3010	-	-	-	-	500

Note: Cable OD and Cable weight are subjected to change based on latest manufacturing practice.

2X(Stst)(DRL)WY:
CU/XLPE/IOSCR/DRYLAM/SWA/PVC

CONSTRUCTION:

1. Conductor

Annealed plain copper or tinned copper.

Conductor type: solid conductor (class-1) or stranded conductor (class-2) or flexible conductor (class-5).

2. Insulation

XLPE

3. Screen

Individual screen & overall screen with aluminium polyester (mylar) tape in electrically contact with ATC drain wire.

4. Moisture Barrier (DRYLAM / Tri–Barrier Layer)

Laminated tape
High density polyethylene
Modified polyamide

5. Armour

Galvanised steel round wire armour.

6. Outer Sheath

Outer sheath shall be of PVC.

Voltage Grade:

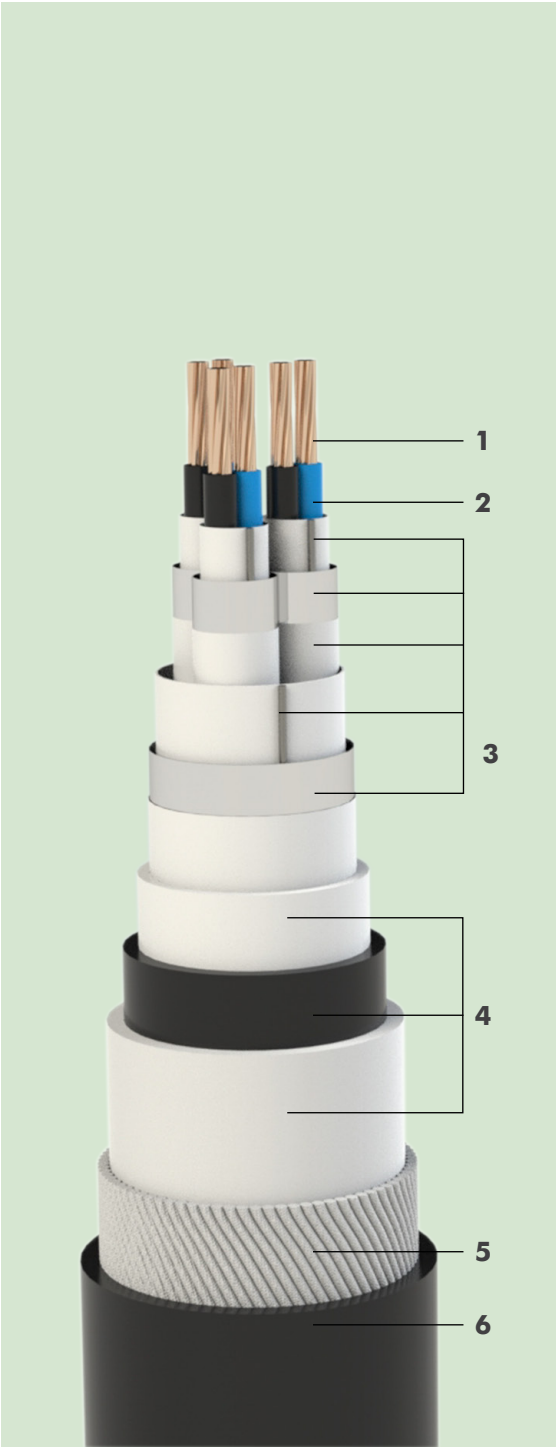
90V, 300V, 500V, 1000V

Cable Type:

Pair, Triad, Quad

Applicable Standard:

BS EN 50288-7, IEC 60502-1 (General)




CORE IDENTIFICATION



Paired/Triad/Quad Identification: number print (on cores or tape).
Core’s & Pair/Triad/Quad’s identification can be provided based on project requirements too.


CABLE PERFORMANCE & CHARACTERISTICS

MINIMUM
INSTALLATION
TEMPERATURE




-15°C (PVC)
-15°C (LSZH)
(-40°C For Arctic
Grade)

CONTINUOUS
OPERATING
TEMPERATURE




+90°C (XPLE)

SHORT
CIRCUIT
TEMPERATURE




+250°C (XPLE)

MINIMUM
BENDING
RADIUS




10 X OD

FLAME
BEHAVIOUR




IEC 60332-1
ICE 60332-3-22 or
ICE 60332-2-24

SMOKE DENSITY,
CORROSIVITY
AND TOXICITY




LOW EMISSION
(only FRLS or FR-RT
or LSZH version)

IMPACT



GOOD

HYDROCARBON
CHEMICAL
RESISTANCE



EXCELLENT

Table 14: Instrumentation Cables – XLPE Insulated, Individual & Overall Screened, DRYLAM Layered, Wire Armoured PVC Sheathed Cables.

Number of Pair	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
2	20.0	20.5	21.5	22.5	25.0	590	630	665	740	870	1000
5	23.0	24.0	24.5	26.5	30.5	760	825	885	1010	1400	1000
10	29.0	30.5	32.0	34.5	40.0	1225	1355	1465	1680	2340	1000
20	39.5	42.0	44.0	48.0	56.5	2335	2650	2910	3440	4860	1000
30	39.5	42.0	44.0	48.0	-	2335	2650	2910	3440	-	500

Number of Triad	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
2	21.0	22.0	23.0	24.0	27.5	640	705	750	820	1135	1000
5	24.0	25.5	26.5	29.0	33.0	845	950	1030	1330	1640	1000
10	31.0	33.0	34.5	37.0	43.5	1390	1560	1720	1980	2810	1000
20	43.0	46.0	48.5	53.5	-	2730	3155	3570	4565	-	500
30	43.0	46.0	48.5	-	-	2730	3155	3570	-	-	500

Number of Quad	Cable OD					Cable Weight					Drum Length
	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
[Nos]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[kg/km]	[m]
2	23.0	24.0	24.5	26.5	30.5	730	790	845	955	1325	1000
5	27.5	29.0	30.5	32.5	36.5	1130	1255	1375	1560	1955	1000
10	34.5	36.5	39.0	43.0	49.0	1620	1845	2065	2655	3415	1000
20	48.5	53.0	56.0	-	-	3270	4165	4705	-	-	500
30	48.5	-	-	-	-	3270	-	-	-	-	500

Note: Cable OD and Cable weight are subjected to change based on latest manufacturing practice.

QUALITY GUIDELINES: GENERAL

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GENERAL

Special Guidelines for Instrumentation Cables

Oman Cables Quality Assurance

To ensure the best quality assurance system, it is extremely desirable to test and inspect the product at each stage of manufacturing including raw materials and finished product.

Oman Cables have the following Quality Assurance System:

Raw Materials Inspection

In-Process Inspection

Finished Product Inspection

Raw Materials Inspection:

All the raw materials are procured only from internationally approved companies known for their quality products. Once the material is received with their product certification, the Oman Cables quality team tests and inspects the same again. Only those materials which meet Oman Cables internal standards are released for production.

In–Process Inspection:

A team of well experienced and qualified personnel, dedicated to quality, inspects and test all the In-Process materials at every stage. Materials that comply to the specified requirements are only released for the next step in the process.

Finished Product Inspection:

Oman Cables products undergo the entire applicable test according to the standard to which it is manufactured before leaving the warehouse.

Routine tests are carried out for conformity to the specifications on 100% of the cable drums. Sample tests and type tests are carried out at regular intervals as per the applicable standards to conform the product quality.

CERTIFICATES

1.System Certifications

ISO 9001:2015 - Quality Management System

ISO 14001:2015 - Enviroment Management System

ISO 45001 - Occupational Health and Safety



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2.Product Certifications

Product Certificate Requirements - BASEC

- BS 7846 - Fire Resistance Cable Catigory F2
- BS 6724
- BS 5467
- BS 6004
- BS 7889
- BS 7629-1
- BS EN 50525-2-31 & BS EN 50525-3-41

Fire Survival Cable Certificate - LPCB

- 995a-OCIFLAM-FSA - Multicore Catigory F2
- 995b-OCIFLAM-FS1 - Single Core CWZ
- 995c-OCIFLAM1 PREMIUM (PH120) & OCIFLAM2 PREMIUM
- 995d-OCIFLAM X

Omani Quality Mark Approval for Cables

- BS EN 50525-2-31 & BS EN 50525-3-41
- BS 6724
- BS 5467
- IEC 60602-1 & 60502-2

Emirates Quality Mark Approval for Cables

- IEC 60602-1
- BS 6724
- BS 5467
- BS EN 50525-2-31
- BS 7846



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