

دوكاب Ducab

كابلات الأدوات التجريبية و كابلات الرواده Instrumentation and Pilot Cables



حلول متقدمة للكابلات من خلال التقنية والابداع
Advanced Cable Solutions Through Technology and Innovation

BICC

CONTENTS

Page

Introduction	2
Customer Service.....	3-4
Specification	5
Construction	6
Application.....	6
Technical Data	7-14
1.1 Unarmoured Cables with Overall Screened (TYPE 1)	7
1.2 Unarmoured Cables with Individual & Overall Screened (TYPE 1)	8
2.1 Armoured Cables with Overall Screened (TYPE 2)	9
2.2 Armoured Cables with Individual & Overall Screened (TYPE 2)	10
3.1 Lead Sheath Armoured Cables with Overall Screened (TYPE 3).....	11-12
3.2 Lead Sheath Armoured Cables with Individual & Overall Screened (TYPE 3)	13-14
Pilot Cables.....	15

INTRODUCTION

Established in 1979, Ducab is the leading cable manufacturing company in the region and is equally owned by the Governments of Dubai and Abu Dhabi. Ducab has three major manufacturing facilities that support its continuous growth, one in Jebel Ali and two in Abu Dhabi Industrial City. Ducab-HV, inaugurated in November 2011, is a joint venture between Ducab, ADWEA and DEWA offering High Voltage cable systems up to 400 kV. Ducab-HV will sell cable systems in the voltage range 66kV (66,000 Volts) to 400kV (400,000 Volts) covering the highest voltage currently used in the GCC.

To meet the growing demand of customers around the region and the world, Ducab continues to expand its world-class facilities across the Middle East, North Africa, Europe and India. Ducab prides itself on setting and maintaining the highest quality standards of power cables. Experienced and highly skilled employees operate state-of-the-art equipment, and conduct extensive testing at every phase of production.

When it comes to advanced cable solutions, Ducab continues its status as the superbrand across the world in 40 countries. Ducab product range covers High Voltage cables up to 400kV, Ducab Powerplus Medium Voltage cables up to 33kV, Low Voltage power cables, Control & Auxiliary, Wiring and Lead-Sheathed cables, Ducab Smokemaster - Low Smoke Zero Halogen Cables, and Ducab Flam BICC (Fire Resistance cables), A/C cables, Cable components and cable accessories, Installation of cables, as well as Copper rod manufactured in Ducab's own Copper rod plant.

This catalogue provides working information on Ducab cables and accessories. Separate catalogues are available for the remaining range of Ducab Cables.

ORDERING ADVICE

Due to the wide range of cables in the catalogue, it is advisable, when ordering, to provide as much information as possible. Please use the following table as a guide:

- 1. Cable standard / specification number.
- 2. Voltage designation.
- 3. Number of cores.
- 4. Conductor size.
- 5. Colour of outer sheath.
- 6. Length of cables required and individual drum lengths.*
- 7. Any other special requirement, e.g. special PVC sheath material, drum weight limitation, etc.

* Cables are normally supplied in lengths of 100 metres, 500 metres and 1000 metres depending on conductor size. Other lengths can be supplied if required.

TECHNICAL ADVISORY SERVICE

For any specialist advice and assistance on the entire Ducab product range contact the Technical Department, Dubai Cable Company (Private) Limited, P. O. Box 11529, Dubai, U. A. E., Tel: 971 4 815 8888, Fax: 971 4 815 8111.

CUSTOMER SERVICE

Ducab is the premier cable manufacturer in the United Arab Emirates and, since 1979, has been meeting the requirements of customers throughout the GCC, Middle East and Asian markets. Ducab cables are preferred for the following reasons:

PRODUCT QUALITY

Ducab is committed to supplying its customers with the highest quality of product and of service. Ducab's cables have been type approved by recognized certifying bodies such as BASEC UK (British Approval Service for Cables), Lloyd's



Register of the UK, KEMA Netherland, LPCB UK (Loss Prevention Certification Board), ESMA (Emirates Authority for standardization and Metrology). They fully conform to BS, IEC other international and national specifications.

In addition, Ducab was presented with the Dubai Quality Award 1994, for the best local industrial company of the year. Ducab won Dubai Quality Gold Category award twice, in 1998 and in 2004. The Gold Award rewards the most distinguished companies which are judged to be world class and Ducab is the only manufacturing company in the region to win such acclaim.

Ducab has won the Sheikh Mohammed Bin Rashid Al Maktoum (MRM) Business Excellence Award in manufacturing category in 2009. Recognizing quality products and services, Ducab has also won the Superbrand award for 4 years consecutively from 2009.

RELIABILITY

Specifying the right cable for a particular application is the first step. The key to reliability however, is in the manufacturing process. The cable must be free from material and manufacturing defects, and weaknesses that will be revealed in service.

Ducab constantly monitors its manufacturing processes and operates stringent quality assurance procedures to give long term reliability. This is of vital significance where cables are to be installed in locations where future access would be difficult and this is where Ducab's reputation and resources give peace of mind.

PERFORMANCE

Optimum cable performance can be provided only by a company such as Ducab, with access to the latest developments in materials technology. In addition, Ducab's knowledge of application requirements throughout the Middle and Far East is an assurance of high performance.

Our experienced Technical Staff can provide guidance on cable selection and installation and can ensure that you get the right cable for the job.

HEALTH & SAFETY MANAGEMENT SYSTEM CERTIFIED TO OHSAS 18001



Ducab is able to maintain a close watch on world developments in cable technology and regulations and therefore ensure that its products are designed and constructed to be hazard-free under the prescribed conditions of use.

Ducab uses only tried and tested materials and processes in full compliance with all relevant British and International Standards. Our cables are therefore manufactured for safe use without risk to health on the understanding that users will exercise the same degree of care in their selection and application.



Safety is an important issue for Ducab, and the strictest standards are adhered to throughout the company. Ducab is proud of its safety record and has been awarded RoSPA (Royal Society for the Prevention of Accidents) Gold Awards for safety from 1991 to 1999. From 2000 onward, Ducab was awarded the prestigious President's Award for Health and

Safety which is a recognition of Ducab winning 10 consecutive annual Gold awards and acknowledges Ducab's total commitment to health and safety. In 2002, Ducab was declared the joint winner of the Manufacturing Industry Sector Award from RoSPA.

Ducab is the first organisation in the Middle East to receive accreditation to OHSAS 18001 by BASEC (British Approvals Service for Cables). Certification to OHSAS 18001 provides a recognisable Occupational Health and Safety Management standard against which an organisation's management systems can be assessed and certified. Based on the structure of OHSAS 18001, the standard requires continual improvement in health and safety related activities.

QUALITY MANAGEMENT SYSTEM CERTIFIED TO ISO 9001



Ducab's Quality Management System conforms to the ISO 9001 International Quality System Standard and is certified by BASEC (British Approvals Service for Cables), a specialist certifying body for cables who are an internationally recognised quality authority accredited in the UK and throughout the world.

Certification to the ISO 9001 International standard demonstrates that Ducab has drawn up written procedures to ensure full compliance with all requirements of the standard and that these procedures are followed by every department in the company, thus ensuring that goods leaving Ducab's factory are of the highest quality and meet each customer's requirements in every respect.

Ducab is particularly proud to have achieved certification to the stringent ISO 9001 standard as it is an independent conformation that the company designs, manufactures and tests cables consistently to accepted standards. ISO 9001 is widely used throughout Europe, and is therefore a reassurance to Ducab's customers that the products and service supplied by the company are equal to the best in the world.

ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFIED TO ISO 14001

Ducab's Environmental Management System conforms to the ISO 14001 International Environmental Management Standard and is certified by BASEC who are an internationally recognised certifying authority accredited in the UK and throughout Europe.



Certification to the ISO 14001 International standard shows that Ducab has a well defined structure and established working practices aimed at limiting its impact on the environment. Measurement and monitoring of effects, issuing work instructions, training of personnel and taking corrective actions are all essential elements to limiting the impact on the environment. Ducab has set improvement targets to reduce the significant environmental impacts associated with its activities.

Ducab is proud to be the first cable manufacturer in the region to achieve certification to ISO 14001 and this certification along with its quality, business success and safety record demonstrates that Ducab is a world class organisation and can hold its head up to any business community throughout the world.

BASEC CERTIFICATION

Ducab is also proud to hold a Process capability certification issued by BASEC (British Approvals Service for Cables) for several cables in its product range.

DUCAB SHAREEK

Ducab's customer satisfaction programme is designed to ensure that customers receive a consistently high level of service from Ducab's dedicated staff.



SPECIFICATION & CONSTRUCTION

SPECIFICATIONS

According to BS 5308 – Part 1

Maximum Operating Temperature: 70°C

Rated Voltage Uo/U: 300/500 Volts

TYPE 1 (UNARMoured CABLES)

- 1.1 Single Pair & Multi Pairs, PE Insulated, Overall Screened & PVC Outer Sheath
- 1.2 Single Pair & Multi Pairs, PE Insulated, Individual & Overall Screened , PVC Outer Sheath

TYPE 2 (ARMoured CABLES)

- 2.1 Single Pair & Multi Pairs, PE Insulated, Overall Screened, Armoured & PVC Outer Sheath
- 2.2 Single Pair & Multi Pairs, PE Insulated, Individual & Overall Screened, Armoured, PVC Outer Sheath

TYPE 3 (LEAD SHEATH ARMoured CABLES)

- 3.1 Single Pair & Multi Pairs, PE Insulated, Overall Screened, Lead Alloy, Armoured & PVC Outer Sheath
- 3.2 Single Pair & Multi Pairs, PE Insulated, Individual & Overall Screened, Lead Alloy, Armoured, PVC Outer Sheath

IDENTIFICATION OF PAIRS

- Black & White pairs with pair number printing on white core.
- Colour identification as per BS 5308 standard table can be provided.
- Client specific colour identification can be provided on special request.

CONSTRUCTION

Conductors: Annealed solid copper (class 1), or stranded (class 2) to BS EN 60228.

Insulation*: Polyethylene to BS 6234 Type 03. Pairs are identified by number printed on cores. Alternate methods are available on request.

Screen: Individual and Collective Aluminium-Myler screen tape with tinned copper (0.5mm²) drain wire as a standard but other form of tape screens are also manufactured to specific requirements.

Bedding: Polyethylene bedding for Type 2 and PVC bedding for Type 3 cables.

Hydrocarbon barrier: Lead Alloy Sheath to BSEN 12548 applies only for Type 3 cable.

Armour: Galvanized steel wire armour (SWA) to BSEN 10257-1, and applies to Type 2 and Type 3 cables.

Oversheath: PVC sheath Type TM1 for standard application. Special grade PVC sheath with reduced flame propagation low acid gas with Oxygen index not less than 30 and acid gas emission less than 18% can be offered. Other sheathing materials can be manufactured to special order.



* These cables with XLPE insulation having 90°C maximum operating temperature can be manufactured on client request.

APPLICATIONS

Generally used within industrial process manufacturing plant for control, communication, data (analog/digital) and voice transmission signals and service typically in industrial project, oil, gas & petrochemical industry.

- Industrial Signaling and process control circuit.
- Used in cable trays in conduit or for direct burial application.
- Steel Wire Armoured Instrumentation cables provide longitudinal strength for use as messenger cable or so support in vertical drops and provides against the mechanical damage.

TECHNICAL DATA

1.1 UNARMoured CABLES (TYPE 1)

Single Pair & Multi Pairs, PE Insulated, Overall Screened & PVC Outer Sheath

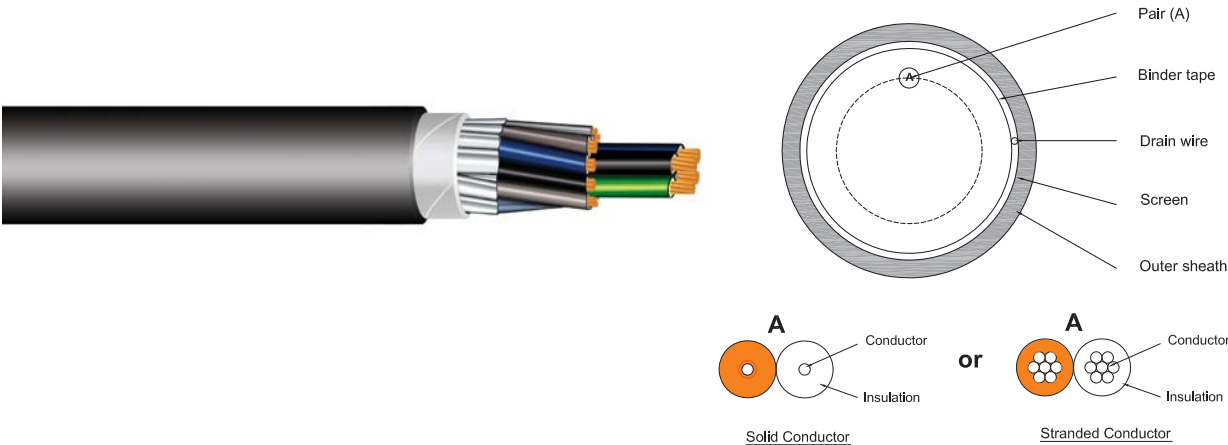


Table 1

Nominal dimensions of 0.5 mm² class 1 (solid) conductor (1/0.8mm) multipair polyethylene insulated cables

Number of Pairs	No.	1	2	5	10	15	20	30	50
Thickness of outer sheath	mm	0.8	0.8	1.1	1.2	1.2	1.3	1.3	1.5
Nominal overall diameter	mm	5.3	6.1	10.6	14	16.1	18.4	22	27.9

Table 2

Nominal dimensions of 1.0 mm² class 1 (solid) conductor (1/1.13mm) multipair polyethylene insulated cables

Number of Pairs	No.	1	2	5	10	15	20	30	50
Thickness of outer sheath	mm	0.8	0.8	1.2	1.2	1.3	1.5	1.5	2.0
Nominal overall diameter	mm	6.4	7.4	13.2	17.4	20.3	23.4	28	36.3

Table 3

Nominal dimensions of 1.5 mm² class 2 (stranded) conductor (7/0.53mm) multipair polyethylene insulated cables

Number of Pairs	No.	1	2	5	10	15	20	30	50
Thickness of outer sheath	mm	0.8	0.9	1.2	1.3	1.5	1.5	1.7	2.0
Nominal overall diameter	mm	7.3	8.7	15.4	20.6	24.2	27.5	33.3	42.6

1.2 UNARMoured CABLES (TYPE 1)

Single Pair & Multi Pairs, PE Insulated, Individual & Overall Screened, PVC Outer Sheath

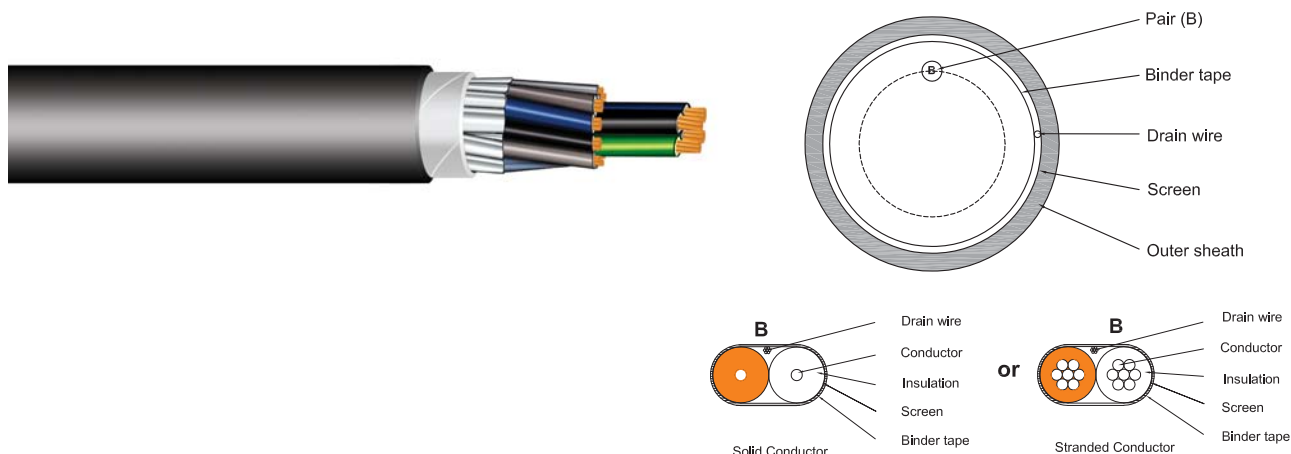


Table 4

Nominal dimensions of 0.5 mm² class 1 (solid) conductor (1/0.8mm) multipair polyethylene insulated cables

Number of Pairs	No.	2	5	10	15	20	30	50
Thickness of outer sheath	mm	0.9	1.2	1.2	1.3	1.3	1.5	2
Nominal overall diameter	mm	9.3	12.5	17.3	20.1	22.5	26.9	35.1

Table 5

Nominal dimensions of 1.0 mm² class 1 (solid) conductor (1/1.13mm) multipair polyethylene insulated cables

Number of Pairs	No.	2	5	10	15	20	30	50
Thickness of outer sheath	mm	1.1	1.2	1.3	1.5	1.7	2	2.2
Nominal overall diameter	mm	11.8	15.2	21.6	25.2	28.8	34.4	43.9

Table 6

Nominal dimensions of 1.5 mm² class 2 (stranded) conductor (7/0.53mm) multipair polyethylene insulated cables

Number of Pairs	No.	2	5	10	15	20	30	50
Thickness of outer sheath	mm	1.2	1.3	1.5	1.7	1.7	2	2.2
Nominal overall diameter	mm	13.7	17.8	25.5	29.8	33.4	40	51.2

2.1 ARMOURED CABLES (TYPE 2)

Single Pair & Multi Pairs, PE Insulated, Overall Screened, Armoured & PVC Outer Sheath

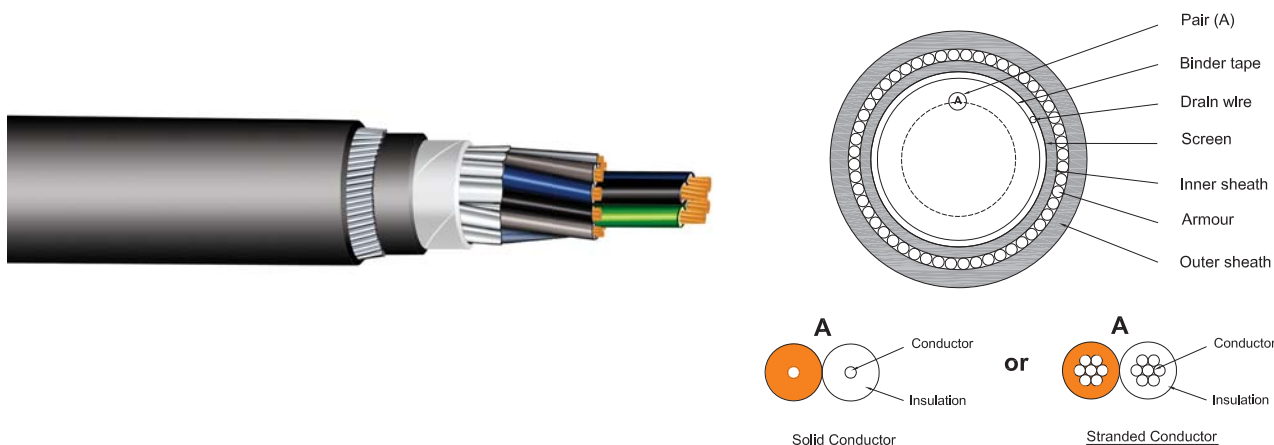


Table 7

Nominal Dimensions of 0.5 mm² class 1 (solid) conductor (1/0.8mm) multipair polyethylene insulated cables

Number of Pairs	No.	1	2	5	10	15	20	30	50
Thickness of inner sheath/bedding	mm	0.8	0.8	1.1	1.2	1.2	1.3	1.3	1.5
Diameter over inner sheath/bedding	mm	5.3	6.1	10.6	14	16.1	18.4	22	27.9
Size of Armour wire	mm	0.9	0.9	0.9	1.25	1.25	1.6	1.6	1.6
Diameter over Armour	mm	7.1	7.9	12.4	16.5	18.6	21.6	25.2	31.1
Thickness of outer sheath	mm	1.3	1.3	1.4	1.6	1.6	1.7	1.8	2
Nominal overall diameter	mm	9.7	10.5	15.2	19.7	21.8	25	28.8	35.1

Table 8

Nominal dimensions of 1.0 mm² class 1 (solid) conductor (1/1.13mm) multipair polyethylene insulated cables

Number of Pairs	No.	1	2	5	10	15	20	30	50
Thickness of inner sheath/bedding	mm	0.8	0.8	1.2	1.2	1.3	1.5	1.5	2.0
Diameter over inner sheath/bedding	mm	6.4	7.4	13.2	17.4	20.3	23.4	28	36.3
Size of Armor wire	mm	0.9	0.9	1.25	1.25	1.6	1.6	1.6	2
Diameter over Armor	mm	8.2	9.2	15.7	19.9	23.5	26.6	31.2	40.3
Thickness of outer sheath	mm	1.3	1.4	1.5	1.7	1.8	1.8	2	2.2
Nominal overall diameter	mm	10.8	12	18.7	23.3	27.1	30.2	35.2	44.7

Table 9

Nominal dimensions of 1.5 mm² class 2 (stranded) conductor (7/0.53mm) multipair polyethylene insulated cables

Number of Pairs	No.	1	2	5	10	15	20	30	50
Thickness of inner sheath/bedding	mm	0.8	0.9	1.2	1.3	1.5	1.5	1.7	2.0
Diameter over inner sheath/bedding	mm	7.3	8.7	15.4	20.6	24.2	27.5	33.3	42.6
Size of Armour wire	mm	0.9	0.9	1.25	1.6	1.6	1.6	2	2.5
Diameter over Armour	mm	9.1	10.5	17.9	23.8	27.4	30.7	37.3	47.6
Thickness of outer sheath	mm	1.4	1.4	1.6	1.8	1.9	2	2.1	2.4
Nominal overall diameter	mm	11.9	13.3	21.1	27.4	31.2	34.7	41.5	52.4

2.2 ARMoured CABLES (TYPE 2)

Single Pair & Multi Pairs, PE Insulated, Individual & Overall Screened, Armoured, PVC Outer Sheath

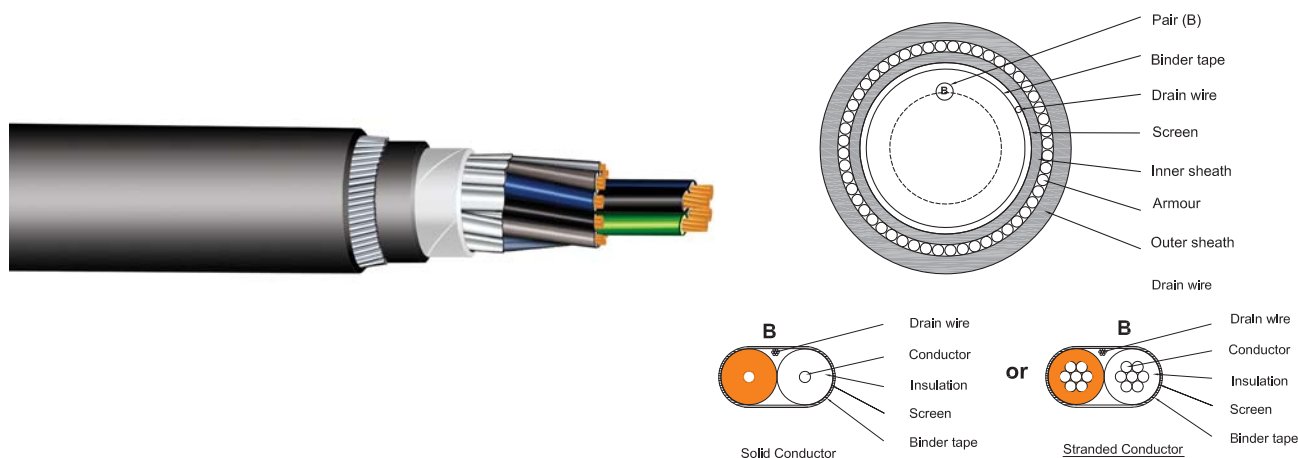


Table 10

Nominal dimensions of 0.5 mm² class 1 (solid) conductor (1/0.8mm) multipair polyethylene insulated cables

Number of Pairs	No.	2	5	10	15	20	30	50
Thickness of inner sheath/bedding	mm	0.9	1.2	1.2	1.3	1.3	1.5	2
Diameter over inner sheath/bedding	mm	9.3	12.5	17.3	20.1	22.5	26.9	35.1
Size of Armour wire	mm	0.9	1.25	1.25	1.6	1.6	1.6	2
Diameter over Armour	mm	11.1	15	19.8	23.3	25.7	30.1	39.1
Thickness of outer sheath	mm	1.4	1.5	1.7	1.7	1.8	1.9	2.2
Nominal overall diameter	mm	13.9	18	23.2	26.7	29.3	33.9	43.5

Table 11

Nominal dimensions of 1.0 mm² class 1 (solid) conductor (1/1.13mm) multipair polyethylene insulated cables

Number of Pairs	No.	2	5	10	15	20	30	50
Thickness of inner sheath/bedding	mm	1.1	1.2	1.3	1.5	1.7	2	2.2
Diameter over inner sheath/bedding	mm	11.8	15.2	21.6	25.2	28.8	34.4	43.9
Size of Armour wire	mm	0.9	1.25	1.6	1.6	2	2	2.5
Diameter over Armour	mm	13.6	17.7	24.8	28.4	32.8	38.4	48.9
Thickness of outer sheath	mm	1.5	1.6	1.8	1.9	2	2.2	2.5
Nominal overall diameter	mm	16.6	20.9	28.4	32.2	36.8	42.8	53.9

Table 12

Nominal dimensions of 1.5 mm² class 2 (stranded) conductor (7/0.53mm) multipair polyethylene insulated cables

Number of Pairs	No.	2	5	10	15	20	30	50
Thickness of inner sheath/bedding	mm	1.2	1.3	1.5	1.7	1.7	2	2.2
Diameter over inner sheath/bedding	mm	13.7	17.8	25.5	29.8	33.4	40	51.2
Size of Armour wire	mm	1.25	1.6	1.6	2	2	2.5	2.5
Diameter over Armour	mm	16.2	21	28.7	33	37.4	45	56.2
Thickness of outer sheath	mm	1.6	1.7	1.9	2	2.1	2.4	2.7
Nominal overall diameter	mm	19.4	24.4	32.5	37.8	41.6	49.8	61.6

3.1 LEAD SHEATH CABLES (TYPE 3)

Single & Multi Pairs, PE Insulated, Overall Screened, Lead Alloy, Armoured & PVC Outer Sheath

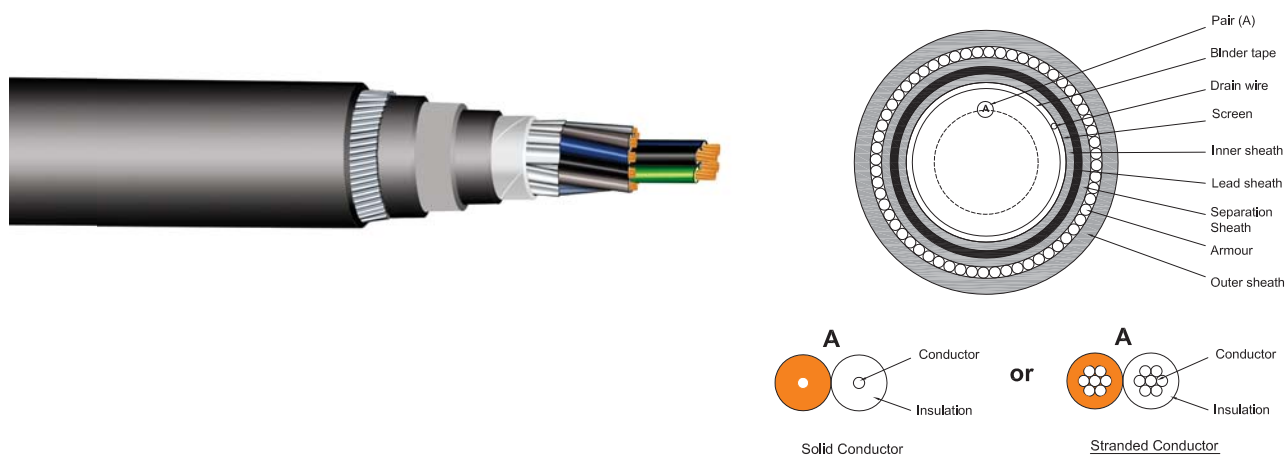


Table 13

Nominal dimensions of 0.5 mm² class 1 (solid) conductor (1/0.8mm) multipair polyethylene insulated cables

Number of Pairs	No.	1	2	5	10	15	20	30	50
Thickness of inner sheath/bedding	mm	0.8	0.8	1.1	1.2	1.2	1.3	1.3	1.5
Diameter over inner sheath/bedding	mm	5.3	6.1	10.6	14	16.1	18.4	22	27.9
Thickness of lead sheath	mm	1.1	1.1	1.1	1.1	1.2	1.3	1.4	1.5
Diameter over lead sheath	mm	7.5	8.3	12.8	16.2	18.5	21	24.8	30.9
Thickness of separation sheath/bedding	mm	0.8	0.8	0.8	1	1	1	1	1.2
Diameter over separation sheath/bedding	mm	9.1	9.9	14.4	18.2	20.5	23	26.8	33.3
Size of Armour wire	mm	0.9	0.9	1.25	1.6	1.6	1.6	1.6	2
Diameter over Armour	mm	10.9	11.7	16.9	21.4	23.7	26.2	30	37.3
Thickness of outer sheath	mm	1.4	1.4	1.6	1.7	1.8	1.8	1.9	2.1
Nominal overall diameter	mm	13.7	14.5	20.1	24.8	27.3	29.8	33.8	41.5

Table 14

Nominal dimensions of 1.0 mm² class 1 (solid) conductor (1/1.13mm) multipair polyethylene insulated cables

Number of Pairs	No.	1	2	5	10	15	20	30	50
Thickness of inner sheath/bedding	mm	0.8	0.8	1.2	1.2	1.3	1.5	1.5	2.0
Diameter over inner sheath/bedding	mm	6.4	7.4	13.2	17.4	20.3	23.4	28	36.3
Thickness of lead sheath	mm	1.1	1.1	1.1	1.2	1.3	1.4	1.5	1.8
Diameter over lead sheath	mm	8.6	9.6	15.4	19.8	22.9	26.2	31	39.9
Thickness of separation sheath/bedding	mm	0.8	0.8	1	1	1	1.2	1.2	1.4
Diameter over separation sheath/bedding	mm	10.2	11.2	17.4	21.8	24.9	28.6	33.4	42.7
Size of Armour wire	mm	0.9	0.9	1.6	1.6	1.6	2	2	2.5
Diameter over Armour	mm	12	13	20.6	25	28.1	32.6	37.4	47.7
Thickness of outer sheath	mm	1.4	1.5	1.7	1.8	1.9	2	2.1	2.4
Nominal overall diameter	mm	14.8	16	24	28.6	31.9	36.6	41.6	52.2

3.1 LEAD SHEATH CABLES (TYPE 3)

Single & Multi Pairs, PE Insulated, Overall Screened, Lead Alloy, Armoured & PVC Outer Sheath

Table 15

Nominal dimensions of 1.5 mm² class 2 (stranded) conductor (7/0.53mm) multipair polyethylene insulated cables

Number of Pairs	No.	1	2	5	10	15	20	30	50
Thickness of inner sheath/bedding	mm	0.8	0.9	1.2	1.3	1.5	1.5	1.7	2.0
Diameter over inner sheath/bedding	mm	7.3	8.7	15.4	20.6	24.2	27.5	33.3	42.6
Thickness of lead sheath	mm	1.1	1.1	1.2	1.3	1.4	1.5	1.7	2
Diameter over lead sheath	mm	9.5	10.9	17.8	23.2	27	30.5	36.7	46.6
Thickness of separation sheath/bedding	mm	0.8	0.8	1	1	1.2	1.2	1.4	1.6
Diameter over separation sheath/bedding	mm	11.1	12.5	19.8	25.2	29.4	32.9	39.5	49.8
Size of Armour wire	mm	0.9	1.25	1.6	1.6	2	2	2.5	2.5
Diameter over Armour	mm	12.9	15	23	28.4	33.4	36.9	44.5	54.8
Thickness of outer sheath	mm	1.5	1.5	1.7	1.9	2	2.1	2.3	2.6
Nominal overall diameter	mm	15.9	18	26.4	32.2	37.4	41.1	49.1	60

3.2 LEAD SHEATH CABLES (TYPE 3)

Single & Multi Pairs, PE Insulated, Individual & Overall Screened, Lead Alloy, Armoured, PVC Outer Sheath

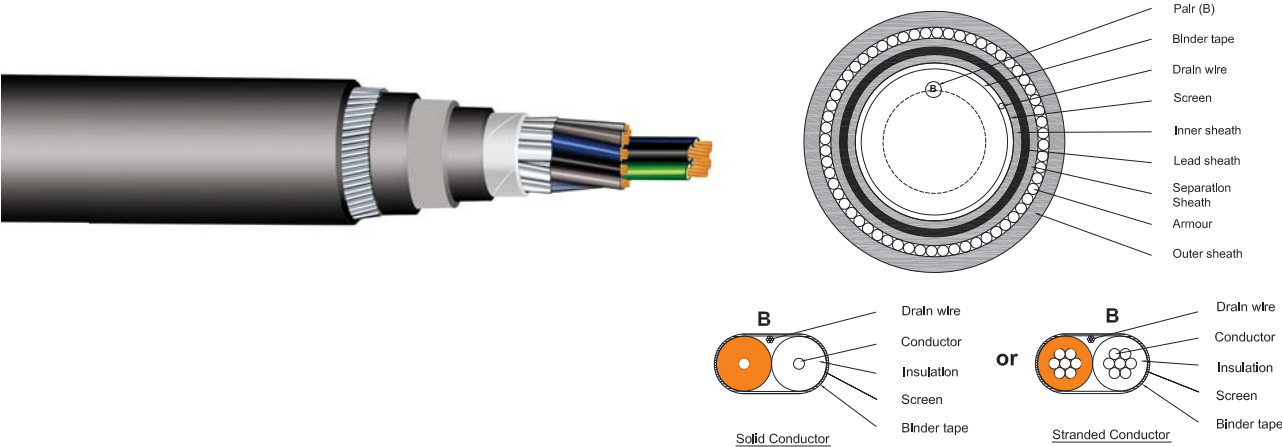


Table 16

Nominal dimensions of 0.5 mm² class 1 (solid) conductor (1/0.8mm) multipair polyethylene insulated cables

Number of Pairs	No.	2	5	10	15	20	30	50
Thickness of inner sheath/bedding	mm	0.9	1.2	1.2	1.3	1.3	1.5	2
Diameter over inner sheath/bedding	mm	9.3	12.5	17.3	20.1	22.5	26.9	35.1
Thickness of lead sheath	mm	1.1	1.1	1.2	1.3	1.4	1.5	1.8
Diameter over lead sheath	mm	11.5	14.7	19.7	22.7	25.3	29.9	38.7
Thickness of separation sheath/bedding	mm	0.8	0.8	1	1	1.2	1.2	1.4
Diameter over separation sheath/bedding	mm	13.1	16.3	21.7	24.7	27.7	32.3	41.5
Size of Armour wire	mm	1.25	1.25	1.6	1.6	2	2	2.5
Diameter over Armour	mm	15.6	18.8	24.9	27.9	31.7	36.3	46.5
Thickness of outer sheath	mm	1.5	1.6	1.7	1.9	1.9	2	2.3
Nominal overall diameter	mm	18.6	22	28.3	31.7	35.5	40.3	51.1

Table 17

Nominal dimensions of 1.0 mm² class 1 (solid) conductor (1/1.13mm) multipair polyethylene insulated cables

Number of Pairs	No.	2	5	10	15	20	30	50
Thickness of inner sheath/bedding	mm	1.1	1.2	1.3	1.5	1.7	2	2.2
Diameter over inner sheath/bedding	mm	11.8	15.2	21.6	25.2	28.8	34.4	43.9
Thickness of lead sheath	mm	1.1	1.2	1.3	1.5	1.6	1.7	2
Diameter over lead sheath	mm	14	17.6	24.2	28.2	32	37.8	47.9
Thickness of separation sheath/bedding	mm	0.8	1	1	1.2	1.2	1.4	1.6
Diameter over separation sheath/bedding	mm	15.6	19.6	26.2	30.6	34.4	40.6	51.1
Size of Armour wire	mm	1.25	1.6	1.6	2	2	2.5	2.5
Diameter over Armour	mm	18.1	22.8	29.4	34.6	38.4	45.6	56.1
Thickness of outer sheath	mm	1.6	1.7	1.9	2.1	2.2	2.4	2.7
Nominal overall diameter	mm	21.3	26.2	33.2	38.8	42.8	50.4	61.5

3.2 LEAD SHEATH CABLES (TYPE 3)

Single & Multi Pairs, PE Insulated, Individual & Overall Screened, Lead Alloy, Armoured, PVC Outer Sheath

Table 18

Nominal dimensions of 1.5 mm ² class 2 (stranded) conductor (7/0.53mm) multipair polyethylene insulated cables								
Number of Pairs	No.	2	5	10	15	20	30	50
Thickness of inner sheath/bedding	mm	1.2	1.3	1.5	1.7	1.7	2	2.2
Diameter over inner sheath/bedding	mm	13.7	17.8	25.5	29.8	33.4	40	51.2
Thickness of lead sheath	mm	1.1	1.2	1.5	1.6	1.7	1.9	2.2
Diameter over lead sheath	mm	15.9	20.2	28.5	33	36.8	43.8	55.6
Thickness of separation sheath/bedding	mm	1	1	1.2	1.2	1.4	1.4	1.6
Diameter over separation sheath/bedding	mm	17.9	22.2	30.9	35.4	39.6	46.6	58.8
Size of Armour wire	mm	1.6	1.6	2	2	2.5	2.5	2.5
Diameter over Armour	mm	21.1	25.4	34.9	39.4	44.6	51.6	63.8
Thickness of outer sheath	mm	1.7	1.8	2.1	2.2	2.3	2.5	2.9
Nominal overall diameter	mm	24.5	29	39.1	43.8	49.2	56.6	69.6

PILOT CABLES

Ducab can manufacture Pilot cables as per client specific requirements.

APPLICATION:

Pilot cables associated with Power distribution and transmission system are used for control, protection, signaling, speech and data transmission purposes. Such systems are mainly operated by the electricity companies. Similar applications occur in many industrial systems too.

ADVANTAGES:

- Enhanced transmission performance.
- Integrated Power system.
- Induced voltage control.
- Multifunction use.
- Customised to suit the application.

Pilot cables are designed to protect the cores from the danger of induced voltages coming from other cable circuits laid in close proximity.

It protects the system from dangerous induced voltages and EMC problems by means of different shielding types which are specifically designed to suit the operating conditions. The screen restricts the over voltage on the cable cores.

We manufacture a broad range of pilot cables covering both 5 kV and 15 kV levels of induced voltages and providing each customer with numerous and easily customized alternatives.



CABLE DESCRIPTION:

- Conductor : Annealed plain copper conductor (solid /stranded)
- Insulation: PE or PVC.
- Cabling: Multipair or multicore.
- Screens: Aluminium laminate or Copper laminate or Copper tape
- Armouring: Galvanised steel wire armour.
- Bedding /Outer sheath: PE or PVC.

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