PRODUCT CATALOGUE

adcab®

ATLAS CABLES & ACCESSORIES

ADDING **POWER**
TO YOUR LIFE

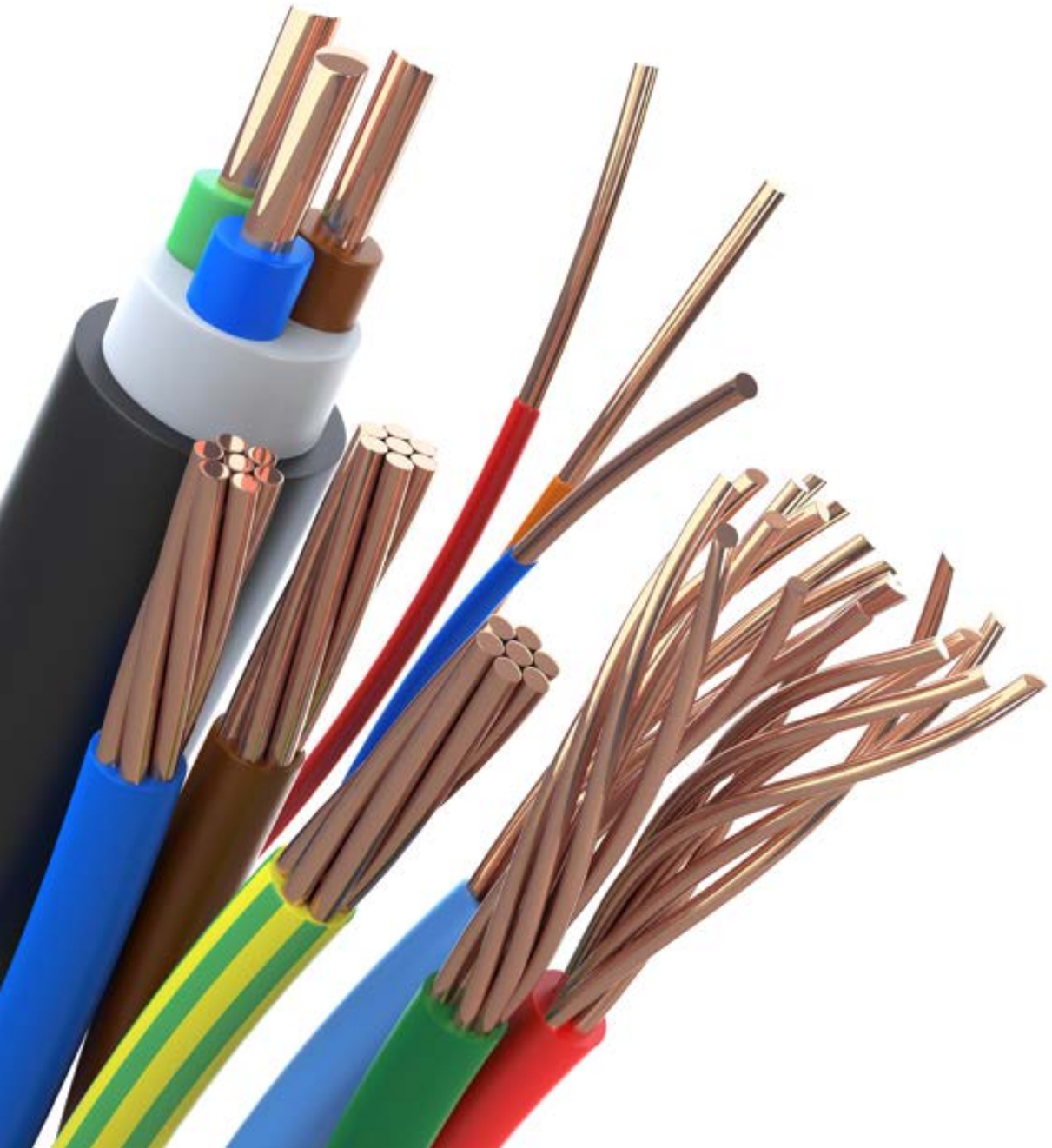


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PRODUCT RANGE

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ABOUT
THE COMPANY

ATLAS CABLES & ACCESSORIES

Atlas Cables And Accessories Pvt Ltd (ADCAB) is a leading brand offering building wires, single core & multi core flexible cables, power & control cables, submersible flat cables, instrumentation cables, welding cables, marine cables, rubber cables, specialized cables and more.

Atlas Cable is one of the leading manufacturer and exporter of LT Wires & Cables; with a glorious track record of more than 30 years. ADCAB is the brain child of Atlas Cables & Accessories Pvt Ltd.

We began our journey in the year 2010 when we launched our new manufacturing unit creating the complete range of LT Wires & Cables at Gandhidham (Kutch) Gujarat India, under the leadership of Mr. Sandeep Nahata and Mr. Hardik Patel. We started our new manufacturing unit complying with BIS Standards, ISO 9001:2015, ISO 14001:2015 rating as well as CE Marking.

We believe that wires play a vital role in the electrification of any infrastructure. That's why we have highly qualified and experienced professionals on board, to provide the products and that we promise to our customers.

With the help of an extraordinary research studies, design innovation, stringent quality control system and a dedicated team of engineers, designers and technical experts; ADCAB is all set to sail to the stars ! Customer satisfaction is our first and foremost objective, and it inspires us to provide superior quality, timely delivery, market oriented products and most competitive price in the market with amazing technical support and after sales service.

We are constantly engaging with new research and developments that are significant for the industry, aimed at creating better quality products and a heathier environment. Supreme quality, product customization and amazing services; we offer the LT Wires & Cables that are the best in safety, stability, resistance and all other electrical parameters.

ADCAB's in-house NABL Approved Quality Assurance Laboratory is blessed with the latest technology in the experts. Continuous research, innovation, development and ultimately evolution; this is the way of life at ADCAB.

VISION

Perfection In Everything That We Do !

Our vision is to contribute our best in creating a new world with futuristic technology and a comfortable life. To create superior products and provide through services as a responsible LT Wires & Cables manufacturer; and making all that possible which people are dreaming about.

MISSION

A Futuristic Way Of Life !

Our mission is to manufacture LT Wires & Cables, which have the supreme QUALITY and eternal RELIABILITY and ultimately give the end users a flawless Experience. We are here to expand the horizons and reach the developing markets throughout the world with our top-quality product range.

WHAT MAKES US UNIQUE

- Most competitive rates in the market
- Customer oriented business model
- Strong technical support
- Timely delivery
- Extensive manufacturing and engineering capabilities
- Ability to meet the requirements of specific core sector
- Complete solution for domestic cabling needs
- High standards of safety and quality control
- Service and client satisfaction as the top priority
- Total transparency in management

THE ACCREDIATIONS

" Accreditation ensures every manufacturer, has the Ability Confidence & Motivation to deliver your products effectively."









BUREAU OF INDIAN STANDARDS

Attachment to Licence No. CML- 3699892

CML No.	Name of the Licensee with the Factory Address	Name of the Product	Indian Standard No.
3699892	ATLAS CABLE & ACCESSORIES PVT LTD. (UNIT-II) 2B, Sector 12, Heavy Industrial Area ,, Gandhidham ,, 370201	POLYVINYL CHLORIDE INSULATED UNARMOURED AND SHEATHED CABLES/CORDS WITH RIGID AND STRANDED ALUMINIUM CONDUCTORS FOR FIXED WIRING PART 1 FOR 1100 V AND INCLUDING 1100 V	IS 694 : 2010

Endorsement No. 14 Dated 02-Feb-2024

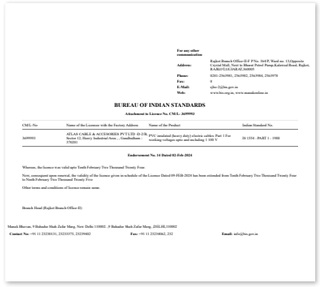
Whereas, the licence was valid upto Tenth February Two Thousand Twenty Four.

Now, consequent upon renewal, the validity of the licence given in schedule of the Licence Dated 09-FEB-2024 has been extended from Tenth February Two Thousand Twenty Four to Tenth February Two Thousand Twenty Five

Other terms and conditions of licence remain same.

Branch Head (Rajkot Branch Office-II)

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002 ,9 Bahadur Shah Zafar Marg, ,DELHI,110002
Contact No: +91 11 23230131, 23233375, 23239402 **Fax:** +91 11 23234062, 232 **Email:** info@bis.gov.in



BUREAU OF INDIAN STANDARDS

Attachment to Licence No. CML- 3699892

CML No.	Name of the Licensee with the Factory Address	Name of the Product	Indian Standard No.
3699892	ATLAS CABLE & ACCESSORIES PVT LTD. (UNIT-II) 2B, Sector 12, Heavy Industrial Area ,, Gandhidham ,, 370201	PVC insulated (heavy duty) electric cables: Part 1 For working voltages upto and including 1 100 V	IS 1554 : PART 1 : 1988

Endorsement No. 14 Dated 02-Feb-2024

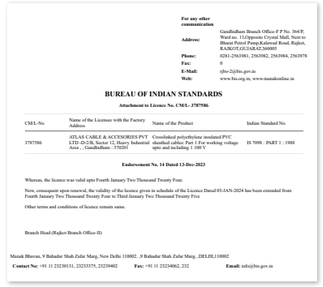
Whereas, the licence was valid upto Tenth February Two Thousand Twenty Four.

Now, consequent upon renewal, the validity of the licence given in schedule of the Licence Dated 09-FEB-2024 has been extended from Tenth February Two Thousand Twenty Four to Tenth February Two Thousand Twenty Five

Other terms and conditions of licence remain same.

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BUREAU OF INDIAN STANDARDS

Attachment to Licence No. CML- 3787586

CML No.	Name of the Licensee with the Factory Address	Name of the Product	Indian Standard No.
3787586	ATLAS CABLE & ACCESSORIES PVT LTD. (UNIT-II) 2B, Sector 12, Heavy Industrial Area ,, Gandhidham ,, 370201	Crosslinked polyethylene insulated PVC sheathed cables: Part 1 For working voltages upto and including 1 100 V	IS 7098 : PART 1 : 1988

Endorsement No. 14 Dated 13-Dec-2022

Whereas, the licence was valid upto Fourth January Two Thousand Twenty Four.

Now, consequent upon renewal, the validity of the licence given in schedule of the Licence Dated 03-JAN-2024 has been extended from Fourth January Two Thousand Twenty Four to Third January Two Thousand Twenty Five

Other terms and conditions of licence remain same.

Branch Head (Rajkot Branch Office-II)

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002 ,9 Bahadur Shah Zafar Marg, ,DELHI,110002
Contact No: +91 11 23230131, 23233375, 23239402 **Fax:** +91 11 23234062, 232 **Email:** info@bis.gov.in

THE CREDENTIALS

" Assurance to the public that A Company meets accepted standards of quality & integrity "

ISO 14001:2015 COMPANY

ISO 9001:2015 COMPANY

IS:694 CM/L-3699892

IS:1554 CM/L-3699993

IS:7098 CM/L-3787586

CE

ERDA

FIA FIRE INSURANCE APPROVED

TAC TARIFF ADVISORY COMMITEE

O_2 29% CRITICAL OXYGEN INDEX

FIRE

CRISIL VERIFIED

We believe in
Quality.

PURE ELECTROLYTIC GRADE COPPER

HEAT & FIRE RESISTANT

100% BUNCHED COPPER

SMOKE DENSITY RATING <60%

101% CONDUCTOR CONDUCTIVITY

ENVIRONMENTAL FRIENDLY

SPARK PROOF

PREVENT SHORT CIRCUIT

ANTI RODENT AND TERMITE PROOF

adcab®

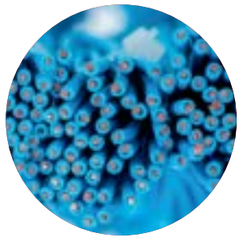
PRODUCT RANGE

HOUSE WIRE | FLEXIBLE CABLE | FLAT CABLE |

POWER CABLE | CONTROL CABLE | RUBBER CABLE |

WELDING CABLE | SHIELDED CABLE | BRAIDED CABLE |

MARINE CABLE | SPECIALIZED CABLE



HOUSE WIRE

IS: 694
FR/ FRLS / ZHFR / HR
UP TO 10 SQ MM
In All Color
99.97 % Pure EC Grade Copper
Fire Retardant
Higher Flexibility
Environment Friendly
Anti Rodent



INDUSTRIAL POWER CABLE

Industrial Control Cable
Flexible Cable
IS 7098 / IS 1554 / IS 694
Copper/ Aluminum
XLPE / FRLS /HR/ ZHFR
Armored / Un Armored
Single Core up to 1000 Sq. mm.
Multi Core up to 400 Sq. mm.



SUBMERSIBLE FLAT CABLES

IS: 694 / IS 7098
Copper Conductor
PVC Submersible Cable
XLPE Insulated Cable
3 Core / 4 Core
For Agriculture Use
Up to 120 Sq. mm.



SPECIALISED CABLES

Instrumentation Cables
(Braided & Shielded Cable)
Rubber Cable
Welding Cable
Marine Cable
Fire Survival Cable
Solar Cable
Copper Ropes
Automative Cables ect
Elevator Cables

BUILDING WIRE

FR WIRE



Flame Retardant (FR) PVC Insulated Single Core Unsheathed Copper Wire (up to 1100 V)

APPLICATION :
Suitable for wiring in all kind of infrastructure, residential as well as industrial

CONDUCTOR :
The Conductors, drawn from bright electrolytic grade copper are annealed and bunched together for better flexibility and higher rating values

COLOR :
Red, Yellow, Blue, Black, Grey, Green, White
Any specialized as per customer requirement.

VOLTAGE GRADE :
Up to and including 1100 V

APPROVALS :
IS 694:2010, ISO 9001:2015, FIA/TAC

INSULATION :
These wires are insulated with a Flame Retardant (FR) PVC Compound.

PACKING :
90 Mtr. Coil in Carton Packing, 180 Mtr. Project Coil

Size, Dimension and Rating

Nominal Area of Conductor (sq mm)	Number/Nom. Dia of Strands* (Nom.)	Thickness of Insulation (Nom.) (mm)	Overall Diameter (Max) (mm)	Current Carrying Capacity* (AMPS)		Resistance (Max) km.@20 C (Ohm/km)
				Casing	Concealed	
0.75	24/0.20	0.6	2.5	8	7	26.00
1.00	14/0.30	0.7	2.8	12	11	18.10
1.50	22/0.30	0.7	3.1	16	13	12.10
2.50	36/0.30	0.8	3.8	22	18	7.41
4.00*	56/0.30	0.8	4.4	29	24	4.95
6.00*	84/0.30	0.8	5.2	37	31	3.30

*As per IS 3961 (Part V)-1968 and conductor as per IS-8130:1984

FR Properties

Test	Specification	Value
Critical Oxygen Index	ASTM-D-2863	Minimum 29
Temperature Index	ASTM-D-2863	Minimum 250 C

Note : *Conductor in Class V as per IS:8130

HRFR WIRE



Multistranded Heat Resistant Flame Retardant (HRFR) PVC Insulated Single Core Unsheathed Copper Wire as per IS:694-2010 (up to 1100 V)

APPLICATION :
Suitable for wiring in all kind of infrastructure, residential as well as industrial.

CONDUCTOR :
The Conductors, drawn from bright electrolytic grade copper are annealed and bunched together for better flexibility and higher rating values

COLOR :
Red, Yellow, Blue, Black, Grey, Green, White
Any specialized as per customer requirement.

VOLTAGE GRADE :
Up to and including 1100 V

APPROVALS :
IS 694:2010, ISO 9001:2015, FIA/TAC

INSULATION :
These wires are insulated with a Heat Resistant Flame Retardant (HRFR) PVC Compound.

PACKING :
90 Mtr. Coil in Carton Packing, 180 Mtr. Project Coil

Size, Dimension and Rating

Nominal Area of Conductor (sq mm)	Number/Nom. Dia of Strands* (Nom.)	Thickness of Insulation (Nom.) (mm)	Overall Diameter (Max) (mm)	Current Carrying Capacity* (AMPS)		Resistance (Max) km.@20 C (Ohm/km)
				Casing	Concealed	
0.75	24/0.20	0.6	2.5	8	7	26.00
1.00	14/0.30	0.7	2.8	12	11	18.10
1.50	22/0.30	0.7	3.1	16	13	12.10
2.50	36/0.30	0.8	3.8	22	18	7.41
4.00*	56/0.30	0.8	4.4	29	24	4.95
6.00*	84/0.30	0.8	5.2	37	31	3.30

*As per IS 3961 (Part V)-1968 and conductor as per IS-8130:1984

HRFR+ Properties

Test	Specification	Value
Critical Oxygen Index	ASTM-D-2863	Minimum 29
Temperature Index	ASTM-D-2863	Minimum 250 C

OIL & HEAT RESISTANT
Note : *Conductor in Class V as per IS:8130

FRLS WIRE



Multistrand Copper Conductor
Flame Retardant Low Smoke PVC Isulated
Single Core Wire (up to 1100 V)

APPLICATION :
Suitable for wiring in all kind of infrastructure, especially for fire and explosion prone areas, chemical industries, school and colleges, hospitals, theaters, densely populated areas etc.

CONDUCTOR :
The Conductors, drawn from bright electrolytic grade copper are annealed and bunched together for better flexibility and higher rating values.

COLOR :
Red, Yellow, Blue, Black, Grey, Green, White
Any specialized as per customer requirement.

VOLTAGE GRADE :
Up to and including 1100 V

APPROVALS :
IS 694:2010, ISO 9001:2015, FIA/TAC

INSULATION :
These wires are insulated with a Flame Retardant Low Smoke Low Halogen (FRLS) PVC Compound to restrict the flame smoke as well as spread of flames in fire situation.

INSULATION IS :
I S 5831 Type A/D FR-LS 70 C

PACKING :
180 Mtr. Project Coil

Size, Dimension and Rating

Nominal Area of Conductor (sq mm)	Number/Nom. Dia of Strands* (Nom.)	Thickness of Insulation (Nom.) (mm)	Overall Diameter (Max) (mm)	Current Carrying Capacity* (AMPS)		Resistance (Max) km.@20 C (Ohm/km)
				Casing	Concealed	
1.00	14/0.30	0.7	2.8	12	11	18.10
1.50	22/0.30	0.7	3.1	16	13	12.10
2.50	36/0.30	0.8	3.8	22	18	7.41
4.00*	56/0.30	0.8	4.4	29	24	4.95
6.00*	84/0.30	0.8	5.2	37	31	3.30

*As per IS 3961 (Part V)-1968 and conductor as per IS-8130:1984

FR-LS Properties

Test	Specification	Value
Critical Oxygen Index	ASTM-D-2863	Minimum 29
Temperature Index	ASTM-D-2863	Minimum 250 C
Acid Gas Generation	IEC 754	Maximum 20
Smoke Density	ASTM-D-2843	Maximum 60

Note : *Conductor in Class V as per IS:8130

ZHFR WIRE



Multistrand Copper Conductor Zero Halogen
Flame Retardant PVC Insulated Single
Core Wire (up to 1100 V)

APPLICATION :
Suitable for wiring in all kind of infrastructure fire safety is of utmost importance, like high rise buildings, pharmaceutical companies, laboratories, theatres, school & college building,
chemical industries ect.

CONDUCTOR :
The Conductors, drawn from bright electrolytic grade copper are annealed and bunched together for better flexibility and higher rating values.

COLOR :
Red, Yellow, Blue, Black, Grey, Green, White
Any specialized as per customer requirement.

VOLTAGE GRADE :
Up to and including 1100 V

APPROVALS :
IS 694:2010, ISO 9001:2015, FIA/TAC

INSULATION :
These wires are insulated with a Zero Halogen Flame Retardant (ZHFR) PVC Compound.

INSULATION IS :
IEC 60332-1&3, IEC 60754-1&2

PACKING :
180 Mtr. Project Coil

Size, Dimension and Rating

Nominal Area of Conductor (sq mm)	Number/Nom. Dia of Strands* (Nom.)	Thickness of Insulation (Nom.) (mm)	Overall Diameter (Max) (mm)	Current Carrying Capacity* (AMPS)		Resistance (Max) km.@20 C (Ohm/km)
				Casing	Concealed	
1.00	14/0.30	0.7	2.8	12	11	18.10
1.50	22/0.30	0.7	3.1	16	13	12.10
2.50	36/0.30	0.8	3.8	22	18	7.41
4.00*	56/0.30	0.8	4.4	29	24	4.95
6.00*	84/0.30	0.8	5.2	37	31	3.30

*As per IS 3961 (Part V)-1968 and conductor as per IS-8130:1984

ZHFR Properties

Test	Specification	Value
Critical Oxygen Index	ASTM-D-2863	Minimum 29
Temperature Index	ASTM-D-2863	Minimum 250 C
Acid Gas Generation	IEC 754	Maximum 5
Smoke Density	ASTM-D-2843	Maximum 20

Note : *Conductor in Class V as per IS:8130

SUBMERSIBLE FLAT CABLE

SUBMERSIBLE FLAT PVC CABLE



Multistrand Copper Conductor PVC Insulated
& ST-1 PVC Outer Sheated Submersible Flat Cable
Voltage Grade (up to 1100 V)

APPLICATION :
Submersible Flat Cable Suitable for Pump Industry, Overhead Crane etc. Providing protection while immersed under water and underground hand pumps etc.

CONSTRUCTION OF CABLE :

BIS :
IS 694:2010

CONDUCTOR :
Electrolytic Grade Plain Copper Class V as per IS:8130

INSULATION :
Type A, FR or FRLS PVC Compound

SHEATH :
Type 'St1' PVC Compound

VOLTAGE GRADE :
Up to and including 1100 V

PACKING :
500 / 1000 Mtr. Wooden Drum

CABLE COLOR :
Black, Grey, Other of special request

RANGE :
1.0 sq mm to 50 sq mm

CABLE TECHNICAL PERAMETER

Nominal Cross Sectional Area of Conductor (sq. mm)	Number Max. Dia. of Strands	Nominal Insulation Thickness (mm)	Approx Overall Diameter	Sheath Approx Overall Diameter		Max. Conductor Resistance per KM @ 20 C Ohms	Current Carrying Capacity @ 40 C AMPS
				Width (Nom) mm	Height (Nom) mm		
1.5 **	22/0.3	0.7	0.9	10.2	4.6	12.1	13
2.5 **	36/0.3	0.8	1.0	13.0	5.65	7.41	18
4.0	56/0.3	0.8	1.0	14.55	6.2	4.95	24
6.0	84/0.3	0.8	1.1	16.5	7.0	3.30	31
10	140/0.3	1.0	1.4	21.05	8.90	1.91	42
16	126/0.4	1.0	1.4	24.30	10.0	1.21	57
25	196/0.4	1.2	2.0	30.55	12.85	0.780	72
35	276/0.4	1.2	2.0	34.0	14.0	0.554	90

Note : The numbers and diameter of conductor strands are for reference only. Conductor resistance as pr IS:8130 is the governing criteria. Conductor shall be of Class II for 1.5 & 2.5 sq mm and for other size shall be of Class V as per IS:8130

SUBMERSIBLE FLAT XLPE CABLE

Multistrand Copper Conductor XLPE Insulated
& ST-2 PVC Outer Sheathed Submersible Flat Cable
Voltage Grade (up to 1100 V)

APPLICATION :
Submersible Flat Cable Suitable for agriculture, fountain, open well irrigation, mines dewatering, industrial use etc.

CONSTRUCTION OF CABLE :

BIS :
IS 7098 (Part I)

CONDUCTOR :
Electrolytic Grade Plain Copper Class V as per IS:8130

INSULATION :
Cross Linked Polyethylene (XLPE)

SHEATH :
Heat Resistant Type 'St 2' PVC Compound

VOLTAGE GRADE :
Up to and including 1100 V

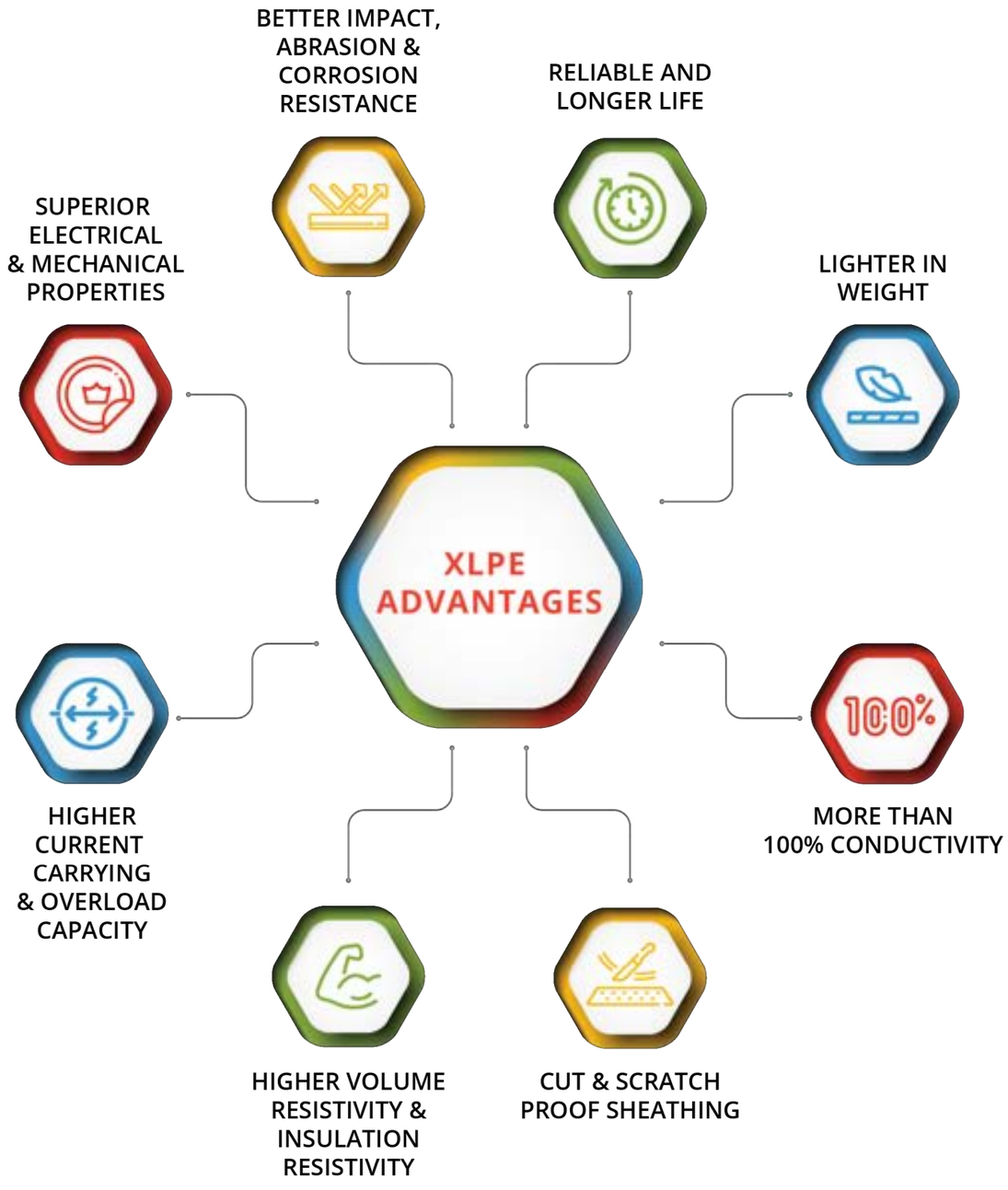
PACKING :
500 / 1000 Mtr. Wooden Drum

CABLE COLOR :
Black, Grey, Other of special request

RANGE :
1.0 sq mm to 50 sq mm

CABLE TECHNICAL PERAMETER

Nominal Cross Sectional Area of Conductor (sq. mm)	Number Max. Dia. of Strands	Nominal Insulation Thickness (mm)	Approx Overall Diameter	Sheath Approx Overall Diameter		Max. Conductor Resistance per KM @ 20 C Ohms	Current Carrying Capacity @ 40 C AMPS
				Width (Nom) mm	Height (Nom) mm		
1.5 **	22/0.3	0.7	0.9	10.8	4.8	12.1	22
2.5 **	36/0.3	0.7	1.0	12.41	5.47	7.41	30
4.0	56/0.3	0.7	1.0	14	6	4.95	37
6.0	84/0.3	0.7	1.1	15.88	6.76	3.30	46
10	140/0.3	0.7	1.4	19.3	8.3	1.91	66
16	126/0.4	0.7	1.4	22.48	9.36	1.21	85
25	196/0.4	0.9	2.0	28.72	12.24	0.780	113
35	276/0.4	0.9	2.0	32.32	13.44	0.554	139



SELECTION GUIDE FOR 3 CORE FLAT CALBE
CABLE SELECTION CHART @ 40 C 415 V (WITH DOL STARTER)

SUBMERSIBLE MOTORS		SIZE OF CABLES IN SQ MM AT DIFFERENT LENGTH IN MTR														
H.P	FULL LOAD CURRENT	10	20	30	40	50	60	70	80	90	100	110	128	140	180	200
5	7.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.5	2.5	4	4
7.5	11	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5	4	4	4	6
10	15	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4	4	4	4	6	6
12.5	19	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4	4	4	4	6	6	10	10
15	22.5	4	4	4	4	4	4	4	4	4	4	6	6	10	10	10
17.5	26	4	4	4	4	4	4	4	4	6	6	6	10	10	10	10
20	28.4	6	6	6	6	6	6	6	6	6	6	6	10	10	10	16
25	35.6	10	10	10	10	10	10	10	10	10	10	10	10	10	16	16
30	42.3	10	10	10	10	10	10	10	10	10	10	10	10	16	16	16
35	50.4	16	16	16	16	16	16	16	16	16	16	16	16	16	25	25
40	58.1	16	16	16	16	16	16	16	16	16	16	16	16	16	25	25
45	62.1	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
50	67.5	25	25	25	25	25	25	25	25	25	25	25	25	25	25	35
55	73.8	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
60	81.0	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
65	87.3	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
70	93.6	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
75	100.8	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
80	108.0	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50

CABLE SELECTION CHART @ 40 C 415 V (WITH STAR DELTA STARTER - DOUBLE CABLE)

SUBMERSIBLE MOTORS		SIZE OF CABLES IN SQ MM AT DIFFERENT LENGTH IN MTR														
H.P	FULL LOAD CURRENT AMPS.	10	20	30	40	50	60	70	80	90	100	110	128	140	180	200
5	7.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
7.5	11	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.5	2.5	4	4
10	15	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5	4	4	4	6
12.5	19	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5	4	4	4	6
15	22.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4	4	4	4	6	6
17.5	26	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4	4	4	4	6	6
20	28.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4	4	4	4	6	6	10	10
25	35.6	4	4	4	4	4	4	4	4	4	4	6	6	10	10	10
30	42.3	4	4	4	4	4	4	4	4	6	6	6	10	10	10	10
35	50.4	6	6	6	6	6	6	66	6	6	6	6	10	10	10	16
40	56.1	10	10	10	10	10	10	10	10	10	10	10	10	10	16	16
45	62.1	10	10	10	10	10	10	10	10	10	10	10	10	10	16	16
50	67.5	10	10	10	10	10	10	10	10	10	10	10	10	16	16	16
55	73.8	10	10	10	10	10	10	10	10	10	10	10	10	16	16	16
60	81.0	16	16	16	16	16	16	16	16	16	16	16	16	16	25	25
65	87.3	16	16	16	16	16	16	16	16	16	16	16	16	16	25	25
70	93.6	16	16	16	16	16	16	16	16	16	16	16	16	16	25	25
75	100.8	16	16	16	16	16	16	16	16	16	16	16	16	16	25	25
80	108.0	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25

INDUSTRIAL FLEXIBLE CABLE

SINGLE-CORE FLEXIBLE CABLE

Multistrand Copper Conductor FR PVC Insulated
Single Core Flexible Cable (up to 1100 V)

APPLICATION :
Cable Suitable for internal wiring of control & instrumentation panels, motor starters, relay, controllers, connectors, static appliances etc.

CONSTRUCTION OF CABLE :

BIS :
IS 694-2010

CONDUCTOR :
Electrolytic Grade Plain Copper Class V as per IS:8130

INSULATION :
Primary - Natural PVC with FR Properties
Secondary - Skin Color Coated PVC with FR Properties

VOLTAGE GRADE :
Up to and including 1100 V

PACKING :
Standard 100 mtr coil / 500 or 1000 Mtr. Wooden Drum

CABLE COLOR :
Standard Black Color, Others as per special request

RANGE :
0.5 sq mm to 1000 sq mm

CABLE TECHNICAL PERAMETER

Nominal Cross Sectional Area of Conductor (sq. mm)	Number Max. Dia. of Strands	Nominal Insulation Thickness (mm)	Approx Overall Diameter (Max) (mm)	*Current Carrying Capacity (AMPS)	Max. Conductor Resistance pr KM @ 20 C
10	140/0.30	1.0	6.10	51	1.91
16	126/0.40	1.0	7.20	68	1.21
25	196/0.40	1.2	8.85	82	0.780
35	276/0.40	1.2	10.05	110	0.554
50	396/0.40	1.4	11.95	140	0.386
70	551/0.40	1.4	13.65	214	0.272
95	760/0.40	1.6	15.85	260	0.206
120	950/0.40	1.6	17.40	305	0.161
150	1180/0.40	1.8	19.35	355	0.129
185	1480/0.40	2.0	21.50	415	0.106
240	1880/0.40	2.2	24.40	500	0.0801
300	2368/0.40	2.4	27.30	570	0.0641
400	3085/0.40	2.6	31.15	690	0.0486

MULTI-CORE FLEXIBLE CABLE

Multistrand Copper Conductor FR PVC Insulated
& ST-3 Grade Outer Sheathed Multi Core Flexible Cable
Voltage Grade (up to 1100 V)

APPLICATION :

Cable Suitable for internal wiring of all type of Industrial, Residential & Commercial Infrastructure, Machineries, Tools for Controlling & Instrumentation, Motors etc.

CONSTRUCTION OF CABLE :

BIS :
IS 694:2010

CONDUCTOR :
Electrolytic Grade Plain Annealed Copper Class V as per IS:8130

INSULATION :
Type A/D, FR or FRLS PVC Compound

SHEATH :
Flexible Grade PVC

VOLTAGE GRADE :
Up to and including 1100 V

PACKING :
Standard 100 Mtr Coil. Longer in Wooden Drum as per customer requirement.

CABLE COLOR :
Black, Gray & White, Others - as per customer requirement

RANGE :
0.5 sq mm to 1000 sq mm in Single Core
0.5 sq mm to 400 sq mm in Multi Core

CORE IDENTIFICATION :

2 CORE :
Red, Black

3 CORE :
Red, Blue/Black & Yellow-Green*

4 CORE :
Red, Yellow, Blue Yellow-Green*

5 CORE :
Red, Yellow, Blue, Black & Gray

6 CORE :
Red, Yellow, Blue, Green, White & Yellow-Green

7 CORE :
Numbering in Each Core / Color Coding as specified in IS:694 and above

Note : The numbers and diameter of conductor strands are for reference only. Conductor resistance as pr IS:8130 is the governing criteria. Conductor shall be of Class V as per IS:8130



CABLE TECHNICAL PERAMETER

Nominal Cross Sectional Area of Conductor (sq. mm)	Number Max. Dia. of Strands	Nominal Insulation Thickness (mm)	Nominal Thickness of Sheath					Approx Overall Diameter					Max. Conductor Resistance per KM @ 20 C Ohms
			5 Core mm	6 Core mm	7 Core mm	8 Core mm	10 Core mm	5 Core mm	6 Core mm	7 Core mm	8 Core mm	10 Core mm	
0.50	16/0.20	0.6	0.9	0.9	0.9	1.0	1.0	7.55	8.2	8.2	9.3	10.5	39.0
0.75	24/0.20	0.6	0.9	1.0	1.0	1.0	1.1	8.1	9.0	9.0	10.0	11.5	26.0
1.00	32/0.20	0.6	0.9	1.0	1.0	1.0	1.1	8.75	9.5	9.5	10.65	12.2	19.5
1.50	30/0.25	0.6	0.9	1.0	1.0	1.1	1.1	9.5	10.3	10.3	11.75	13.3	13.3
2.50	50/0.25	0.7	1.0	1.1	1.1	1.2	1.3	11.25	12.5	12.5	14.25	16.3	7.98

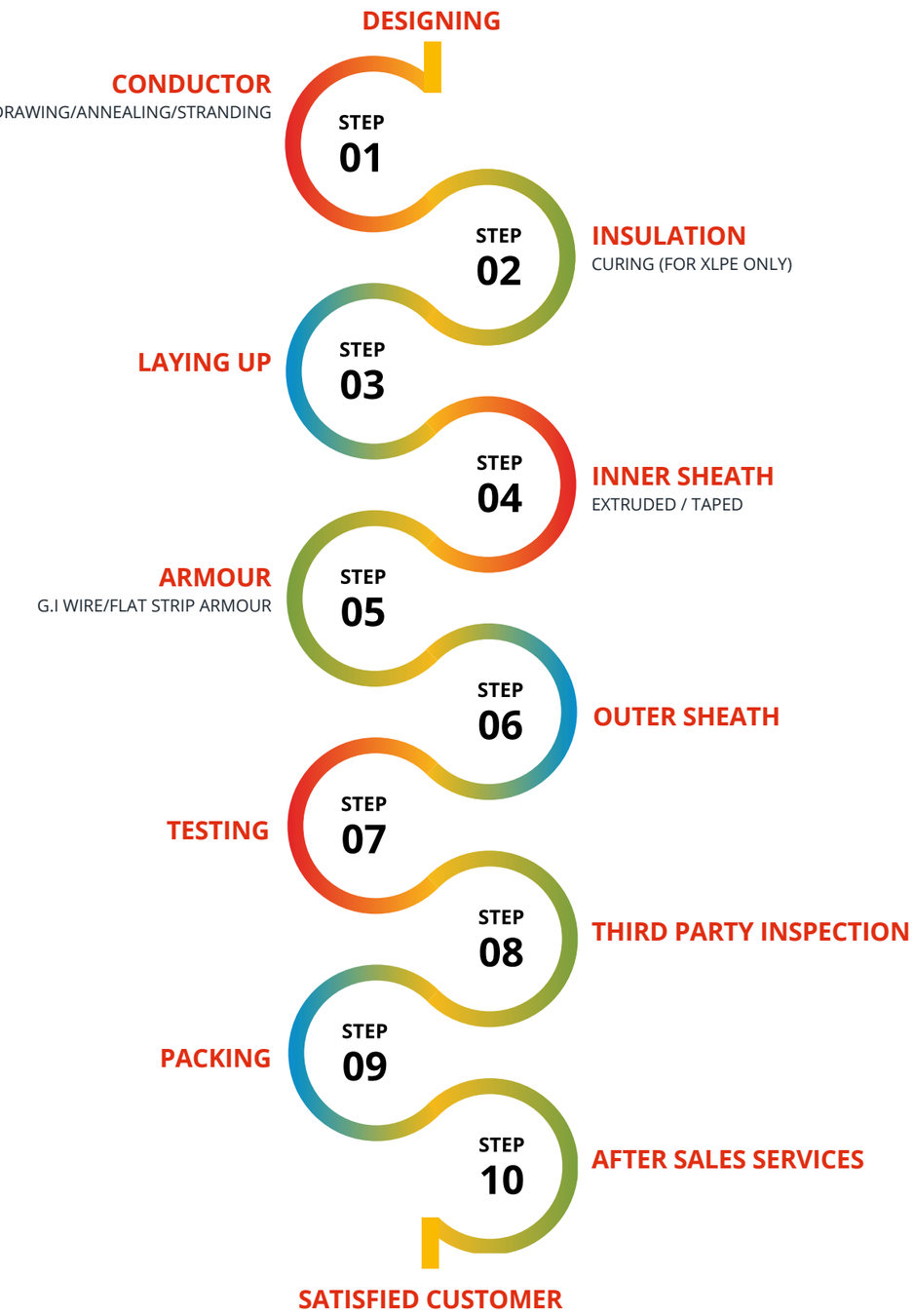
Nominal Cross Sectional Area of Conductor (sq. mm)	Number Max. Dia. of Strands	Nominal Insulation Thikness (mm)	Nominal Thickness of Sheath					Approx Overall Diameter					Max. Conductor Resistance per KM @ 20 C Ohms
			12 Core mm	14 Core mm	16 Core mm	19 Core mm	24 Core mm	12 Core mm	14 Core mm	16 Core mm	19 Core mm	24 Core mm	
0.50	16/0.20	0.6	1.0	1.1	1.1	1.1	1.2	10.85	11.55	12.2	12.8	15.15	39.0
0.75	24/0.20	0.6	1.1	1.1	1.2	1.2	1.3	11.85	12.45	13.30	13.30	16.55	26.0
1.00	32/0.20	0.6	1.1	1.1	1.2	1.3	1.4	12.6	13.25	14.15	14.15	17.8	19.5
1.50	30/0.25	0.6	1.1	1.2	1.2	1.3	1.4	13.75	14.6	15.45	15.45	19.4	13.3
2.50	50/0.25	0.7	1.3	1.3	1.4	1.4	1.5	16.9	17.75	18.95	18.95	23.6	7.98

Nominal Cross Sectional Area of Conductor (sq. mm)	Number Max. Dia. of Strands	Nominal Insulation Thikness (mm)	Nominal Thickness of Sheath			Approx Overall Diameter			Current Rating AC	Voltage Drop / AMP. / MTR		Max. Conductor Resistance per KM @ 20 C Ohms
			2 Core mm	3 Core mm	4 Core mm	2 Core mm	3 Core mm	4 Core mm		DC Single Phase AC mV	3 Phase AC mV	
0.50	16/0.20	0.6	0.9	0.9	0.9	6.05	6.40	6.95	4	83	72	39.0
0.75	24/0.20	0.6	0.9	0.9	0.9	6.45	6.85	7.45	7	56	48	26.0
1.00	32/0.20	0.6	0.9	0.9	0.9	6.80	7.20	7.85	11	43	37	19.5
1.50	30/0.25	0.6	0.9	0.9	1.0	7.40	7.80	8.75	13	31	26	13.3
2.50	50/0.25	0.7	1.0	1.0	1.0	8.85	9.40	10.30	18	18	16	7.98
4.00	56/0.30	0.8	1.0	1.0	1.0	10.35	11.0	12.10	24	11	9.6	4.95
6.00	84/0.30	0.8	1.1	1.2	1.2	11.70	12.65	13.90	31	8	7	3.30
10	140/0.30	1.0	1.3	1.4	1.4	14.75	15.95	17.50	42	4	3.5	1.91
16	126/0.40	1.0	1.4	1.4	1.4	17.10	18.25	20.10	57	2.5	2.2	1.21
25	196/0.40	1.2	1.4	1.5	1.6	20.50	22.10	24.60	72	1.6	1.4	0.780
35	276/0.40	1.2	1.6	1.6	1.7	23.20	24.80	27.60	91	1.2	1.0	0.554
50	396/0.40	1.4	2.0	2.0	2.0	27.9	29.8	32.9	120	0.97	0.84	0.386
70	551/0.40	1.4	2.2	2.2	2.2	31.6	33.8	37.35	200	0.7	0.62	0.272
95	760/0.40	1.6	2.4	2.4	2.4	36.5	39.0	43.15	225	0.59	0.48	0.206
120	950/0.40	1.6	2.5	2.5	2.5	36.75	42.55	47.05	305	0.48	0.42	0.161
150	1180/0.40	1.8	-	2.6	2.6	-	47.0	52.0	355	-	-	0.129
185	1880/0.40	2.0	-	2.8	2.8	-	52.0	57.60	415	-	-	0.106
240	2368/0.40	2.2	-	3.0	3.0	-	58.7	65.0	500	-	-	0.0801
300	3085/0.40	2.4	-	3.2	3.2	-	65.30	72.40	587	-	-	0.0641

Note : The numbers and diameter of conductor strands are for reference only. Conductor resistance as pr IS:8130 is the governing criteria. Conductor shall be of Class V as per IS:8130

POWER-CONTROL CABLES

MANUFACTURING OF LV POWER AND CONTROL CABLES

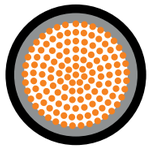
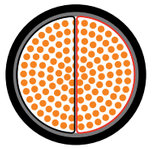


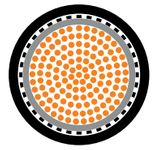
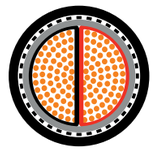
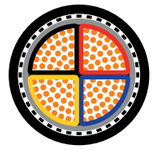
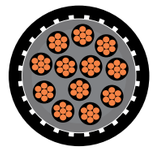
COMPONENTS OF LV CABLES

ELEMENT	XLPE	PVC/HR PVC
CONDUCTOR	Electrolytic Copper (Plain or Tinned) and Aluminum conductor in form of Solid, Stranded Circular, Compacted Circular and Shaped as per IS 8130, IEC 60228 & BS EN 60228. The sector shaped conductor are manufactured with pre-spiral lay which gives compact shape to the cable with reduced diameter at laid up stage.	
INSULATION	90 C thermoset dielectric, is applied as insulation over the conductor by extrusion process. Cross Linked Polyethelene (XLPE) as per IS:7098-1, IEC 60502-1, BS 7655	Thermoplastic dielectric, is applied as insulation over the conductor by extrusion process. We offer both general purpose PVC of 70 C (Type A) and Heat Resistant PVC of 85 C (Type C). Poly-V inyl Chloride (PVC) as per IS 5831, IEC 60502-1, BS 7655 Low Smoke Zero Halogen (LSZH) as per IEC 60502-1
LAYING UP OF CORES	The multi-cores are laid-up with appropriate tooling to form a compact circular shape, PVC fillers can be applied (Wherever necessary) to provide circular shape.	
INNERSHEATH	PVC/LSZH innersheath is applied as a protection over the laid up cores, innersheath can be offered in two forms Extruded or Taped. Extruded PVC bedding of ST2/LSZH as per IS5831, IEC 60502-1, BS 7655 Cables with special properties of FR and FRLS can be offered Taped Bedding of Thermoplastic Taped to be compatible with temperature rating of the cable as per IS 7098-1, IEC 60502-1	PVC/LSZH innersheath is applied as a protection over the laid up cores, innersheath can be offfered in two forms Extruded and Taped. Extruded PVC bedding of ST 1 or ST 2 PVC as per Is 5831, IEC 60502-1, BS 7655 Cables with special properties of FR and FRLS can be offered Taped Bedding of Thermoplastic tape to be compatible with temperature rating of the cable as per IS 1554-1, IEC 60502-1
ARMOUR	Galvanized Steel Round Wire as per IS 3975, IEC 60502-1, BS 10257 Galvanized Steel Flat Strip as per IS 3975, IEC 60502-1 For Single Core cables to be used in AC circuit Aluminum Round Wire or Flat Strip armour is provided to avoid magnetic hysteresis losses. For cables to be used in mines, required armour conductance (may be 75% to 40%) can be achieved by Double Wire armour or by incorporation Tinned Copper Wires with Galvanized Steel Wires.	
OUTERSHEATH	PVC/LSZH outersheath is applied by extrusion process generally Black in colour with sequential marking and required detail printed with non-contact ink jet printer and also embossing can be provided. Cables with special properties of FR and FRLS can be offered.Poly-Vinyl Chloride (PVC) as per IS 5831, IEC 60502-1, BS 7655	

TYPICAL CROSS SECTIONAL VIEW

XLPE/ PVC/ HR PVC) Cables

		XLPE	PVC/ HR PVC
1 CORE UNARMOURED CABLE		01. Conductor - Copper or Aluminum (A) 02. Insulation - Type “XLPE” (2X) 03. Outersheath - ST2 PVC (Y) **Typical Cable Code : 2XY, A2XY**	01. Conductor - Copper or Aluminum (A) 02. Insulation - Type “A” or “C” PVC (Y) 03. Outersheath - ST1 or ST2 PVC (Y) **Typical Cable Code : YY, AYY**
2 CORE UNARMOURED CABLE		01. Conductor - Copper or Aluminum (A) 02. Insulation - Type “XLPE” (2X) 03. Innersheath - ST2 Extruded PVC or Thermoplastic Tapes 04. Outersheath - ST2 PVC (Y) **Typical Cable Code : 2XY, A2XY**	01. Conductor - Copper or Aluminum (A) 02. Insulation - Type “A” or “C” PVC (Y) 03.Innersheath - ST2 Extruded PVC or Thermoplastic Tapes 04. Outersheath - ST2 PVC (Y) **Typical Cable Code : YY, AYY**
3 CORE UNARMOURED CABLE		01. Conductor - Copper or Aluminum (A) 02. Insulation - Type “XLPE” (2X) 03. Outersheath - ST2 Extruded PVC or Thermoplastic Tapes 04. Outersheath - ST2 PVC (Y) **Typical Cable Code : 2XY, A2XY**	01. Conductor - Copper or Aluminum (A) 02. Insulation - Type “A” or “C” PVC (Y) 03. Outersheath - ST1 or ST2 Extruded PVC or Thermoplastic Tapes 04. Outersheath - ST1 or ST2 PVC (Y) **Typical Cable Code : YY, AYY**
3.5 CORE UNARMOURED CABLE		01. Conductor - Copper or Aluminum (A) 02. Insulation - Type “XLPE” (2X) 03. Outersheath - ST2 Extruded PVC or Thermoplastic Tapes 04. Outersheath - ST2 PVC (Y) **Typical Cable Code : 2XY, A2XY**	01. Conductor - Copper or Aluminum (A) 02. Insulation - Type “A” or “C” PVC (Y) 03. Outersheath - ST1 or ST2 Extruded PVC or Thermoplastic Tapes 04. Outersheath - ST1 or ST2 PVC (Y) **Typical Cable Code : YY, AYY**
4 CORE UNARMOURED CABLE		01. Conductor - Copper or Aluminum (A) 02. Insulation - Type “XLPE” (2X) 03. Outersheath - ST2 Extruded PVC or Thermoplastic Tapes 04. Outersheath - ST2 PVC (Y) **Typical Cable Code : 2XY, A2XY**	01. Conductor - Copper or Aluminum (A) 02. Insulation - Type “A” or “C” PVC (Y) 03. Outersheath - ST1 or ST2 Extruded PVC or Thermoplastic Tapes 04. Outersheath - ST1 or ST2 PVC (Y) **Typical Cable Code : YY, AYY**

		XLPE	PVC/ HR PVC
1 CORE ARMOURED CABLE		01. Conductor - Copper or Aluminum (A) 02. Insulation - Type “XLPE” (2X) 03. Armoured - Aluminum Round Wire/ Flat Strip 04. Outersheath - ST2 PVC (Y) **Typical Cable Code : A2XWaY, A2XFaY, 2XFaY, 2XWaY**	01. Conductor - Copper or Aluminum (A) 02. Insulation - Type “A” or “C” PVC (Y) 03. Armoured - Aluminum Round Wire/ Flat Strip 04. Outersheath - ST1 or ST2 PVC (Y) **Typical Cable Code : YYaY, AYWaY, YFaY, AYFaY**
2 CORE ARMOURED CABLE		01. Conductor - Copper or Aluminum (A) 02. Insulation - Type “XLPE” (2X) 03. Innersheath - ST2 Extruded PVC or Thermoplastic Tapes 04. Armoured - G.S.Round Wire/Strip 05. Outersheath - ST2 PVC (Y) **TCC : 2XWY, 2XFY, A2XWY, A2XFY**	01. Conductor - Copper or Aluminum (A) 02. Insulation - Type “A” or “C” PVC (Y) 03.Innersheath - ST2 Extruded PVC or Thermoplastic Tapes 04. Armoured - G.S.Round Wire/Strip 05. Outersheath - ST1 or ST2 PVC (Y) **Typical Cable Code : YWY, YFY, AYWY, AYFY**
3 CORE ARMOURED CABLE		01. Conductor - Copper or Aluminum (A) 02. Insulation - Type “XLPE” (2X) 03. Innersheath - ST2 Extruded PVC or Thermoplastic Tapes 04. Armoured - G.S.Round Wire/Strip 05. Outersheath - ST2 PVC (Y) **Typical Cable Code : 2XWY, 2XFY, A2XWY, A2XFY**	01. Conductor - Copper or Aluminum (A) 02. Insulation - Type “A” or “C” PVC (Y) 03.Innersheath - ST2 Extruded PVC or Thermoplastic Tapes 04. Armoured - G.S.Round Wire/Strip 05. Outersheath - ST1 or ST2 PVC (Y) **Typical Cable Code : YWY, YFY, AYWY, AYFY**
3.5 CORE ARMOURED CABLE		01. Conductor - Copper or Aluminum (A) 02. Insulation - Type “XLPE” (2X) 03. Innersheath - ST2 Extruded PVC or Thermoplastic Tapes 04. Armoured - G.S.Round Wire/Strip 05. Outersheath - ST2 PVC (Y) **Typical Cable Code : 2XWY, 2XFY, A2XWY, A2XFY**	01. Conductor - Copper or Aluminum (A) 02. Insulation - Type “A” or “C” PVC (Y) 03.Innersheath - ST2 Extruded PVC or Thermoplastic Tapes 04. Armoured - G.S.Round Wire/Strip 05. Outersheath - ST1 or ST2 PVC (Y) **Typical Cable Code : YWY, YFY, AYWY, AYFY**
4 CORE ARMOURED CABLE		01. Conductor - Copper or Aluminum (A) 02. Insulation - Type “XLPE” (2X) 03. Innersheath - ST2 Extruded PVC or Thermoplastic Tapes 04. Armoured - G.S.Round Wire/Strip 05. Outersheath - ST2 PVC (Y) **Typical Cable Code : 2XWY, 2XFY, A2XWY, A2XFY**	01. Conductor - Copper or Aluminum (A) 02. Insulation - Type “A” or “C” PVC (Y) 03.Innersheath - ST2 Extruded PVC or Thermoplastic Tapes 04. Armoured - G.S.Round Wire/Strip 05. Outersheath - ST1 or ST2 PVC (Y) **Typical Cable Code : YWY, YFY, AYWY, AYFY**
MULTI CORE ARMOURED CABLE		01. Conductor - Copper or Aluminum (A) 02. Insulation - Type “XLPE” (2X) 03. Innersheath - ST2 Extruded PVC or Thermoplastic Tapes 04. Armoured - G.S.Round Wire/Strip 05. Outersheath - ST2 PVC (Y) **Typical Cable Code : 2XWY, 2XFY, A2XWY, A2XFY**	01. Conductor - Copper or Aluminum (A) 02. Insulation - Type “A” or “C” PVC (Y) 03.Innersheath - ST2 Extruded PVC or Thermoplastic Tapes 04. Armoured - G.S.Round Wire/Strip 05. Outersheath - ST1 or ST2 PVC (Y) **Typical Cable Code : YWY, YFY, AYWY, AYFY**

PVC
HEAVY DUTY CABLE

WEIGHT DIMENSION DATA & CURRENT CARRYING CAPACITY

TABLE - 1 ADCAB 1.1 KV SINGLE CORE, ALUMINUM CONDUCTOR, PVC INSULATED ALUMINUM WIRE/STRIP ARMORED & PVC SHEATHED CABLE CONFIRMING TO IS:1554 (PART I) AMENDED UP TO DATE

Nominal Cross Sectional Area	Nominal Thickness of Insulation	Armour		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx Weight of Cable	Max DC Conductor Resistance @ 20 C	Current Rating					
		Aluminum Wire Dia	Aluminum Strip Thickness					Direct In Ground		In Duct		In Air	
								2 Cables	3 Cables	2 Cables	3 Cables	2 Cables	3 Cables
sq mm	mm	mm	mm	mm	mm	kg/km	ohm/km	amps	amps	amps	amps	amps	amps
*4	1.3	1.4	-	1.24	11	155	7.410	36	31	33	30	32	27
*6	1.3	1.4	-	1.24	12	175	4.610	44	39	42	37	41	35
*10	1.3	1.4	-	1.24	13.5	205	3.080	50	51	56	51	56	47
16	1.3	1.4	-	1.24	14	230	1.191	75	66	71	65	72	64
25	1.5	1.4	-	1.24	15	300	1.200	97	86	93	84	99	84
35	1.5	1.4	-	1.24	16	350	0.868	97	100	110	100	120	105
50	1.7	1.4	-	1.24	18	430	0.641	120	110	130	115	150	130
70	1.7	1.4	-	1.40	20	530	0.443	145	140	155	135	185	155
95	1.9	-	4 x 0.80	1.40	21.5	610	0.320	170	175	180	155	215	190
120	1.9	-	4 x 0.80	1.40	22.5	710	0.253	205	195	200	170	240	220
150	2.1	-	4 x 0.80	1.40	24	840	0.206	230	220	220	190	270	250
185	2.3	-	4 x 0.80	1.40	26.5	1020	0.164	265	240	240	210	305	290
240	2.5	-	4 x 0.80	1.40	29	1250	0.125	300	270	270	225	350	335
300	2.7	-	4 x 0.80	1.56	32	1500	0.100	335	295	295	245	395	380
400	3.0	-	4 x 0.80	1.56	36	1910	0.0778	370	325	335	275	455	435
500	3.4	-	4 x 0.80	1.56	40	2350	0.0605	410	345	335	295	490	480
630	3.9	-	4 x 0.80	1.72	44	2920	0.0469	435	390	395	320	560	550

*size with star(*)only offered with solid conductor

TABLE -2 ADCAB 1.1 KV SINGLE CORE, ALUMINUM CONDUCTOR, PVC INSULATED UNARMORED & PVC SHEATHED CABLE CONFIRMING TO IS:1554 (PART I) AMENDED UP TO DATE

Nominal Cross Sectional Area	Nominal Thickness of Insulation	Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx Weight of Cable	Max DC Conductor Resistance @ 20 C	Current Rating					
						Direct In Ground		In Duct		In Air	
						2 Cables	3 Cables	2 Cables	3 Cables	2 Cables	3 Cables
sq mm	mm	mm	mm	kg/km	ohm/km	amps	amps	amps	amps	amps	amps
*1.5	0.8	1.8	7.0	55	18.100	21	17	19	17	18	15
*2.5	0.9	1.8	7.5	65	12.100	28	24	25	24	25	21
*4.0	1.0	1.8	8.0	75	7.410	36	31	33	30	32	27
*6.0	1.0	1.8	9.0	90	4.610	44	39	42	37	44	35
*10	1.0	1.8	10.0	105	3.080	54	51	56	51	56	47
16	1.0	1.8	11.0	140	1.910	72	66	71	65	72	64
25	1.2	1.8	12.5	195	1.200	97	83	93	84	99	84
35	1.2	1.8	13.5	235	0.868	120	100	110	100	120	105
50	1.4	1.8	15.0	305	0.641	145	120	130	115	150	130
70	1.4	1.8	17.0	385	0443	170	140	155	135	185	155
95	1.6	1.8	19.0	515	0.320	205	175	180	155	215	190
120	1.6	2.0	21.0	610	0.253	230	195	200	170	240	220
150	1.8	2.0	22.5	735	0.206	265	220	220	190	270	250
185	2.0	2.0	25.0	885	0.164	300	240	240	210	305	290
240	2.2	2.0	28.0	1100	0.125	335	270	270	225	350	335
300	2.4	2.0	30.0	1335	0.100	370	295	295	245	395	380
400	2.6	2.2	34.0	1665	0.0778	410	25	335	275	455	435
500	3.0	2.2	38.0	2130	0.0605	435	345	355	295	490	480
630	3.4	2.4	43.0	2685	0.0469	485	390	395	320	560	550

TABLE - 3 ADCAB 1.1 KV SINGLE CORE, COPPER CONDUCTOR, PVC INSULATED ALUMINUM WIRE/STRIP ARMORED & PVC SHEATHED CABLE CONFIRMING TO IS:1554 (PART I) AMENDED UP TO DATE

Nominal Cross Sectional Area	Nominal Thickness of Insulation	Armour		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx Weight of Cable	Max DC Conductor Resistance @ 20 C	Current Rating					
		Aluminum Wire Dia	Aluminum Strip Thickness					Direct In Ground		In Duct		In Air	
								2 Cables	3 Cables	2 Cables	3 Cables	2 Cables	3 Cables
sq mm	mm	mm	mm	mm	mm	kg/km	ohm/km	amps	amps	amps	amps	amps	amps
*4	1.3	1.4	-	1.24	11	180	4.610	46	39	42	38	43	35
*6	1.3	1.4	-	1.24	12	215	3.080	57	49	54	48	54	44
*10	1.3	1.4	-	1.24	13	270	1.830	75	65	72	64	72	60
16	1.3	1.4	-	1.24	15	330	1.150	94	85	92	83	92	82
25	1.5	1.4	-	1.24	16	460	0.727	125	110	120	110	125	110
35	1.5	1.4	-	1.24	18	575	0.524	150	130	140	125	155	130
50	1.7	1.4	-	1.24	20	740	0.387	180	155	165	150	190	165
70	1.7	1.4	-	1.40	21	970	0.268	220	190	200	175	235	205
95	1.9	-	4 x 0.80	1.40	22	1200	0.193	265	220	230	200	275	245
120	1.9	-	4 x 0.80	1.40	24	1460	0.153	300	250	255	220	310	280
150	2.1	-	4 x 0.80	1.40	26	1770	0.124	340	280	280	245	345	320
185	2.3	-	4 x 0.80	1.40	29	2170	0.099	380	305	305	260	390	370
240	2.5	-	4 x 0.80	1.40	14	2740	0.075	420	345	340	285	445	425
300	2.7	-	4 x 0.80	1.56	32	3360	0.060	465	375	370	310	500	475
400	3.0	-	4 x 0.80	1.56	36	4400	0.047	500	400	405	335	570	550
500	3.4	-	4 x 0.80	1.56	40	5450	0.037	540	425	430	355	610	590
630	3.9	-	4 x 0.80	1.72	44	6820	0.028	590	470	465	375	680	660

*size with star(*)only offered with solid conducto

TABLE - 4 ADCAB 1.1 KV SINGLE CORE, COPPER CONDUCTOR, PVC INSULATED ALUMINUM WIRE/STRIP UNARMORED PVC SHEATHED CABLE CONFIRMING TO IS:1554 (PART I) AMENDED UP TO DATE

Nominal Cross Sectional Area	Nominal Thickness of Insulation	Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx Weight of Cable	Max DC Conductor Resistance @ 20 C	Current Rating					
						Direct In Ground		In Duct		In Air	
						2 Cables	3 Cables	2 Cables	3 Cables	2 Cables	3 Cables
sq mm	mm	mm	mm	kg/km	ohm/km	amps	amps	amps	amps	amps	amps
*1.5	0.8	1.8	7.0	65	12.100	25	22	23	21	24	20
*2.5	0.9	1.8	7.5	82	7.410	35	30	31	29	32	27
*4.0	1.0	1.8	8.0	100	4.610	46	39	42	38	43	35
*6.0	1.0	1.8	9.0	130	3.080	57	49	54	48	54	44
*10	1.0	1.8	10.0	170	1.830	75	65	72	64	72	60
16	1.0	1.8	11.0	240	1.150	94	85	92	83	92	82
25	1.2	1.8	12.5	350	0.727	125	110	120	110	125	110
35	1.2	1.8	13.5	455	0.524	150	130	140	125	155	130
50	1.4	1.8	15.0	620	0.387	180	155	165	150	190	165
70	1.4	1.8	17.0	820	0.268	220	190	200	175	235	205
95	1.6	1.8	19.0	1105	0.193	265	220	230	200	273	245
120	1.6	2.0	21.0	1355	0.153	300	250	255	220	310	280
150	1.8	2.0	22.5	1665	0.124	340	280	280	245	345	320
185	2.0	2.0	25.0	2040	0.099	380	305	305	260	390	370
240	2.2	2.0	28.0	2590	0.075	420	345	340	285	445	425
300	2.4	2.0	30.0	3200	0.060	465	375	370	310	500	475
400	2.6	2.2	34.0	4150	0.047	500	400	403	335	570	550
500	3.0	2.2	38.0	5230	0.370	540	425	430	355	610	590
630	3.4	2.4	43.0	6600	0.280	590	470	465	375	680	660

*size with star(*)only offered with solid conductor

TABLE - 5 ADCAB 1.1 KV TWO CORE, ALUMINUM CONDUCTOR, PVC INSULATED, GI WIRE/STRIP ARMORED & PVC SHEATHED CABLE CONFIRMING TO IS:1554 (PART I) AMENDED UP TO DATE

Nominal Cross Sectional Area	Nominal Thickness of Insulation	Nominal Thickness of Inner Sheath	Armour		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx Weight of Cable	Max DC Conductor Resistance @ 20 C	Current Rating		
			GI Round Steel Wire Nom. Dia	GI Flat Strip Nom. Dia					Direct In Ground	In Duct	In Air
sq mm	mm	mm	mm	mm	mm	mm	kg/km	ohm/km	amps	amps	amps
*1.5	0.8	0.3	1.4	-	1.24	12.5	320	18.100	18	16	16
*2.5	0.9	0.3	1.4	-	1.24	13.5	380	12.100	25	21	21
*4	1.0	0.3	1.4	-	1.24	15.0	450	7.410	32	27	27
*6	1.0	0.3	1.4	-	1.24	16.0	500	4.610	40	34	35
*10	1.0	0.3	1.4	-	1.24	18.0	600	3.080	55	45	47
16	1.0	0.3	-	0.8	1.40	18.0	500	1.910	70	58	59
25	1.2	0.3	-	0.8	1.40	20.0	650	1.200	90	76	78
35	1.2	0.3	-	0.8	1.40	21.5	750	0.868	110	92	99
50	1.4	0.3	-	0.8	1.40	24.5	950	0.641	135	115	125
70	1.4	0.3	-	0.8	1.56	28.0	1150	0.443	160	140	150
95	1.6	0.4	-	0.8	1.56	31.0	1460	0.320	190	170	185
120	1.6	0.4	-	0.8	1.56	33.0	1670	0.253	210	190	210
150	1.8	0.4	-	0.8	1.72	37.0	2010	0.206	240	210	240
185	2.0	0.5	-	0.8	1,88	40.5	2450	0.164	275	240	275
240	2.2	0.5	-	0.8	2.04	45.0	2950	0.125	320	275	325
300	2.4	0.6	-	0.8	2.20	50.0	3560	0.100	355	305	365
400	2.6	0.7	-	0.8	2.36	56.0	4500	0.078	385	345	420

*size with star(*)only offered with solid conductor

TABLE - 6 ADCAB 1.1 KV TWO CORE, ALUMINUM CONDUCTOR, PVC INSULATED UNARMORED PVC SHEATHED CABLE CONFIRMING TO IS:1554 (PART I) AMENDED UP TO DATE

Nominal Cross Sectional Area	Nominal Thickness of Insulation	Nominal Thickness of Inner Sheath	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx Weight of Cable	Max DC Conductor Resistance @ 20 C	Current Rating		
							Direct In Ground	In Duct	In Air
sq mm	mm	mm	mm	mm	kg/km	ohm/km	amps	amps	amps
*1.5	0.8	0.3	1.8	11.0	115	18.100	18	16	16
*2.5	0.9	0.3	1.8	12.0	150	12.100	25	21	21
*4	1.0	0.3	1.8	13.5	185	7.410	32	27	27
*6	1.0	0.3	1.8	14.5	220	4.610	40	34	35
*10	1.0	0.3	1.8	16.0	275	3.080	55	45	47
16	1.0	0.3	1.8	17.5	285	1.910	70	58	59
25	1.2	0.3	2.0	19.5	405	1.200	90	76	78
35	1.2	0.3	2.0	20.5	490	0.868	110	92	99
50	1.4	0.3	2.0	24.0	650	0.641	135	115	125
70	1.4	0.3	2.0	27.0	800	0.443	160	140	150
95	1.6	0.4	2.2	28.5	1065	0.320	190	170	185
120	1.6	0.4	2.2	33.0	1250	0.253	210	190	210
150	1.8	0.4	2.4	34.0	1550	0.206	240	210	240
185	2.0	0.5	2.4	37.0	1880	0.164	275	240	275
240	2.2	0.5	2.6	42.5	2400	0.125	320	275	325
300	2.4	0.6	2.8	45.5	2900	0.100	355	305	365
400	2.6	0.7	3.2	51.5	3800	0.078	385	345	420

*size with star(*)only offered with solid conductor

TABLE - 7 ADCAB 1.1 KV TWO CORE, COPPER CONDUCTOR, PVC INSULATED GI WIRE/STRIP ARMORED & PVC SHEATHED CABLE CONFIRMING TO IS:1554 (PART I) AMENDED UP TO DATE

Nominal Cross Sectional Area	Nominal Thickness of Insulation	Nominal Thickness of Inner Sheath	Armour		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx Weight of Cable	Max DC Conductor Resistance @ 20 C	Current Rating		
			GI Round Steel Wire Nom. Dia	GI Flat Strip Nom. Dia					Direct In Ground	In Duct	In Air
sq mm	mm	mm	mm	mm	mm	mm	kg/km	ohm/km	amps	amps	amps
*1.5	0.8	0.3	1.4	-	1.24	12.5	350	12.100	23	20	20
*2.5	0.9	0.3	1.4	-	1.24	13.5	415	7.410	32	27	27
*4	1.0	0.3	1.4	-	1.24	15.0	500	4.610	41	35	35
*6	1.0	0.3	1.4	-	1.24	16.0	580	3.080	50	44	45
*10	1.0	0.3	1.4	-	1.24	18.0	730	1.830	70	58	60
16	1.0	0.3	-	0.8	1.40	18.0	740	1.150	90	75	78
25	1.2	0.3	-	0.8	1.40	20.0	960	0.727	115	97	105
35	1.2	0.3	-	0.8	1.40	21.5	1200	0.524	140	120	125
50	1.4	0.3	-	0.8	1.40	24.5	1580	0.387	165	145	155
70	1.4	0.3	-	0.8	1.56	28.0	2020	0.268	205	180	195
95	1.6	0.4	-	0.8	1.56	31.0	2650	0.193	240	215	230
120	1.6	0.4	-	0.8	1.56	33.0	3160	0.153	275	235	265
150	1.8	0.4	-	0.8	1.72	37.0	3870	0.124	310	270	305
185	2.0	0.5	-	0.8	1.88	40.5	4750	0.099	350	300	350
240	2.2	0.5	-	0.8	2.04	45.0	5930	0.075	405	345	410
300	2.4	0.6	-	0.8	2.20	56.0	7300	0.060	450	385	465
400	2.6	0.7	-	0.8	2.36	55.9	9450	0.047	490	425	530

*size with star(*)only offered with solid conductor

TABLE - 8 ADCAB 1.1 KV TWO CORE, COPPER CONDUCTOR, PVC INSULATED UNARMORED PVC SHEATHED CABLE CONFIRMING TO IS:1554 (PART I) AMENDED UP TO DATE

Nominal Cross Sectional Area	Nominal Thickness of Insulation	Nominal Thickness of Inner Sheath	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx Weight of Cable	Max DC Conductor Resistance @ 20 C	Current Rating		
							Direct In Ground	In Duct	In Air
sq mm	mm	mm	mm	mm	kg/km	ohm/km	amps	amps	amps
*1.5	0.8	0.3	1.8	11.0	135	12.100	23	20	20
*2.5	0.9	0.3	1.8	12.0	185	7.410	32	27	27
*4	1.0	0.3	1.8	13.5	235	4.610	41	35	35
*6	1.0	0.3	1.8	14.5	295	3.080	50	44	45
*10	1.0	0.3	1.8	16.0	400	1.830	70	58	60
16	1.0	0.3	1.8	17.5	485	1.150	90	75	78
25	1.2	0.3	2.0	19.5	715	0.727	115	97	105
35	1.2	0.3	2.0	20.5	925	0.524	140	120	125
50	1.4	0.3	2.0	24.0	1270	0.387	165	145	155
70	1.4	0.3	2.0	27.0	1670	0.268	205	180	195
95	1.6	0.4	2.2	28.5	2250	0.193	240	215	230
120	1.6	0.4	2.2	33.0	2750	0.153	275	235	265
150	1.8	0.4	2.4	34.0	3410	0.124	310	270	305
185	2.0	0.5	2.4	37.5	4170	0.099	350	300	350
240	2.2	0.5	2.6	42.5	5370	0.075	405	345	410
300	2.4	0.6	2.8	45.5	6640	0.060	450	385	465
400	2.6	0.7	3.2	51.5	8770	0.047	490	425	530

*size with star(*)only offered with solid conductor

TABLE - 9 ADCAB 1.1 KV THREE CORE, ALUMINUM CONDUCTOR, PVC INSULATED GI WIRE/STRIP ARMORED & PVC SHEATHED CABLE CONFIRMING TO IS:1554 (PART I) AMENDED UP TO DATE

Nominal Cross Sectional Area	Nominal Thickness of Insulation	Nominal Thickness of Inner Sheath	Armour		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx Weight of Cable	Max DC Conductor Resistance @ 20 C	Current Rating		
			GI Round Steel Wire Nom. Dia	GI Flat Strip Nom. Dia					Direct In Ground	In Duct	In Air
sq mm	mm	mm	mm	mm	mm	mm	kg/km	ohm/km	amps	amps	amps
*1.5	0.8	0.3	1.4	-	1.24	12.5	375	18.100	16	14	13
*2.5	0.9	0.3	1.4	-	1.24	14.0	425	12.100	21	18	18
*4	1.0	0.3	1.4	-	1.24	15.5	500	7.410	28	23	23
*6	1.0	0.3	1.4	-	1.24	17.0	575	4.610	35	30	30
*10	1.0	0.3	1.4	-	1.40	19.0	700	3.080	46	39	40
16	1.0	0.3	-	0.8	1.40	20.0	650	1.910	60	50	51
25	1.2	0.3	-	0.8	1.40	22.0	800	1.200	76	63	70
35	1.2	0.3	-	0.8	1.40	25.0	950	0.868	92	77	86
50	1.4	0.3	-	0.8	1.56	27.0	1200	0.641	110	95	105
70	1.4	0.3	-	0.8	1.56	31.0	1500	0.443	135	115	130
95	1.6	0.4	-	0.8	1.56	34.0	1900	0.320	165	140	155
120	1.6	0.4	-	0.8	1.72	38.0	2240	0.253	185	155	180
150	1.8	0.4	-	0.8	1.88	42.0	2700	0.206	210	175	205
185	2.0	0.5	-	0.8	1.88	46.0	3200	0.164	235	200	240
240	2.2	0.5	-	0.8	2.20	52.0	3990	0.125	275	235	280
300	2.4	0.6	-	0.8	2.36	56.5	4850	0.100	305	260	315
400	2.6	0.7	-	0.8	2.52	64.0	6100	0.078	335	290	375

TABLE - 10 ADCAB 1.1 KV THREE CORE, ALUMINUM CONDUCTOR, PVC INSULATED UNARMORED PVC SHEATHED CABLE CONFIRMING TO IS:1554 (PART I) AMENDED UP TO DATE

Nominal Cross Sectional Area	Nominal Thickness of Insulation	Nominal Thickness of Inner Sheath	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx Weight of Cable	Max DC Conductor Resistance @ 20 C	Current Rating		
							Direct In Ground	In Duct	In Air
sq mm	mm	mm	mm	mm	kg/km	ohm/km	amps	amps	amps
*1.5	0.8	0.3	1.8	11.5	130	18.100	16	14	13
*2.5	0.9	0.3	1.8	12.5	170	12.100	21	18	18
*4	1.0	0.3	1.8	13.5	210	7.410	28	23	23
*6	1.0	0.3	1.8	15.0	255	4.610	35	30	30
*10	1.0	0.3	1.8	16.5	325	3.080	46	39	40
16	1.0	0.3	1.8	17.5	360	1.910	60	50	51
25	1.2	0.3	2.0	22.0	520	1.200	76	63	70
35	1.2	0.3	2.0	23.0	640	0.868	92	77	86
50	1.4	0.3	2.0	27.0	850	0.641	110	95	105
70	1.4	0.3	2.2	31.0	1110	0.443	135	115	130
95	1.6	0.4	2.2	33.0	1425	0.320	165	140	155
120	1.6	0.4	2.2	36.0	1690	0.253	185	155	180
150	1.8	0.4	2.4	41.0	2120	0.206	210	175	205
185	2.0	0.5	2.6	45.0	2600	0.164	235	200	240
240	2.2	0.5	2.8	50.0	3290	0.125	275	235	280
300	2.4	0.6	3.0	55.5	4050	0.100	305	260	315
400	2.6	0.7	3.4	63.5	5290	0.078	335	290	375

TABLE - 11 ADCAB 1.1 KV THREE CORE, COPPER CONDUCTOR, PVC INSULATED, GI WIRE/STRIP ARMORED & PVC SHEATHED CABLE CONFIRMING TO IS:1554 (PART I) AMENDED UP TO DATE

Nominal Cross Sectional Area	Nominal Thickness of Insulation	Nominal Thickness of Inner Sheath	Armour		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx Weight of Cable	Max DC Conductor Resistance @ 20 C	Current Rating		
			GI Round Steel Wire Nom. Dia	GI Flat Strip Nom. Dia					Direct In Ground	In Duct	In Air
sq mm	mm	mm	mm	mm	mm	mm	kg/km	ohm/km	amps	amps	amps
*1.5	0.8	0.3	1.4	-	1.24	12.5	405	12.100	21	17	17
*2.5	0.9	0.3	1.4	-	1.24	14.0	475	7.410	27	24	24
*4	1.0	0.3	1.4	-	1.24	15.5	580	4.610	36	30	30
*6	1.0	0.3	1.4	-	1.24	17.0	700	3.080	45	38	39
*10	1.0	0.3	1.4	-	1.40	19.0	890	1.830	60	50	52
16	1.0	0.3	-	0.8	1.40	20.0	950	1.150	77	64	66
25	1.2	0.3	-	0.8	1.40	22.0	1270	0.727	99	81	90
35	1.2	0.3	-	0.8	1.40	25.0	1600	0.524	120	99	110
50	1.4	0.3	-	0.8	1.56	27.0	2150	0.387	145	125	135
70	1.4	0.3	-	0.8	1.56	31.0	2800	0.268	175	150	165
95	1.6	0.4	-	0.8	1.56	34.0	3670	0.193	210	175	200
120	1.6	0.4	-	0.8	1.72	38.0	4470	0.153	240	195	230
150	1.8	0.4	-	0.8	1.88	42.0	5500	0.124	270	225	265
185	2.0	0.5	-	0.8	1.88	46.0	6650	0.099	300	255	305
240	2.2	0.5	-	0.8	2.20	52.0	8450	0.075	345	295	355
300	2.4	0.6	-	0.8	2.36	56.5	10450	0.060	385	335	400
400	2.6	0.7	-	0.8	2.52	64.0	13525	0.047	425	360	455

TABLE - 12 ADCAB 1.1 KV THREE CORE, COPPER CONDUCTOR, PVC INSULATED UNARMORED PVC SHEATHED CABLE CONFIRMING TO IS:1554 (PART I) AMENDED UP TO DATE

Nominal Cross Sectional Area	Nominal Thickness of Insulation	Nominal Thickness of Inner Sheath	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx Weight of Cable	Max DC Conductor Resistance @ 20 C	Current Rating		
							Direct In Ground	In Duct	In Air
sq mm	mm	mm	mm	mm	kg/km	ohm/km	amps	amps	amps
*1.5	0.8	0.3	1.8	11.5	160	12.100	21	17	17
*2.5	0.9	0.3	1.8	12.5	220	7.410	27	24	24
*4	1.0	0.3	1.8	13.5	290	4.610	36	30	30
*6	1.0	0.3	1.8	15.0	370	3.080	45	38	39
*10	1.0	0.3	1.8	16.5	510	1.830	60	50	52
16	1.0	0.3	1.8	17.5	660	1.150	77	64	66
25	1.2	0.3	2.0	22.0	990	0.727	99	81	90
35	1.2	0.3	2.0	23.0	1290	0.524	120	99	110
50	1.4	0.3	2.0	27.0	1780	0.387	145	125	135
70	1.4	0.3	2.2	31.0	2410	0.268	175	150	165
95	1.6	0.4	2.2	33.0	3190	0.193	210	175	200
120	1.6	0.4	2.2	36.0	3920	0.153	240	195	230
150	1.8	0.4	2.4	41.0	4910	0.124	270	225	265
185	2.0	0.5	2.6	45.0	6040	0.099	300	255	305
240	2.2	0.5	2.8	50.0	7750	0.075	345	295	355
300	2.4	0.6	3.0	55.5	9620	0.060	385	335	400
400	2.6	0.7	3.4	63.5	12715	0.047	425	360	455

TABLE - 13 ADCAB (1.1 KV) 3.5 CORE, ALUMINUM CONDUCTOR, PVC INSULATED, GI WIRE/STRIP ARMORED & PVC SHEATHED CABLE CONFIRMING TO IS:1554 (PART I) AMENDED UP TO DATE

Nominal Cross Sectional Area		Nominal Thickness of Insulation		Minimum Thickness of Inner Sheath	Armour GI Flat Strip Nom. Dia	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx Weight of Cable	Max DC Conductor Resistance @ 20 C		Current Rating		
Main	Neutral	Main	Neutral						Main	Neutral	Direct In Ground	In Duct	In Air
sq mm	sq mm	mm	mm	mm	mm	mm	mm	kg/km	ohm/km	ohm/km	amps	amps	amps
25	16	1.2	1.0	0.3	0.8	1.40	23.5	900	1.200	1.910	76	63	70
35	16	1.2	1.0	0.3	0.8	1.40	26.0	1030	0.868	1.910	92	77	86
50	25	1.4	1.2	0.3	0.8	1.56	30.0	1350	0.641	1.200	100	95	105
70	35	1.4	1.2	0.3	0.8	1.56	32.5	1725	0.443	0.868	135	115	130
95	50	1.6	1.4	0.4	0.8	1.56	36.5	2130	0.320	0.641	165	140	155
120	70	1.6	1.4	0.4	0.8	1.72	40.5	2580	0.253	0.443	185	155	180
150	70	1.8	1.4	0.4	0.8	1.88	44.0	3050	0.206	0.443	210	175	205
185	95	2.0	1.6	0.5	0.8	2.04	50.0	3650	0.164	0.320	235	200	240
240	120	2.2	1.6	0.5	0.8	2.20	55.0	4580	0.125	0.253	275	235	280
300	150	2.4	1.8	0.6	0.8	2.36	61.0	5500	0.100	0.206	305	260	315
400	185	2.6	2.0	0.7	0.8	2.68	68.0	7000	0.078	0.164	335	290	375

TABLE - 14 ADCAB (1.1 KV) 3.5 CORE, ALUMINUM CONDUCTOR, PVC INSULATED UNARMORED PVC SHEATHED CABLE CONFIRMING TO IS:1554 (PART I) AMENDED UP TO DATE

Nominal Cross Sectional Area		Nominal Thickness of Insulation		Minimum Thickness of Inner Sheath	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx Weight of Cable	Max DC Conductor Resistance @ 20 C		Current Rating		
Main	Neutral	Main	Neutral					Main	Neutral	Direct In Ground	In Duct	In Air
sq mm	sq mm	mm	mm	mm	mm	mm	kg/km	ohm/km	ohm/km	amps	amps	amps
25	16	1.2	1.0	0.3	2.0	22.5	615	1.200	1.910	76	63	70
35	16	1.2	1.0	0.3	2.0	25.0	715	0.868	1.910	92	77	86
50	25	1.4	1.2	0.3	2.2	29.0	955	0.641	1.200	100	95	105
70	35	1.4	1.2	0.3	2.2	33.0	1290	0.443	0.868	135	115	130
95	50	1.6	1.4	0.4	2.2	36.5	1640	0.320	0.641	165	140	155
120	70	1.6	1.4	0.4	2.4	39.0	2020	0.253	0.443	185	155	180
150	70	1.8	1.4	0.4	2.4	42.5	2380	0.206	0.443	210	175	205
185	95	2.0	1.6	0.5	2.6	47.0	2940	0.164	0.320	235	200	240
240	120	2.2	1.6	0.5	3.0	54.0	3800	0.125	0.253	275	235	280
300	150	2.4	1.8	0.6	3.2	58.0	4650	0.100	0.206	305	260	315
400	185	2.6	2.0	0.7	3.4	65.0	6000	0.078	0.164	335	290	375

TABLE -15 ADCAB (1.1 KV) 3.5 CORE, COPPER CONDUCTOR, PVC INSULATED, GI WIRE/STRIP ARMORED & PVC SHEATHED CABLE CONFIRMING TO IS:1554 (PART I) AMENDED UP TO DATE

Nominal Cross Sectional Area		Nominal Thickness of		Minimum Thickness of Inner Sheath	Armour GI Flat Strip Nom. Dia	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx Weight of Cable	Max DC Conductor Resistance @ 20 C		Current Rating		
Main	Neutral	Main	Neutral						Main	Neutral	Direct In Ground	In Duct	In Air
sq mm	sq mm	mm	mm	mm	mm	mm	mm	kg/km	ohm/km	ohm/km	amps	amps	amps
25	16	1.2	1.0	0.3	0.8	1.40	23.5	1465	0.727	1.150	99	81	90
35	16	1.2	1.0	0.3	0.8	1.40	26.0	1780	0.524	1.150	120	99	110
50	25	1.4	1.2	0.3	0.8	1.56	30.0	2430	0.387	0.727	145	125	135
70	35	1.4	1.2	0.3	0.8	1.56	32.5	3240	0.268	0.524	175	150	165
95	50	1.6	1.4	0.4	0.8	1.56	36.5	4200	0.193	0.387	210	175	200
120	70	1.6	1.4	0.4	0.8	1.72	40.5	5240	0.153	0.268	240	195	230
150	70	1.8	1.4	0.4	0.8	1.88	44.0	6270	0.124	0.268	270	225	265
185	95	2.0	1.6	0.5	0.8	2.04	50.0	7675	0.099	0.193	300	255	305
240	120	2.2	1.6	0.5	0.8	2.20	55.0	9780	0.075	0.153	345	295	355
300	150	2.4	1.8	0.6	0.8	2.36	61.0	12000	0.060	0.124	385	335	400
400	185	2.6	2.0	0.7	0.8	2.68	68.0	15550	0.047	0.099	425	360	455

TABLE - 16 ADCAB (1.1 KV) 3.5 CORE, COPPER CONDUCTOR, PVC INSULATED UNARMORED PVC SHEATHED CABLE CONFIRMING TO IS:1554 (PART I) AMENDED UP TO DATE

Nominal Cross Sectional Area		Nominal Thickness of Insulation		Minimum Thickness of Inner Sheath	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx Weight of Cable	Max DC Conductor Resistance @ 20 C		Current Rating		
Main	Neutral	Main	Neutral					Main	Neutral	Direct In Ground	In Duct	In Air
sq mm	sq mm	mm	mm	mm	mm	mm	kg/km	ohm/km	ohm/km	amps	amps	amps
25	16	1.2	1.0	0.3	2.0	22.5	1180	0.727	1.150	99	81	90
35	16	1.2	1.0	0.3	2.0	25.0	1465	0.524	1.150	120	99	110
50	25	1.4	1.2	0.3	2.2	29.0	2040	0.387	0.727	145	125	135
70	35	1.4	1.2	0.3	2.2	33.0	2810	0.268	0.524	175	150	165
95	50	1.6	1.4	0.4	2.2	36.5	3715	0.193	0.387	210	175	200
120	70	1.6	1.4	0.4	2.4	39.0	4680	0.153	0.268	240	195	230
150	70	1.8	1.4	0.4	2.4	42.5	5600	0.124	0.268	270	225	265
185	95	2.0	1.6	0.5	2.6	47.0	6970	0.099	0.193	300	255	305
240	120	2.2	1.6	0.5	3.0	54.0	9000	0.075	0.153	345	295	355
300	150	2.4	1.8	0.6	3.2	58.0	11150	0.060	0.124	385	335	400
400	185	2.6	2.0	0.7	3.4	65.0	14570	0.047	0.099	425	360	455

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TABLE -17 ADCAB (1.1 KV) FOUR CORE, ALUMINUM CONDUCTOR, PVC INSULATED, GI WIRE/STRIP ARMORED & PVC SHEATHED CABLE CONFIRMING TO IS:1554 (PART I) AMENDED UP TO DATE

Nominal Cross Sectional Area	Nominal Thickness of Insulation	Nominal Thickness of Inner Sheath	Armour		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx Weight of Cable	Max DC Conductor Resistance @ 20 C	Current Rating		
			GI Round Steel Wire Nom. Dia	GI Flat Strip Nom. Dia					Direct In Ground	In Duct	In Air
sq mm	mm	mm	mm	mm	mm	mm	kg/km	ohm/km	amps	amps	amps
*1.5	0.8	0.3	1.4	-	1.24	15.0	400	18.100	16	14	13
*2.5	0.9	0.3	1.4	-	1.24	16.5	480	12.100	21	18	18
*4	1.0	0.3	1.4	-	1.24	18.0	550	7.410	28	23	23
*6	1.0	0.3	1.4	-	1.24	19.5	650	4.610	35	30	30
*10	1.0	0.3	-	0.8	1.40	20.0	660	3.080	46	39	40
16	1.0	0.3	-	0.8	1.40	23.0	750	1.910	60	50	51
25	1.2	0.3	-	0.8	1.40	24.0	950	1.200	76	63	70
35	1.2	0.3	-	0.8	1.40	27.0	1165	0.868	92	77	86
50	1.4	0.3	-	0.8	1.56	31.0	1540	0.641	110	95	105
70	1.4	0.3	-	0.8	1.56	35.0	1800	0.443	135	115	130
95	1.6	0.4	-	0.8	1.72	38.0	2400	0.320	165	140	155
120	1.6	0.4	-	0.8	1.88	42.0	2800	0.253	185	155	180
150	1.8	0.4	-	0.8	1.88	46.0	3350	0.206	210	175	205
185	2.0	0.5	-	0.8	2.04	51.0	4000	0.164	235	200	240
240	2.2	0.5	-	0.8	2.36	58.0	5050	0.125	275	235	280
300	2.4	0.6	-	0.8	2.52	66.0	6200	0.100	305	260	315
400	2.6	0.7	-	0.8	2.84	72.0	7850	0.078	335	290	375

TABLE - 18 ADCAB (1.1 KV) FOUR CORE, ALUMINUM CONDUCTOR, PVC INSULATED UNARMORED PVC SHEATHED CABLE CONFIRMING TO IS:1554 (PART I) AMENDED UP TO DATE

Nominal Cross Sectional Area	Nominal Thickness of Insulation	Nominal Thickness of Inner Sheath	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx Weight of Cable	Max DC Conductor Resistance @ 20 C	Current Rating		
							Direct In Ground	In Duct	In Air
sq mm	mm	mm	mm	mm	kg/km	ohm/km	amps	amps	amps
*1.5	0.8	0.3	1.8	12.5	150	18.100	16	14	13
*2.5	0.9	0.3	1.8	14.0	180	12.100	21	18	18
*4	1.0	0.3	1.8	15.5	220	7.410	28	23	23
*6	1.0	0.3	1.8	17.0	260	4.610	35	30	30
*10	1.0	0.3	1.8	19.0	340	3.080	46	39	40
16	1.0	0.3	2.0	21.5	460	1.910	60	50	51
25	1.2	0.3	2.0	24.0	600	1.200	76	63	70
35	1.2	0.3	2.0	26.5	800	0.868	92	77	86
50	1.4	0.3	2.2	32.5	1100	0.641	110	95	105
70	1.4	0.3	2.2	33.5	1400	0.443	135	115	130
95	1.6	0.4	2.4	38.5	1850	0.320	165	140	155
120	1.6	0.4	2.4	41.5	2250	0.253	185	155	180
150	1.8	0.4	2.6	46.0	2750	0.206	210	175	205
185	2.0	0.5	2.6	50.5	3400	0.164	235	200	240
240	2.2	0.5	3.0	58.0	4300	0.125	275	235	280
300	2.4	0.6	3.4	64.0	5300	0.100	305	260	315
400	2.6	0.7	3.6	72.0	6900	0.078	335	290	375

TABLE -19 ADCAB (1.1 KV) FOUR CORE, COPPER CONDUCTOR, PVC INSULATED, GI WIRE/STRIP ARMORED & PVC SHEATHED CABLE CONFIRMING TO IS:1554 (PART I) AMENDED UP TO DATE

Nominal Cross Sectional Area	Nominal Thickness of Insulation	Nominal Thickness of Inner Sheath	Armour		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx Weight of Cable	Max DC Conductor Resistance @ 20 C	Current Rating		
			GI Round Steel Wire Nom. Dia	GI Flat Strip Nom. Dia					Direct In Ground	In Duct	In Air
sq mm	mm	mm	mm	mm	mm	mm	kg/km	ohm/km	amps	amps	amps
*1.5	0.8	0.3	1.4	-	1.24	15.0	440	12.100	21	17	17
*2.5	0.9	0.3	1.4	-	1.24	16.5	550	7.410	27	24	24
*4	1.0	0.3	1.4	-	1.24	18.0	650	4.610	36	30	30
*6	1.0	0.3	1.4	-	1.24	19.5	800	3.080	45	38	39
*10	1.0	0.3	-	0.8	1.40	20.0	910	1.830	60	50	52
16	1.0	0.3	-	0.8	1.40	23.0	1150	1.150	77	64	66
25	1.2	0.3	-	0.8	1.40	24.0	1570	0.727	99	81	90
35	1.2	0.3	-	0.8	1.40	27.0	2035	0.524	120	99	110
50	1.4	0.3	-	0.8	1.56	31.0	2780	0.387	145	125	135
70	1.4	0.3	-	0.8	1.56	35.0	3540	0.268	175	150	165
95	1.6	0.4	-	0.8	1.72	38.0	4760	0.193	210	175	200
120	1.6	0.4	-	0.8	1.88	42.0	5760	0.153	240	195	230
150	1.8	0.4	-	0.8	1.88	46.0	7065	0.124	270	225	265
185	2.0	0.5	-	0.8	2.04	51.0	8575	0.099	300	255	305
240	2.2	0.5	-	0.8	2.36	58.0	11000	0.075	345	295	355
300	2.4	0.6	-	0.8	2.52	66.0	13600	0.060	385	335	400
400	2.6	0.7	-	0.8	2.84	80.0	17700	0.047	425	360	455

TABLE - 20 ADCAB (1.1 KV) FOUR CORE, COPPER CONDUCTOR, PVC INSULATED UNARMORED PVC SHEATHED CABLE CONFIRMING TO IS:1554 (PART I) AMENDED UP TO DATE

Nominal Cross Sectional Area	Nominal Thickness of Insulation	Nominal Thickness of Inner Sheath	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx Weight of Cable	Max DC Conductor Resistance @ 20 C	Current Rating		
							Direct In Ground	In Duct	In Air
sq mm	mm	mm	mm	mm	kg/km	ohm/km	amps	amps	amps
*1.5	0.8	0.3	1.8	15.0	190	12.100	21	17	17
*2.5	0.9	0.3	1.8	16.5	245	7.410	27	24	24
*4	1.0	0.3	1.8	18.0	320	4.610	36	30	30
*6	1.0	0.3	1.8	19.5	410	3.080	45	38	39
*10	1.0	0.3	1.8	20.0	590	1.830	60	50	52
16	1.0	0.3	2.0	23.0	860	1.150	77	64	66
25	1.2	0.3	2.0	24.0	1220	0.727	99	81	90
35	1.2	0.3	2.0	27.0	1670	0.524	120	99	110
50	1.4	0.4	2.2	31.0	2340	0.387	145	125	135
70	1.4	0.4	2.2	35.0	3140	0.268	175	150	165
95	1.6	0.4	2.4	38.0	4210	0.193	210	175	200
120	1.6	0.5	2.4	42.0	5220	0.153	240	195	230
150	1.8	0.5	2.6	46.0	6470	0.124	270	225	265
185	2.0	0.6	2.6	51.0	7980	0.099	300	255	305
240	2.2	0.6	3.0	58.0	10250	0.075	345	295	355
300	2.4	0.7	3.4	66.0	12730	0.060	385	335	400
400	2.6	0.7	3.6	80.0	16800	0.047	425	360	455

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TABLE -21 ADCAB (1.1 KV) SOLID COPPER CONDUCTOR, 1.5 SQ MM, PVC INSULATED, ARMORED/UNARMORED PVC SHEATHED CONTROL CABLES CONFIRMING TO IS:1554 (PART I) AMENDED UP TO DATE

Number of Cores	Nominal Thickness of Insulation	Nominal Thickness of Inner Sheath	Armour		Nominal Sheath Thickness Unarmored Cable	Minimum Thickness of Sheath Armored Cable	Approx. Overall Diameter of Cable		Approx Weight of Cable		Max DC Conductor Resistance @ 20 C	Current Rating		
			GI Round Steel Wire Nom. Dia	GI Flat Strip Nom. Dia			Unarmored Cable	Armored Cable	Unarmored Cable	Armored Cable		Direct In Ground	In Duct	In Air
	mm	mm	mm	mm	mm	mm	mm	mm	kg/km	kg/km	ohm/km	Amps	Amps	Amps
2	0.8	0.3	1.4	-	1.80	1.24	10.50	13.50	130	350	12.1	23	20	20
3	0.8	0.3	1.4	-	1.80	1.24	11.00	14.00	160	400	12.1	21	17	17
4	0.8	0.3	1.4	-	1.80	1.24	11.50	15.00	190	450	12.1	21	17	17
5	0.8	0.3	1.4	-	1.80	1.24	12.50	15.50	225	500	12.1	21	17	17
6	0.8	0.3	1.4	-	1.80	1.24	13.00	16.00	250	550	12.1	15	13	13
7	0.8	0.3	1.4	-	1.80	1.24	13.50	16.50	265	565	12.1	14	13	13
10	0.8	0.3	1.4	-	1.80	1.40	16.50	19.00	350	750	12.1	13	11	11
12	0.8	0.3	-	0.8	1.80	1.40	17.50	19.50	400	650	12.1	12	10	10
14	0.8	0.3	-	0.8	1.80	1.40	18.00	20.00	450	760	12.1	11	10	10
16	0.8	0.3	-	0.8	1.80	1.40	19.50	21.00	500	800	12.1	11	9	9
19	0.8	0.3	-	0.8	2.00	1.40	20.00	22.00	600	850	12.1	10	9	9
24	0.8	0.3	-	0.8	2.00	1.40	23.00	25.00	725	1050	12.1	9	8	8
30	0.8	0.3	-	0.8	2.00	1.40	24.50	26.50	860	1200	12.1	9	7	7
37	0.8	0.3	-	0.8	2.00	1.40	26.00	28.00	1050	1400	12.1	8	7	7
61	0.8	0.4	-	0.8	2.00	1.56	33.00	35.00	1650	2100	12.1	7	6	6

TABLE -22 ADCAB (1.1 KV) SOLID COPPER CONDUCTOR, 2.5 SQ MM, PVC INSULATED, ARMORED/UNARMORED PVC SHEATHED CONTROL CABLES CONFIRMING TO IS:1554 (PART I) AMENDED UP TO DATE

Number of Cores	Nominal Thickness of Insulation	Nominal Thickness of Inner Sheath	Armour		Nominal Sheath Thickness Unarmored Cable	Minimum Thickness of Sheath Armored Cable	Approx. Overall Diameter of Cable		Approx Weight of Cable		Max DC Conductor Resistance @ 20 C	Current Rating		
			GI Round Steel Wire Nom. Dia	GI Flat Strip Nom. Dia			Unarmored Cable	Armored Cable	Unarmored Cable	Armored Cable		Direct In Ground	In Duct	In Air
	mm	mm	mm	mm	mm	mm	mm	mm	kg/km	kg/km	ohm/km	Amps	Amps	Amps
2	0.9	0.	1.4	-	1.80	1.24	11.00	14.50	160	425	7.41	32	27	27
3	0.9	0.3	1.4	-	1.80	1.24	11.50	15.50	225	475	7.41	27	24	24
4	0.9	0.3	1.4	-	1.80	1.24	11.50	16.50	250	530	7.41	27	24	24
5	0.9	0.3	1.4	-	1.80	1.24	14.00	17.50	300	600	7.41	27	24	24
6	0.9	0.3	1.4	-	1.80	1.24	15.50	18.50	340	675	7.41	20	18	18
7	0.9	0.3	1.4	-	1.80	1.24	15.50	18.50	375	700	7.41	20	17	17
10	0.9	0.3	-	0.8	1.80	1.40	19.00	21.00	500	780	7.41	18	15	15
12	0.9	0.3	-	0.8	2.00	1.40	20.00	22.00	600	850	7.41	17	14	14
14	0.9	0.3	-	0.8	2.00	1.40	21.00	23.00	650	950	7.41	16	13	13
16	0.9	0.3	-	0.8	2.00	1.40	22.00	24.00	750	1050	7.41	15	13	13
19	0.9	0.3	-	0.8	2.00	1.40	23.00	25.00	850	1150	7.41	14	12	12
24	0.9	0.3	-	0.8	2.00	1.40	27.00	29.00	1050	1400	7.41	13	11	11
30	0.9	0.3	-	0.8	2.00	1.40	28.50	30.50	1250	1700	7.41	12	10	10
37	0.9	0.4	-	0.8	2.20	1.40	31.00	33.00	1550	2000	7.41	11	10	10
61	0.9	0.4	-	0.8	2.20	1.56	38.50	41.00	2450	3100	7.41	9	8	8

TABLE -23 CONDUCTOR RESISTANCE OF PLAIN CONDUCTOR USED FOR HEAVY DUTY CABLES AS PER IS:8130-1984

Size in sq mm.	Conductor Construction	Max. Cond. Resistance in Ohm/km at 20 C Single Core & Multi Core	Size in sq mm.	Conductor Construction	Max. Cond. Resistance in Ohm/km at 20 C Single Core & Multi Core
1.5*	7/0.53	12.100	95	19/2.50	0.193
2.5*	7/0.67	7.410	120	19/2.84	0.153
4*	7/0.85	4.610	150	19/3.20	0.124
6*	7/1.0	3.080	185	37/2.50	0.0991
10	7/1.35	1.830	240	37/2.68	0.0754
16	7/1.71	1.150	300	37/3.24	0.0601
25	7/2.14	0.727	400	61/2.85	0.0470
35	7/2.50	0.524	500	61/3.20	0.0366
50	7/3.00	0.387	630	91/3.00	0.0283
70	19/2.14	0.268	-	-	

TABLE -24 CURRENT RATING OF 'ADCAB' COPPER ARMORED / UN ARMORED CABLES 650/1100 V GRADE IN AIR

Area	Twin Core	3, 3.5 & 4 Core	Area	Twin Core	3, 3.5 & 4 Core
sq mm	Amps.	Amps.	sq mm	Amps.	Amps.
1.5	20	17	70	195	175
2.5	27	24	95	230	200
4	35	30	120	265	235
6	45	39	150	305	265
10	60	52	185	350	305
16	78	66	240	410	355
25	105	90	300	465	400
35	125	110	400	530	455
50	155	135	-	-	-

TABLE -25 ESTIMATED A.C RESISTANCE, REACTANCE, CAPACITANCE, IMPEDANCE, VOLTAGE DROP AND SHORT CIRCUIT RATING FOR PVC INSULATED, ALUMINUM CONDUCTOR ARMORED SINGLE CORE CABLES

Nominal Area of Conductor	A.C Resistance at 70 C	Reactance at 50 Hz	Capacitance	Impedance at 70 C	Voltage Drop	Short Circuit rating of conductor for 1 second thickness of outer sheath
SQ MM	Ohm/km	Ohm/km	uF/km	Ohm/km	V/km/A	kA
16	2.3000	0.1250	0.81	2.3000	3.980	1.22
25	1.4400	0.1200	0.83	1.4500	2.510	1.90
35	1.0400	0.1140	0.95	0.1500	1.820	2.66
50	0.7700	0.1120	0.95	0.7780	1.350	3.80
70	0.5330	0.1040	1.13	0.5430	0.940	5.32
95	0.3850	0.0970	1.17	0.3970	0.688	7.22
120	0.3050	0.0926	1.32	0.3180	0.552	9.12
150	0.2480	0.0916	1.30	0.2650	0.459	11.41
185	0.1980	0.0895	1.35	0.2170	0.377	14.07
240	0.1520	0.0876	1.40	0.1750	0.303	18.25
300	0.1220	0.0863	1.44	0.1500	0.259	22.81
400	0.0961	0.0845	1.48	0.1280	0.222	30.41
500	0.0761	0.0835	1.47	0.1130	0.196	38.02
630	0.0606	0.0833	1.45	0.1030	0.178	47.90
1000	0.1416	0.1797	1.81	0.0899	0.156	76.03

TABLE -26 ESTIMATED A.C RESISTANCE, REACTANCE, CAPACITANCE, IMPEDANCE, VOLTAGE DROP AND SHORT CIRCUIT RATING FOR PVC INSULATED, ALUMINUM CONDUCTOR ARMORED MULTI CORE CABLES

Nominal Area of Conductor	A.C Resistance at 70 C	Reactance at 50 Hz	Capacitance	Impedance at 70 C	Voltage Drop	Short Circuit rating of conductor for 1 second thickness of outer sheath
SQ MM	Ohm/km	Ohm/km	uF/km	Ohm/km	V/km/A	kA
1.5	21.7000	0.1120	0.38	21.700	37.700	0.11
2.5	14.5000	0.1100	0.41	14.500	25.200	0.19
4.0	8.9000	0.1050	0.45	8.900	15.400	0.30
6.0	5.5400	0.988	0.52	5.540	9.600	0.46
10	3.7000	0.938	0.60	3.700	6.410	0.76
16	2.3000	0.0862	0.80	2.300	3.980	1.22
25	1.4400	0.0854	0.84	1.440	2.500	1.90
35	1.0400	0.0827	0.96	1.050	1.810	2.66
50	0.7700	0.0825	0.98	0.775	1.340	3.80
70	0.5330	0.0771	1.12	0.538	0.932	5.32
95	0.3850	0.0767	1.16	0.393	0.680	7.22
120	0.3050	0.0744	1.28	0.314	0.543	9.12
150	0.2490	0.0745	1.26	0.259	0.449	11.41
185	0.1980	0.0744	1.28	0.212	0.367	14.07
240	0.1520	0.0740	1.31	0.169	0.293	18.25
300	0.1220	0.0732	1.35	0.142	0.247	22.81
400	0.0960	0.0727	1.40	0.121	0.209	30.41

TABLE -27 ESTIMATED A.C RESISTANCE, REACTANCE, CAPACITANCE, IMPEDANCE, VOLTAGE DROP AND SHORT CIRCUIT RATING FOR PVC INSULATED, ALUMINUM CONDUCTOR ARMORED SINGLE CORE CABLES

Nominal Area of Conductor	A.C Resistance at 85 C	Reactance at 50 Hz	Capacitance	Impedance at 85 C	Voltage Drop	Short Circuit rating of conductor for 1 second thickness of outer sheath
SQ MM	Ohm/km	Ohm/km	uF/km	Ohm/km	V/km/A	kA
16	2.4100	0.1250	0.81	2.4100	4.180	1.01
25	1.5100	0.1200	0.83	1.5200	2.630	1.72
35	1.0100	0.1140	0.95	1.1000	1.910	2.40
50	0.8090	0.1120	0.95	0.8170	1.410	3.43
70	0.5590	0.1040	1.13	0.5690	0.985	4.80
95	0.4040	0.0970	1.17	0.4160	0.720	6.52
120	0.3200	0.0926	1.32	0.3330	0.577	0.823
150	0.2610	0.0916	1.30	0.2760	0.479	10.29
185	0.2080	0.0895	1.35	0.2260	0.392	12.69
240	0.1590	0.0876	1.40	0.1820	0.315	16.46
300	0.1280	0.0863	1.44	0.1540	0.267	20.58
400	0.1010	0.0845	1.48	0.1310	0.228	27.44
500	0.0796	0.0835	1.47	0.1150	0.200	34.30
630	0.0632	0.0833	1.45	0.1020	0.181	43.21
1000	0.0431	0.0797	1.81	0.0906	0.157	68.59

TABLE -28 ESTIMATED A.C RESISTANCE, REACTANCE, CAPACITANCE, IMPEDANCE, VOLTAGE DROP AND SHORT CIRCUIT RATING FOR PVC INSULATED, ALUMINUM CONDUCTOR ARMORED SINGLE CORE CABLES

Nominal Area of Conductor	A.C Resistance at 85 C	Reactance at 50 Hz	Capacitance	Impedance at 85 C	Voltage Drop	Short Circuit rating of conductor for 1 second thickness of outer sheath
SQ MM	Ohm/km	Ohm/km	uF/km	Ohm/km	V/km/A	kA
1.5	22.800	0.1120	0.38	22.800	39.600	0.10
2.5	15.300	0.1100	0.41	15.300	26.400	0.17
4.0	9.350	0.1050	0.45	9.350	16.200	0.27
6.0	5.820	0.0988	0.52	5.820	10.100	0.41
10	3.890	0.0938	0.60	3.890	6.730	0.69
16	2.410	0.0862	0.80	2.410	4.180	1.01
25	1.510	0.0854	0.84	1.520	2.630	1.72
35	1.010	0.0827	0.96	1.010	1.900	2.40
50	1.809	0.0825	0.98	0.813	1.41	3.43
70	0.559	0.0771	1.12	0.565	0.978	4.80
95	0.404	0.0797	1.16	0.412	0.713	6.52
120	0.320	0.0744	1.28	0.329	0.569	8.23
150	0.261	0.0745	1.26	0.271	0.470	10.29
185	0.208	0.0744	1.28	0.221	0.383	12.69
240	0.159	0.0740	1.31	0.176	0.304	16.46
300	0.128	0.0732	1.35	0.148	0.256	20.58
400	0.101	0.0727	1.40	0.124	0.215	27.44

TABLE -29 ESTIMATED A.C RESISTANCE, REACTANCE, CAPACITANCE, IMPEDANCE, VOLTAGE DROP AND SHORT CIRCUIT RATING FOR PVC INSULATED, COPPER CONDUCTOR ARMORED SINGLE CORE CABLES

Nominal Area of Conductor	A.C Resistance at 70 C	Reactance at 50 Hz	Capacitance	Impedance at 70 C	Voltage Drop	Short Circuit rating of conductor for 1 second thickness of outer sheath
SQ MM	Ohm/km	Ohm/km	uF/km	Ohm/km	V/km/A	kA
16	1.3800	0.1250	0.81	1.3800	2.390	1.84
25	0.8700	0.1200	0.83	0.8780	1.520	2.88
35	0.6270	0.1140	0.95	0.6380	1.100	4.03
50	0.4630	0.1120	0.95	0.4770	0.830	5.75
70	0.3210	0.1040	1.13	0.3370	0.585	8.05
95	0.2320	0.0970	1.17	0.2510	0.435	10.93
120	0.1840	0.0926	1.32	0.2060	0.357	13.80
150	0.1500	0.0916	1.30	0.1760	0.304	17.25
185	0.1200	0.0895	1.35	0.1500	0.260	21.28
240	0.0928	0.0876	1.40	0.1280	0.211	27.60
300	0.0751	0.0863	1.44	0.1140	0.198	34.50
400	0.0604	0.0845	1.48	0.\1040	0.180	46.00
500	0.0490	0.0835	1.47	0.0968	0.168	57.50
630	0.0401	0.30833	1.45	0.0925	0.160	72.45
1000	0.0297	0.0797	1.81	0.0850	0.147	115.00

TABLE -30 ESTIMATED A.C RESISTANCE, REACTANCE, CAPACITANCE, IMPEDANCE, VOLTAGE DROP AND SHORT CIRCUIT RATING FOR PVC INSULATED, COPPER CONDUCTOR ARMORED MULTI CORE CABLES

Nominal Area of Conductor	A.C Resistance at 70 C	Reactance at 50 Hz	Capacitance	Impedance at 70 C	Voltage Drop	Short Circuit rating of conductor for 1 second thickness of outer sheath
SQ MM	Ohm/km	Ohm/km	uF/km	Ohm/km	V/km/A	kA
1.5	14.500	0.1140	0.37	14.500	25.100	0.17
2.5	8.9000	0.1100	0.40	8.900	14.500	0.29
4.0	5.5200	0.1060	0.44	5.520	9.560	0.46
6.0	3.6900	0.10001	0.51	3.690	6.390	0.69
10	2.1900	0.0907	0.67	2.190	3.800	1.15
16	1.3800	0.0862	0.80	1.380	2.390	1.84
25	0.8700	0.0854	0.84	0.870	1.510	2.88
35	0.6300	0.0827	0.96	0.630	1.010	4.03
50	0.4640	0.0825	0.98	0.471	0.815	5.75
70	0.3210	0.0771	1.12	0.331	0.572	8.05
95	0.2320	0.0767	1.16	0.244	0.423	10.93
120	0.1840	0.1744	1.28	0.199	0.344	13.80
150	0.1500	0.0745	1.28	0.142	0.246	21.28
240	0.0930	0.0740	1.1	0.119	0.206	27.60
300	0.0750	0.0732	1.35	0.105	0.182	34.50
400	0.0604	0.0727	1.40	0.095	0.164	46.00

TABLE -31 ESTIMATED A.C RESISTANCE, REACTANCE, CAPACITANCE, IMPEDANCE, VOLTAGE DROP AND SHORT CIRCUIT RATING FOR HR PVC INSULATED, COPPER CONDUCTOR ARMORED SINGLE CORE CABLES

Nominal Area of Conductor	A.C Resistance at 85 C	Reactance at 50 Hz	Capacitance	Impedance at 85 C	Voltage Drop	Short Circuit rating of conductor for 1 second thickness of outer sheath
SQ MM	Ohm/km	Ohm/km	uF/km	Ohm/km	V/km/A	kA
16	1.4400	0.1250	0.81	1.4500	2.510	1.66
25	0.9130	0.1200	0.83	0.9210	1.590	2.59
35	0.6580	0.1140	0.95	0.6680	1.160	3.63
50	0.4860	0.1120	0.95	0.4990	0.864	5.19
70	0.3370	0.1040	1.13	0.3530	0.611	7.26
95	0.2430	0.0970	1.17	0.2620	0.453	9.86
120	0.1930	0.0926	1.32	0.2140	0.371	12.45
150	0.1570	0.0916	1.30	0.1820	0.315	15.57
185	0.1260	0.0895	1.35	0.1550	0.268	19.20
240	0.0971	0.0876	1.40	0.1310	0.226	24.91
300	0.0785	0.0863	1.44	0.1170	0.202	31.13
400	0.0630	0.0845	1.48	0.1050	0.183	41.51
500	0.0509	0.0835	1.47	0.0978	0.169	51.89
630	0.0416	0.0833	1.45	0.0931	0.161	65.38
1000	0.0306	0.0797	1.81	0.0853	0.148	103.78

TABLE -32 ESTIMATED A.C RESISTANCE, REACTANCE, CAPACITANCE, IMPEDANCE, VOLTAGE DROP AND SHORT CIRCUIT RATING FOR HR PVC INSULATED, COPPER CONDUCTOR ARMORED MULTI CORE CABLES

Nominal Area of Conductor	A.C Resistance at 85 C	Reactance at 50 Hz	Capacitance	Impedance at 85 C	Voltage Drop	Short Circuit rating of conductor for 1 second thickness of outer sheath
SQ MM	Ohm/km	Ohm/km	uF/km	Ohm/km	V/km/A	kA
1.5	15.2000	0.1140	0.37	15.200	26.300	0.16
2.5	9.3000	0.1100	0.40	9.3000	16.100	0.26
4.0	5.7900	0.1060	0.44	5.7900	10.000	0.42
6.0	3.8700	0.1001	0.51	3.8700	6.700	0.62
10	2.3000	0.0907	0.67	2.3000	3.980	1.04
16	1.4400	0.0862	0.80	1.4500	2.510	1.66
25	0.9130	0.0854	0.84	0.9170	1.590	2.59
35	0.6580	0.0827	0.96	0.6630	1.150	3.63
50	0.4860	0.0825	0.98	0.4930	0.854	5.19
70	0.3370	0.0771	1.12	0.3460	0.599	7.26
95	0.2430	0.0767	1.16	0.2550	0.442	9.86
120	0.1930	0.0744	1.28	0.2070	0.359	12.45
150	0.1570	0.0745	1.28	0.1740	0.301	15.57
185	0.1260	0.0744	1.28	0.1470	0.254	19.20
240	0.0972	0.0740	1.1	0.1220	0.212	24.91
300	0.0787	0.0732	1.35	0.1070	0.186	31.13
400	0.0630	0.0727	1.40	0.0962	0.167	41.51

RATING FACTORS

adcab®

1) FOR AIR AND GROUND TEMPERATURE

A. Rating factors for variation in ambient air temperature						
Ambient Temp (C)	25	30	35	40	45	50
Rating Factor	1.25	1.16	1.09	1.00	0.90	0.80
B. Rating factors for variation in ground temperature						
Ground Temp (C)	20	25	30	35	40	45
Rating Factor	1.12	1.06	1.00	0.94	0.87	0.79
C. Rating factors for variation in ground temperature (for Cables in Ducts)						
Ground Temp (C)	20	25	30	35	40	45
Rating Factor	1.12	0.16	1.00	0.94	0.87	0.79

2) FOR DEPTH OF LAYING (CABLES LAID DIRECT IN GROUND)

Depth of Laying	Size		
Cm	Upto 25 sq mm	Above 25 sqmm Upto 300 sq mm	Above 300 sq mm
75	1.00	1.00	1.00
90	0.99	0.98	0.97
105	0.98	0.97	0.96
120	0.97	0.96	0.95
150	0.96	0.94	0.92
180 or more	0.95	0.93	0.91

3) FOR VARIATION IN THERMAL RESISTIVITY OF SOIL (TWO AND THREE AND MULTICORE CABLES LAID DIRECT IN THE GROUND)

Nominal Are of Conductor sq mm	Two cables touching for values of Thermal Resistivity of soil in C cm/W					
	100	120	150	200	250	300
1.5	1.10	1.05	1.00	092	0.86	0.81
2.5	1.10	1.05	1.00	0.92	0.586	0.81
4.0	1.10	1.05	1.00	0.92	0.86	0.81
6.0	1.10	1.05	1.00	0.92	0.86	0.81
10	1.10	1.06	1.00	0.92	0.85	0.80
16	1.12	1.06	1.00	0.91	0.84	0.79
25	1.14	1.08	1.00	0.91	0.84	0.78
35	1.15	1.08	1.00	0.91	0.84	0.77
50	1.15	1.08	1.00	0.91	0.84	0.77
70	1.15	1.08	1.00	0.90	0.83	0.76
95	1.15	1.08	1.00	0.90	0.83	0.76
120	1.17	1.09	1.00	0.90	0.82	0.76
150	1.17	1.09	1.00	0.90	0.82	0.75
185	1.18	1.09	1.00	0.89	0.81	0.75
240	1.18	1.09	1.00	0.89	0.81	0.75
300	1.18	1.09	1.00	0.89	0.81	0.75
400	1.19	1.10	1.00	0.89	0.81	0.75

GROUP RATING FACTORS

A) Cables laid direct in the ground in horizontal formation

No. of Trefoils in group	Distance between Trefoil			
	Touching	15 cm	30 cm	45 cm
2	0.78	0.81	0.85	0.88
3	0.68	0.71	0.77	0.81
4	0.61	0.65	0.72	0.76
5	0.56	0.61	0.68	0.73

B) Cables laid in ducts in horizontal formation.

No. of Trefoils in group	Distance between Trefoil		
	Touching	45 cm	60 cm
2	0.87	0.90	0.91
3	0.79	0.83	0.86
4	0.74	0.79	0.82
5	0.71	0.76	0.80

C) Cables laid on racks/Trays in covered trench with having restricted air circulation, Trefoils are separated by two cable diameter horizontally and the trays are in tiers having 30 cm distance.

No of racks / trays in tiers	No. of Trefoils in Horizontal Formation		
	1	2	3
1	0.95	0.90	0.88
2	0.90	0.85	0.83
3	0.88	0.83	0.81
6	0.86	0.81	0.79

D) as above C. but cables laid in open air.

No of racks / trays in tiers	No. of Trefoils in Horizontal Formation		
	1	2	3
1	1	0.98	0.96
2	1	0.95	0.93
3	1	0.94	0.92
6	1	0.93	0.90

GROUP RATING FACTORS

FOR MULTI CORE CABLES

A) Cables laid on cable trays exposed to air, the cables spaced one cable diameter and trays are in tiers spaced by 30 cm. The clearance between the wall and the cable is 25 mm.

No. of cables trays in tier	No. of Cables per Tray				
	1	2	3	6	9
2	1	0.98	0.96	0.93	0.92
3	1	0.95	0.93	0.90	0.89
4	1	0.94	0.92	0.89	0.88
5	1	0.93	0.90	0.87	0.86

B) Cables laid inside concrete trench with removable covers on cable trays having restricted circulation. The cables spaced by one cable diameter and trays are in tiers spaced by 30 cm. The clearance of the cable from the wall is 25 mm.

No. of cables trays in tier	No. of Cables per Tray				
	1	2	3	6	9
2	0.95	0.90	0.88	0.85	0.84
3	0.90	0.85	0.83	0.81	0.80
4	0.88	0.83	0.81	0.79	0.78
5	0.86	0.81	0.79	0.77	0.76

C) Cables laid on cable trays exposed to air, the cable touching and trays are in tiers spaced by 30 cm. The clearance between the wall and the cable is 25 mm.

No. of cables trays in tier	No. of Cables per Tray				
	1	2	3	6	9
2	1	0.84	0.80	0.75	0.73
3	1	0.80	0.76	0.71	0.69
4	1	0.78	0.74	0.70	0.68
5	1	0.76	0.72	0.68	0.66

D) Cables laid direct in ground in horizontal formation.

No of cables in Group	Distance of Cables			
	Touching	15 cm	30 cm	45 cm
2	0.79	0.82	0.87	0.90
3	0.69	0.75	0.79	0.83
4	0.62	0.69	0.74	0.79
5	0.58	0.65	0.72	0.76
6	0.54	0.61	0.69	0.75

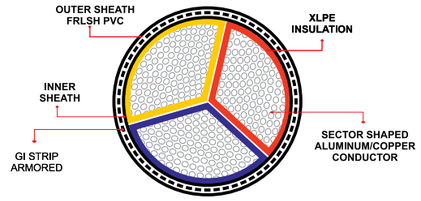
E) Cables laid in single way ducts / pipes in horizontal formation.

No of cables in Group	Distance of Cables			
	Touching	30 cm	45 cm	60 cm
2	0.88	0.90	0.92	0.94
3	0.82	0.84	0.87	0.89
4	0.77	0.80	0.84	0.87
5	0.74	0.78	0.82	0.85
6	0.71	0.76	0.81	0.84

XLPE HEAVY DUTY CABLE

650/1100 VOLTS
IS 7098 (P-1) 1988

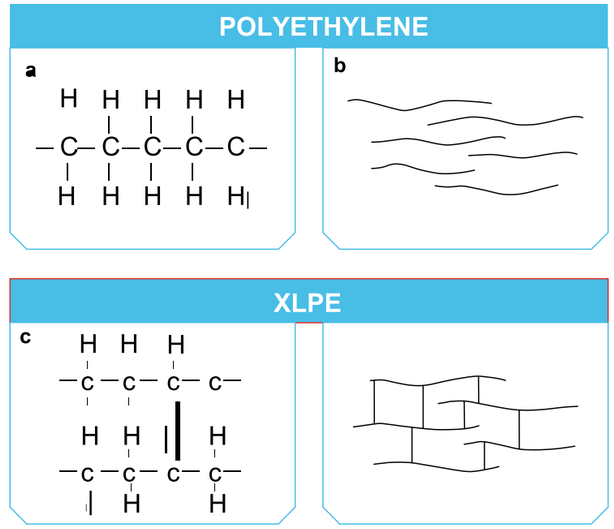




XLPE is an abbreviated designation cross—n|iked polyethylene has a linear molecular structure as shown in A. Molecules ofp olyethylene notc hemically bonded as shown inB a re easilyd eformed ath ight emperature, while XLPE molecules bonded in a three dimensional network as shown in C and D, have strong resistance tod eformaiton even ath ight emperature.

Cross linked polyethylene is produced from polyethylene under high pressure with organic peroxides as additives. The application ofh eata nd pressure isu sed to eject the cross linking. This causes the individual molecular chains to link with one another which in turn causes the material to change from a thermoplastic to an elastic material.

An important advantage of XLPE insulation for medium and high voltage cables is their low dielectric loss. The dielectric loss factor isa bouto ne decimal power lower than thato fp aper insulated cables and about two decimal powers lower than that of PVC-insulated cables. Since the dielectric constant is also more favorable the mutual capacitance ofX LPE cables is also lower, thus reducing the charging currents and earth-leakage currentsin n etworks wtihoutth e rigids tar pointea rthing.



APPLICATION :

The Cable are suitable for use on AC single phase or three phase (earthed or unearthed) systems for rated Voltage up to and including 1100 Volts. These cables can be used on DC Systems for rated Voltage up to and including 1500 Volts to earth.

TECHNICAL ADVANTAGES

Higher Current Rating, Short Circuit rating approx 1.2 times that of PVC
Higher resistance to moisture.
Low dielectrics losses.
Thermosetting in nature
Higher insulation resistance 1000 times more than PVC Cables
Better Resistance to surge current.
Longer service life
Better resistance to chemical
Comparatively higher operation temperature 90 C and short circuit temperature 250 C.
XLPE can retain flexibility down up to -40
Jointing and Termination is easy
Can be installed along cable routes without elevation limitation.
They are not prone to fatigue damage due to vibration or loading cycles.

COMMERCIAL ADVANTAGES

Lower laying cost because of comparatively smaller diameter of cable and higher weight*.
Lower installation charges as the diameter of cable is comparatively lesser with smaller bending radius. requiring less space for laying cables.
**One side lower cable can be used as compared to PVC Insulated Cable.

COMPARISON OF MAIN PROPERTIES BETWEEN PVC AND XLPE INSULATION

Characteristics	Unit	PVC	XLPE
Permitivity (50Hz, 20° C)	-	4.6	2.3
Dielectric Loss Factor (50Hz, 20° C)	-	0.05 - 0.007	0.0004
Volume Resistivity (27° C)	ohms cm(min.)	10^{13}	10^{14}
Max. Conductor Temp	°C	70	90
Max. Short Circuit Temp	°C	160	250
Tensile Strength	N/mm2 (min)	12.5	12.5
Elongation at break	-	Medium	Excellent
Flexibility at -10° C	-	Poor	Good
Resistance to abrasion	-	Medium	Good

COMPARATIVE CURRENT RATING AND SHORT-CIRCUITS RATING FOR XLPE CABLE VIS-A-VIS PVC CABLES

Comparative Current Rating of 650/1100 Volts Multicore Heavy Duty Aluminum Conductor, PVC Insulated Cables & XLPE Insulated Cables

Nominal Size of Cable	3, 3.5 & 4 Core PVC Insulated & Sheathed Cables as per IS-1554 (Part-I) 1988			3, 3.5 & 4 Core XLPE Insulated & Sheathed Cables as per IS-7098 (Part-I) 1988		
	In Ground	In Air	Approx Voltage Drop	In Ground	In Air	Approx Voltage Drop
SQ MM	Amps	Amps	MV/Amps/Mtr	Amps	Amps	MV/Amps/Mtr
16	60	51	4.0	73	70	4.20
25	476	70	2.5	94	96	2.70
35	92	86	1.8	113	117	1.90
50	110	105	1.3	133	140	1.40
70	135	130	0.93	164	176	0.99
95	165	155	0.68	196	221	0.72
120	185	180	0.54	223	257	0.58
150	210	205	0.46	249	292	0.48
185	235	240	0.38	282	337	0.39
240	275	280	0.28	326	399	0.31
300	305	315	0.25	367	455	0.26
400	335	315	0.20	420	530	0.21

COMPARISON OF SHORT CIRCUIT RATING FOR 1 SECOND FOR *PVC & XLPE Insulated Cables
** With Copper And Aluminum Conductor. Current in AMPS**

Nominal Size	PVC Insulated		XLPE Insulated	
SQ MM	Copper	Aluminum	Copper	Aluminum
1.5	0.173	-	0.21	-
2.5	0.283	-	0.36	-
4	0.460	0.303	0.57	0.38
6	0.690	0.455	0.86	0.57
10	1.15	0.758	1.40	0.94
16	1.84	1.21	2.30	1.50
25	2.88	1.90	3.60	2.40
35	4.03	2.65	5.00	3.30
50	5.75	3.79	7.10	4.70
70	8.05	5.31	10.00	6.60
95	10.90	7.20	13.60	9.00
120	13.80	9.10	17.10	11.30
150	17.30	11.40	21.40	14.20
185	21.60	14.02	26.40	17.50
240	27.60	18.20	34.30	22.60
300	34.50	22.80	42.90	28.30
400	46.00	30.40	57.15	37.70
500	57.50	38.00	71.40	47.20
630	72.50	47.25	90.00	59.40

*PVCT ypeA Insulationa s per IS-583'18 4
**PVCC ablea s per IS:1554(P art-I01 988
**XLPEC ablesa s per IS:7098(P art-I)1 988
1) MaxC onductoTr emperaturDeu ringO peration PVC-70 C XLPE-90 C
2) MaxC onductoTr emperaturDeu ringS hortC ircuit PVC-160 C XLPE-250 C
Formulare latingS hortC ircuitR atingw ith Duration

$$Ish = \frac{K*A}{\sqrt{t}}$$

A = Cross Section Area in Sq MM
T = Durationin Seconds
K = Consultant
Ish = Short Circuit Current K, A

APPROXIMATE CAPACITANCE (Microfarads / Km) 1100 V CABLES

Nominal Area of Conductor	Single Core	Two Core	Three, Three & Half and Four Core
	Armoured	Armoured	Armoured
1.5	-	0.18	0.18
2.5	-	0.21	0.21
4.0	-	0.25	0.25
6.0	-	0.29	0.29
10	0.34	0.36	0.36
16	0.40	0.43	0.43
25	0.42	0.43	0.43
35	0.47	0.50	0.50
50	0.50	0.53	0.53
70	0.55	0.57	0.56
95	0.62	0.65	0.65
120	0.66	0.67	0.67
150	0.64	0.65	0.64
185	0.66	0.63	0.63
240	0.70	0.68	0.67
300	0.74	0.71	0.71
400	0.75	0.73	0.72
500	0.78	0.74	0.74
630	0.82	0.77	0.77
1000	0.87	-	-

APPROXIMATE REACTANCE AT 50 HZ (Ohm / Km) 1100 V CABLES

Nominal Area of Conductor	Single Core		Multicore
	Un-Armoured	Armoured	
1.5	0.154	-	0.105
2.5	0.143	-	0.0990
4.0	0.134	-	0.0933
6.0	0.125	-	0.0888
10	0.116	0.131	0.0842
16	0.110	0.124	0.0805
25	0.105	0.117	0.0808
35	0.101	0.112	0.0787
50	0.0937	0.108	0.0780
70	0.0910	0.100	0.0742
95	0.0879	0.099	0.0725
120	0.0850	0.0951	0.0713
150	0.0855	0.0936	0.0718
185	0.0839	0.0913	0.0720
240	0.0820	0.0887	0.0713
300	0.0801	0.0868	0.0703
400	0.0792	0.0861	0.0702
500	0.0780	0.0842	0.0700
630	0.0767	0.0829	0.0697
1000	0.0757	0.0820	-

Conductor Technical Information for Single Core & Multi Core Cables Conforming to IS:8130/1984 (Stranded Class-2) Copper & Aluminum Conductors.

Nominal Size of Conductor	Minimum No. of Wires				Max D.C. Resistance at 20 C		A.C. Resistance at 20 C	
	Non Compacted		Compacted Round/Shaped		Plain Copper	Aluminum	Plain Copper	Aluminum
SQ MM	CU.	ALU.	CU.	ALU.	Ohm/Km	Ohm/Km	Ohm/Km	Ohm/Km
1.5*	3	3	-	-	12.10	18.1	15.40	23.2
2.5*	3	3	-	-	7.41	12.1	9.45	15.50
4.0*	7	3	-	-	4.61	7.41	5.88	9.50
6.0*	7	3	-	-	3.08	4.61	3.93	5.91
10*	7	7	6	-	1.83	3.08	2.33	3.95
16	7	7	6	6	1.15	1.91	1.47	2.44
25	7	7	6	6	0.727	1.20	0.93	1.54
35	7	7	6	6	0.524	0.868	0.668	1.11
50	19	19	6	6	0.387	0.641	0.494	0.82
70	19	19	12	12	0.268	0.443	0.342	0.568
95	19	19	15	15	0.193	0.320	0.247	0.410
120	37	37	18	15	0.153	0.253	0.196	0.325
150	37	37	18	15	0.124	0.206	0.159	0.264
185	37	37	30	30	0.0991	0.164	0.128	0.211
240	61	37	34	30	0.0754	0.125.	0.0985	0.161
300	61	61	34	30	0.0601	0.100	0.0796	0.129
400	61	61	53	53	0.047	0.0778	0.0637	0.101
500	61	61	53	53	0.0366	0.0605	0.0515	0.0786
630	91	91	53	53	0.0283	0.0469	0.0421	0.0615
1000	91	91	53	53	0.0176	0.0291	0.0225	0.0372

*These sizes can be manufactured with solid conductor having single strand

PRECONDITIONS FOR CURRENT RATING

The valued given in the table are valid for on circuit in a three phase system under conditions specified. For grouping cables rating factor must be used. The current carrying capacities mentioned in above technical data are intended as a guide, to assist operating engineers in selecting cables for safety and reliability.

Basic assumptions and condition of installation

Ambient ground Temperature : 30°C Ambient Air Temperature : 40°C

Depth of Cable Burial : 750 mm

Thermal Resistivity of Soil L 1.5 k.m/w

Single Core Cables are installed as indicated in the table, spacing between cables in flat formation is as indicated.

For 3 & core Cables, it is usual to assume the same current carrying capacity for core cables as for 3 core cables. Our calculated values are based actually on 3 core cables. These values are suitable with enough accuracy also for 4 cables in most cases. Only for large 4 core cables in the air the values are too conservative, due to the large cable surface and consequent high heat dissipation factor.

To obtain the maximum current carrying capacity of a cable operating at different conditions from the standard, various rating factors are to be multiplied as following :

Ia=KIs (in Amperes) Where

Ia = Current Rating at Actual Operating Conditions (amperes)

Is = Current Rating at Standard Operating Conditions (amperes)

K = Rating Factors as Applicable

TABLE 33 - ADCAB SINGLE CORE ALUMINUM CONDUCTOR, XLPE INSULATED, ARMORED & UN ARMORED CABLE CONFIRMING TO IS 7098 PART-1

WEIGHT & DIMENSIONS **650/1100 VOLTS**

Nominal Size of Conductor	Form of Conductor Circular	Nominal Thickness of XLPE Insulation For U/A	Minimum Thickness of PVC Inner Sheath	Unarmored Cable			Nominal Thickness of XLPE Insulation for Armored Cable	Formed Wire/Strip Armored Cable				Round Wired Armored Cable				Current Rating*		*Normal Standard Length
				Nominal Thickness of PVC Outer Sheath	Approx Overall Dia. of Cable	Approx Weight of Cable		Nominal Dimension of Aluminum Flat Strip	Minimum Thickness of PVC Outer Sheath	Approx Over All Dia. of Cable	Approx Weight of Cable	Nominal Dimension of Aluminum Round Wire	Minimum Thickness of PVC Outer Sheath	Approx Over All Dia. of Cable	Approx Weight of Cable	In Ground	In Air	
sq mm	mm	mm	mm	mm	mm	kgs./km	mm	mm	mm	mm	kgs./km	mm	mm	mm	kgs./mm	Amps.	Amps.	Mtrs.
4	Solid	0.70	NA	1.80	7.50	60	-	-	-	-	-	-	-	-	-	43	38	1000
4	Stranded	0.70	NA	1.80	8	65	-	-	-	-	-	-	-	-	-	43	38	1000
6	Solid	0.70	NA	1.80	8	70	-	-	-	-	-	-	-	-	-	55	50	1000
6	Stranded	0.70	NA	1.80	8.50	75	-	-	-	-	-	-	-	-	-	55	50	1000
10	Solid	0.70	NA	1.80	9	80	1	-	-	-	-	-	-	-	-	69	64	1000
10	Stranded	0.70	NA	1.80	9.50	90	1	-	-	-	-	-	-	-	-	69	64	1000
16	Stranded	0.70	NA	1.80	10	115	1	-	-	-	-	1.40	1.24	12.5	190	89	84	1000
25	Stranded	0.90	NA	1.80	12	155	1.20	-	-	-	-	1.40	1.24	14	247	115	112	1000
35	Stranded	0.90	NA	1.80	13	180	1.20	-	-	-	-	1.40	1.24	15	290	137	137	1000
50	Stranded	1	NA	1.80	14	240	1.30	-	-	-	-	1.40	1.24	16.5	342	161	165	1000
70	Stranded	1.10	NA	1.80	15.5	310	1.40	-	-	-	-	1.40	1.24	18.5	428	198	209	1000
95	Stranded	1.10	NA	1.80	17.50	385	1.40	4 x 0.80	1.40	18.60	494	1.60	1.40	20.20	260	243	264	1000
120	Stranded	1.20	NA	1.80	19.5	470	1.50	4 x 0.80	1.40	20.40	589	1.60	1.40	22.5	665	276	308	500
150	Stranded	1.40	NA	2	21.50	600	1.70	4 x 0.80	1.40	22.5	694	1.60	1.40	24.0	779	308	350	500
185	Stranded	1.60	NA	2	23.50	710	1.90	4 x 0.80	1.40	24.5	827	1.60	1.40	26.50	921	349	406	500
240	Stranded	1.70	NA	2	26	900	2	4 x 0.80	1.40	26.60	1026	1.60	1.40	29.0	1121	404	490	500
300	Stranded	1.80	NA	2	28.50	1158	2.10	4 x 0.80	1.56	29.60	1235	1.60	1.56	31.50	1349	454	551	500
400	Stranded	2	NA	2.20	31.5	1385	2.40	4 x 0.80	1.56	33.00	1548	2	1.56	35.50	1739	518	647	250
500	Stranded	2.20	NA	2.20	35.5	1650	2.60	4 x 0.80	1.56	36.70	1909	2	1.56	39.50	2128	588	751	250
630	Stranded	2.40	NA	2.20	39.5	2100	2.80	4 x 0.80	1.72	40.50	2413	2	1.72	43.0	2660	663	868	250
800	Stranded	2.60	NA	2.40	44.50	2730	3.10	4 x 0.80	1.72	46.00	2990	2	1.88	47.90	3236	740	992	250
1000	Stranded	2.80	NA	2.60	48.50	3350	3.30	4 x 0.80	1.88	50.00	3667	2.250	2.04	54.37	4142	812	1117	250

The above data is approximate and subject to manufacturing tolerance.
*Delivery Length tolerance is +/-5%

TABLE 34 - ADCAB SINGLE CORE COPPER CONDUCTOR, XLPE INSULATED, ARMORED & UN ARMORED CABLE CONFIRMING TO IS 7098 PART-1

WEIGHT & DIMENSIONS **650/1100 VOLTS**

Nominal Size of Conductor	Form of Conductor Circular	Nominal Thickness of XLPE Insulation For U/A	Minimum Thickness of PVC Inner Sheath	Unarmored Cable			Nominal Thickness of XLPE Insulation for Armored Cable	Formed Wire/Strip Armored Cable				Round Wired Armored Cable				Current Rating*		*Normal Standard Length
				Nominal Thickness of PVC Outer Sheath	Approx Overall Dia. of Cable	Approx Weight of Cable		Nominal Dimension of Aluminum Flat Strip	Minimum Thickness of PVC Outer Sheath	Approx Over All Dia. of Cable	Approx Weight of Cable	Nominal Dimension of Aluminum Round Wire	Minimum Thickness of PVC Outer Sheath	Approx Over All Dia. of Cable	Approx Weight of Cable	In Ground	In Air	
sq mm	mm	mm	mm	mm	mm	kgs./km	mm	mm	mm	mm	kgs./km	mm	mm	mm	kgs./mm	Amps.	Amps.	Mtrs.
4	Solid	0.70	NA	1.80	7.50	85.5	-	-	-	-	-	-	-	-	-	54	48	1000
4	Stranded	0.70	NA	1.80	8	88	-	-	-	-	-	-	-	-	-	54	48	1000
6	Solid	0.70	NA	1.80	8	109	-	-	-	-	-	-	-	-	-	67	61	1000
6	Stranded	0.70	NA	1.80	8.50	114	-	-	-	-	-	-	-	-	-	67	61	1000
10	Stranded	0.70	NA	1.80	9.50	152	1	-	-	-	-	1.40	1.24	12	219	90	83	1000
16	Stranded	0.70	NA	1.80	10.0	209	1	-	-	-	-	1.40	1.24	13	281	115	108	1000
25	Stranded	0.90	NA	1.80	12.0	309	1.20	-	-	-	-	1.40	1.24	14	390	148	144	1000
35	Stranded	0.90	NA	1.80	13.0	399	1.20	-	-	-	-	1.40	1.24	16	485	177	176	1000
50	Stranded	1	NA	1.80	14.0	513	1.30	-	-	-	-	1.40	1.24	17	608	208	212	1000
70	Stranded	1.10	NA	1.80	16.0	712	1.40	-	-	-	-	1.40	1.24	19	817	255	269	1000
95	Stranded	1.10	NA	1.80	17.50	940	1.40	4 x 0.80	1.40	18.60	1036	1.60	1.40	22	1102	312	340	1000
120	Stranded	1.20	NA	1.80	19.00	1168	1.50	4 x 0.80	1.40	20.40	1264	1.60	1.40	23.50	1339	355	396	500
150	Stranded	1.40	NA	2	21.50	1444	1.70	4 x 0.80	1.40	22.20	1530	1.60	1.40	24.50	1615	396	450	500
185	Stranded	1.60	NA	2	23.50	1786	1.90	4 x 0.80	1.40	24.40	1890	1.60	1.40	26.50	1976	447	519	500
240	Stranded	1.70	NA	2	26.00	2299	2.00	4 x 0.80	1.40	26.60	2404	1.60	1.40	29	2508	515	613	500
300	Stranded	1.80	NA	2	28.50	2840	2.10	4 x 0.80	1.56	29.60	2974	1.60	1.56	31.50	3078	576	700	500
400	Stranded	2	NA	2.20	33.00	3629	2.40	4 x 0.80	1.56	33.20	3762	2	1.56	26.00	3962	651	813	250
500	Stranded	2.20	NA	2.20	36.00	4598	2.60	4 x 0.80	1.56	36.70	4770	2	1.56	39.50	4969	727	930	250
630	Stranded	2.40	NA	2.20	40.00	5880	2.80	4 x 0.80	1.72	41.20	6070	2	1.72	43.00	6318	806	1056	250
800	Stranded	2.60	NA	2.40	43.70	7486	3.10	4 x 0.80	1.72	45.10	7676	2	1.88	18.50	7990	877	1179	250
1000	Stranded	2.80	NA	2.60	49.20	9358	3.30	4 x 0.80	1.88	50.60	9567	2.50	2.04	54.00	10051	935	1288	250

The above data is approximate and subject to manufacturing tolerance.
*Delivery Length tolerance is +/-5%

TABLE 35 - ADCAB TWO CORE ALUMINUM CONDUCTOR, XLPE INSULATED, ARMORED & UN ARMORED CABLE CONFIRMING TO IS 7098 PART-1

WEIGHT & DIMENSIONS **650/1100 VOLTS**

Nominal Size of Conductor	Form of Conductor Circular	Nomina	Minimu	Unarmored Cable			Formed Wire/Strip Armored Cable				Round Wired Armored Cable				Current Rating*		*Normal Standard Length
				Nominal Thickness of PVC Outer	Appro	Appro	Nominal Dimension of Aluminum Flat	Minimu	Appro	Appro	Nominal Dimension of Aluminu	Minimu	Approx Over All Dia. of Cable	Approx Weight of Cable	In Ground	In Air	
sq mm	mm	mm	mm	mm	mm	kgs./k	mm	mm	mm	kgs./km	mm	mm	mm	kgs./mm	Amps.	Amps.	Mtrs.
4	Solid	0.70	0.30	1.80	12.50	140	-	-	-	-	1.40	1.24	14.50	375	42	38	1000
4	Stranded	0.70	0.30	1.80	13	150	-	-	-	-	1.40	1.24	15.00	403	42	38	1000
6	Solid	0.70	0.30	1.80	13.50	170	-	-	-	-	1.40	1.24	15.50	437	55	50	1000
6	Stranded	0.70	0.30	1.80	14	180	-	-	-	-	1.40	1.24	16.50	465	55	50	1000
10	Solid	0.70	0.30	1.80	15	205	-	-	-	-	1.40	1.24	16	503	68	64	1000
10	Stranded	0.70	0.30	1.80	16	225	-	-	-	-	1.40	1.24	18	551	68	64	1000
16	Stranded	0.70	0.30	1.80	14	225	-	-	-	-	1.40	1.40	17	480	89	83	1000
25	Stranded	0.90	0.30	2	17	330	4 x 0.80	1.40	18.50	509	1.60	1.40	20	671	114	109	1000
35	Stranded	0.90	0.30	2	19	410	4 x 0.80	1.40	20	605	1.60	1.40	22	775	136	133	1000
50	Stranded	1	0.30	2	21	510	4 x 0.80	1.40	22.50	753	1.60	1.40	24	937	161	162	1000
70	Stranded	1.10	0.30	2	23	675	4 x 0.80	1.56	22.50	989	1.60	1.56	27	1186	197	204	1000
95	Stranded	1.10	0.40	2.20	26.50	893	4 x 0.80	1.56	28	1204	2	1.56	28.68	1572	235	251	1000
120	Stranded	1.20	0.40	2.20	28.50	1050	4 x 0.80	1.56	30.50	1408	2	1.56	33	1849	266	287	500
150	Stranded	1.40	0.50	2.20	32	1215	4 x 0.80	1.72	31.79	1690	2	1.72	36	2182	296	328	500
185	Stranded	1.60	0.50	2.40	35.50	1510	4 x 0.80	1.72	34.95	2004	2	1.88	37.70	2597	335	379	500
240	Stranded	1.70	0.60	2.60	39.50	1900	4 x 0.80	1.88	38.69	2480	2.50	2.04	45	3418	385	448	500
300	Stranded	1.80	0.60	2.80	43.50	2360	4 x 0.80	2.04	42.53	2964	2.50	2.20	46.22	4019	432	513	500
400	Stranded	2	0.60	3	49	3100	4 x 0.80	2.36	48.24	3676	2.50	2.36	51.61	4854	487	593	500
500	Stranded	2.20	0.70	3.40	55.50	4000	4 x 0.80	2.52	56.50	4599	3.15	2.68	61.50	6517	548	683	500
630	Stranded	2.40	0.70	3.60	61.50	4997	4 x 0.80	2.68	62.50	5662	3.15	2.84	67.50	7790	612	784	500

The above data is approximate and subject to manufacturing tolerance.
*Delivery Length tolerance is +/-5%

TABLE 36 - ADCAB TWO CORE COPPER CONDUCTOR, XLPE INSULATED, ARMORED & UN ARMORED CABLE CONFIRMING TO IS 7098 PART-1

WEIGHT & DIMENSIONS **650/1100 VOLTS**

Nominal Size of Conductor	Form of Conductor Circular	Nomina	Minimu	Unarmored Cable			Formed Wire/Strip Armored Cable				Round Wired Armored Cable				Current Rating*		*Normal Standard Length
				Nominal Thickness of PVC Outer Sheath	Appro	Appro	Nominal Dimension of Aluminum Flat Strip	Minimu	Appro	Appro	Nominal Dimension of Aluminu	Minimu	Approx Over All Dia. of Cable	Approx Weight of Cable	In Ground	In Air	
sq mm	mm	mm	mm	mm	mm	kgs./k	mm	mm	mm	kgs./km	mm	mm	mm	kgs./mm	Amps.	Amps.	Mtrs.
4	Solid	0.70	0.30	1.80	12.50	165	-	-	-	-	1.40	1.24	14.00	408	54	48	1000
4	Stranded	0.70	0.30	1.80	13	175	-	-	-	-	1.40	1.24	14.50	427	54	48	1000
6	Solid	0.70	0.30	1.80	13.50	210	-	-	-	-	1.40	1.24	15.00	484	67	61	1000
6	Stranded	0.70	0.30	1.80	14	225	-	-	-	-	1.40	1.24	16.00	522	67	61	1000
10	Stranded	0.70	0.30	1.80	16	300	-	-	-	-	1.40	1.24	17.50	665	89	83	1000
16	Stranded	0.70	0.30	1.80	14	422	-	-	-	-	1.40	1.40	17	696	115	108	1000
25	Stranded	0.90	0.30	2	17	636	4 x 0.80	1.40	18.50	804	1.60	1.40	20	1000	147	140	1000
35	Stranded	0.90	0.30	2	19	817	4 x 0.80	1.40	20	1019	1.60	1.40	22	1224	176	172	1000
50	Stranded	1	0.30	2	21	1054	4 x 0.80	1.40	22.50	1311	1.60	1.40	24	1520	208	208	1000
70	Stranded	1.10	0.30	2	23	1453	4 x 0.80	1.56	22.50	1757	1.60	1.56	27	2004	253	262	1000
95	Stranded	1.10	0.40	2.20	26.50	1966	4 x 0.80	1.56	28	2289	2	1.56	30.50	2736	302	322	1000
120	Stranded	1.20	0.40	2.20	28.50	2413	4 x 0.80	1.56	30.50	2755	2	1.56	33	3230	340	368	500
150	Stranded	1.40	0.40	2.20	32	2935	4 x 0.80	1.72	31.80	3353	2	1.72	36	3876	379	419	500
185	Stranded	1.60	0.50	2.40	35.50	3676	4 x 0.80	1.72	37	4094	2	1.88	40	4731	425	482	500
240	Stranded	1.70	0.50	2.60	39.50	4750	4 x 0.80	1.88	38.70	5225	2.50	2.04	42.40	6203	486	566	500
300	Stranded	1.80	0.60	2.80	43.50	5918	4 x 0.80	2.04	42.50	6412	2.50	2.20	46.20	7514	541	644	500
400	Stranded	2	0.60	3.00	49	7495	4 x 0.80	2.36	48.20	8075	2.50	2.36	51.60	9262	602	734	250

The above data is approximate and subject to manufacturing tolerance.
*Delivery Length tolerance is +/-5%

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TABLE 37 - ADCAB THREE CORE ALUMINUM CONDUCTOR, XLPE INSULATED, ARMORED & UN ARMORED CABLE CONFIRMING TO IS 7098 PART-1

WEIGHT & DIMENSIONS **650/1100 VOLTS**

Nominal Size of Conductor	Form of Conductor Circular	Nomina	Minimu	Unarmored Cable			Formed Wire/Strip Armored Cable				Round Wired Armored Cable				Current Rating*		*Normal Standard Length
				Nominal Thickness of PVC Outer	Appro	Appro	Nominal Dimension of Aluminum Flat	Minimu	Appro	Approx Weight of Cable	Nominal Dimension of Aluminu	Minimu	Approx Over All Dia. of Cable	Approx Weight of Cable	In Ground	In Air	
sq mm	mm	mm	mm	mm	mm	kgs./k	mm	mm	mm	kgs./km	mm	mm	mm	kgs./mm	Amps.	Amps.	Mtrs.
4	Solid	0.70	0.30	1.80	13	140	-	-	-	-	1.40	1.24	15	460	35	32	1000
4	Stranded	0.70	0.30	1.80	13.50	160	-	-	-	-	1.40	1.24	16	399	35	32	1000
6	Solid	0.70	0.30	1.80	14.50	170	-	-	-	-	1.40	1.24	16	530	46	42	1000
6	Stranded	0.70	0.30	1.80	15	190	-	-	-	-	1.40	1.24	17	470	46	42	1000
10	Solid	0.70	0.30	1.80	15.50	220	-	-	-	-	1.40	1.24	18	640	57	54	1000
10	Stranded	0.70	0.30	1.80	17	230	-	-	-	-	1.40	1.24	18.50	551	57	54	1000
16	Stranded	0.70	0.30	1.80	16.20	304	4 x 0.80	1.24	16.80	487	1.60	1.40	19	648	74	69	1000
25	Stranded	0.90	0.30	2	19.20	446	4 x 0.80	1.40	20.10	670	1.60	1.40	21.70	855	95	93	1000
35	Stranded	0.90	0.30	2	21.50	551	4 x 0.80	1.40	22	798	1.60	1.40	23.60	997	114	114	1000
50	Stranded	1	0.30	2	24.50	693	4 x 0.80	1.40	24.80	960	1.60	1.56	26.80	1235	134	138	1000
70	Stranded	1.10	0.40	2.20	28	950	4 x 0.80	1.56	28.50	1282	2	1.56	30.90	1729	164	175	1000
95	Stranded	1.10	0.40	2.20	30.80	1206	4 x 0.80	1.56	31.30	1577	2	1.56	33.70	2077	197	216	1000
120	Stranded	1.20	0.40	2.20	33.80	1463	4 x 0.80	1.56	34.30	1871	2	1.72	37	2422	223	249	500
150	Stranded	1.40	0.50	2.40	37.90	1814	4 x 0.80	1.72	38.30	2100	2	1.88	41.10	2888	249	284	500
185	Stranded	1.60	0.50	2.60	42	2242	4 x 0.80	1.88	42.30	2500	2.50	2.04	16	3733	282	329	500
240	Stranded	1.70	0.60	2.80	46.90	2869	4 x 0.80	2.04	47.20	3382	2.50	2.20	50.90	4531	327	392	500
300	Stranded	1.80	0.60	3	51.50	3505	4 x 0.80	2.20	51.80	4066	2.50	2.36	55.45	5339	369	452	500
400	Stranded	2	0.70	3.20	58.60	4427	4 x 0.80	2.52	58.50	5101	3.15	2.68	64	7115	420	526	500
500	Stranded	2.20	0.70	3.60	66	5681	4 x 0.80	2.68	65	6365	3.15	2.84	73	8597	478	612	500
630	Stranded	2.40	0.70	3.80	72	7125	4 x 0.80	2.84	73	7894	4	3	78	11290	542	712	500

The above data is approximate and subject to manufacturing tolerance.
*Delivery Length tolerance is +/-5%

TABLE 38 - ADCAB THREE CORE COPPER CONDUCTOR, XLPE INSULATED, ARMORED & UN ARMORED CABLE CONFIRMING TO IS 7098 PART-1

WEIGHT & DIMENSIONS **650/1100 VOLTS**

Nominal Size of Conductor	Form of Conductor Circular	Nomina	Minimu	Unarmored Cable			Formed Wire/Strip Armored Cable				Round Wired Armored Cable				Current Rating*		*Normal Standard Length
				Nominal Thickness of PVC Outer Sheath	Appro	Appro	Nominal Dimension of Aluminum Flat Strip	Minimu	Appro	Approx Weight of Cable	Nominal Dimension of Aluminu	Minimu	Approx Over All Dia. of Cable	Approx Weight of Cable	In Ground	In Air	
sq mm	mm	mm	mm	mm	mm	kgs./k	mm	mm	mm	kgs./km	mm	mm	mm	kgs./mm	Amps.	Amps.	Mtrs.
4	Solid	0.70	0.30	1.80	13	210	-	-	-	-	1.40	1.24	15	530	45	41	1000
4	Stranded	0.70	0.30	1.80	13.50	232	-	-	-	-	1.40	1.24	16	460	45	41	1000
6	Solid	0.70	0.30	1.80	14.50	280	-	-	-	-	1.40	1.24	16	640	56	52	1000
6	Stranded	0.70	0.30	1.80	15	299	-	-	-	-	1.40	1.24	17	551	56	52	1000
10	Stranded	0.70	0.30	1.80	17	415	-	-	-	-	1.40	1.24	18.50	722	74	70	1000
16	Stranded	0.70	0.30	1.80	16.20	425	4 x 0.80	1.24	16.80	772	1.60	1.40	19	921	95	89	1000
25	Stranded	0.90	0.30	2	19.20	874	4 x 0.80	1.40	20.10	1100	1.60	1.40	21.70	1282	122	119	1000
35	Stranded	0.90	0.30	2	21.50	1150	4 x 0.80	1.40	22	1395	1.60	1.40	23.60	1596	146	147	1000
50	Stranded	1	0.30	2	24.50	1501	4 x 0.80	1.40	24.80	1760	1.60	1.56	26.80	2042	173	179	1000
70	Stranded	1.10	0.40	2.20	28	2118	4 x 0.80	1.56	28.50	2440	2	1.56	30.90	2888	212	226	1000
95	Stranded	1.10	0.40	2.20	30.80	2821	4 x 0.80	1.56	31.30	3171	2	1.56	33.70	3685	254	279	1000
120	Stranded	1.20	0.40	2.20	33.80	3496	4 x 0.80	1.56	34.30	3890	2	1.72	37	4451	287	320	500
150	Stranded	1.40	0.50	2.40	37.90	4322	4 x 0.80	1.72	38.30	4751	2	1.88	41.10	5390	321	365	500
185	Stranded	1.60	0.50	2.60	42	5377	4 x 0.80	1.88	42.30	5851	2.50	2.04	16	6860	362	422	500
240	Stranded	1.70	0.60	2.80	46.90	6992	4 x 0.80	2.04	47.20	7500	2.50	2.20	50.90	8650	418	500	500
300	Stranded	1.80	0.60	3	51.50	8683	4 x 0.80	2.20	51.80	9240	2.50	2.36	55.45	10500	469	574	500
400	Stranded	2	0.70	3.20	58.60	11020	4 x 0.80	2.52	58.50	11700	3.15	2.68	64	13700	528	662	500

The above data is approximate and subject to manufacturing tolerance.
*Delivery Length tolerance is +/-5%

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TABLE 39 - ADCAB THREE AND HALF CORE ALUMINUM CONDUCTOR, XLPE INSULATED, ARMORED & UN ARMORED CABLE CONFIRMING TO IS 7098 PART-1

WEIGHT & DIMENSIONS **650/1100 VOLTS**

Nominal Size of Conductor	Form of Conductor Circular	Nominal Thickness of XLPE Insulation For U/A	Minimum Thickness of PVC Inner Sheath	Unarmored Cable			Formed Wire/Strip Armored Cable				Round Wired Armored Cable				Current Rating*		*Normal Standard Length
				Nominal Thickness of PVC Outer Sheath	Approx Overall Dia. of Cable	Approx Weight of Cable	Nominal Dimension of Aluminum Flat Strip	Minimum Thickness of PVC Outer Sheath	Approx Over All Dia. of Cable	Approx Weight of Cable	Nominal Dimension of Aluminum Round Wire	Minimum Thickness of PVC Outer Sheath	Approx Over All Dia. of Cable	Approx Weight of Cable	In Ground	In Air	
sq mm	mm	mm	mm	mm	mm	kgs./km	mm	mm	mm	kgs./km	mm	mm	mm	kgs./mm	Amps.	Amps.	Mtrs.
25/16	Stranded	0.90/0.70	0.30	2	21.30	525	4 x 0.80	1.40	21.90	730	1.60	1.40	23.60	960	95	93	1000
35/16	Stranded	0.90/0.70	0.30	2	23.60	625	4 x 0.80	1.40	24.20	880	1.60	1.40	25.80	1133	114	114	1000
50/25	Stranded	1/0.90	0.30	2	26.80	800	4 x 0.80	1.40	27.40	1100	1.60	1.56	29.50	1382	134	138	1000
70/35	Stranded	1.10/0.90	0.40	2.20	31	1090	4 x 0.80	1.56	31.50	1450	2	1.56	34	1930	164	175	1000
95/50	Stranded	1.10/1	0.40	2.20	34.30	1395	4 x 0.80	1.56	34.80	1791	2	1.56	37.20	2345	197	216	1000
120/70	Stranded	1.20/1.10	0.40	2.20	37.50	1645	4 x 0.80	1.72	38.50	2195	2	1.72	41	2799	223	249	500
150/70	Stranded	1.40/1.10	0.50	2.40	41	1994	4 x 0.80	1.72	42	2574	2	1.88	45	3290	249	284	500
185/95	Stranded	1.60/1.10	0.50	2.60	46.50	2547	4 x 0.80	1.88	47.20	3150	2.50	2.04	50	4313	282	329	500
240/120	Stranded	1.70/1.20	0.60	2.80	52.50	3200	4 x 0.80	2.04	52.70	3900	2.50	2.20	56	5190	327	392	500
300/150	Stranded	1.80/1.40	0.60	3	56	3999	4 x 0.80	2.20	57	4690	2.50	2.36	61	6100	369	452	500
400/185	Stranded	2/1.60	0.70	3.40	64	5170	4 x 0.80	2.52	65	5888	3.15	2.68	70	8151	420	526	500

The above data is approximate and subject to manufacturing tolerance.
*Delivery Length tolerance is +/-5%

TABLE 40 - ADCAB THREE AND HALF CORE COPPER CONDUCTOR, XLPE INSULATED, ARMORED & UN ARMORED CABLE CONFIRMING TO IS 7098 PART-1

WEIGHT & DIMENSIONS **650/1100 VOLTS**

Nominal Size of Conductor	Form of Conductor Circular	Nominal Thickness of XLPE Insulation For U/A	Minimum Thickness of PVC Inner Sheath	Unarmored Cable			Formed Wire/Strip Armored Cable				Round Wired Armored Cable				Current Rating*		*Normal Standard Length
				Nominal Thickness of PVC Outer Sheath	Approx Overall Dia. of Cable	Approx Weight of Cable	Nominal Dimension of Aluminum Flat Strip	Minimum Thickness of PVC Outer Sheath	Approx Over All Dia. of Cable	Approx Weight of Cable	Nominal Dimension of Aluminum Round Wire	Minimum Thickness of PVC Outer Sheath	Approx Over All Dia. of Cable	Approx Weight of Cable	In Ground	In Air	
sq mm	mm	mm	mm	mm	mm	kgs./km	mm	mm	mm	kgs./km	mm	mm	mm	kgs./mm	Amps.	Amps.	Mtrs.
25/16	Stranded	0.90/0.70	0.30	2	21.30	1030	4 x 0.80	1.40	21.90	1270	1.60	1.40	23.60	1490	122	119	1000
35/16	Stranded	0.90/0.70	0.30	2	23.60	1300	4 x 0.80	1.40	24.20	1585	1.60	1.40	25.80	1820	146	147	1000
50/25	Stranded	1/0.90	0.30	2	26.80	1748	4 x 0.80	1.40	27.40	2060	1.60	1.56	29.50	2330	173	179	1000
70/35	Stranded	1.10/0.90	0.40	2.20	31	2460	4 x 0.80	1.56	31.50	2830	2	1.56	34	3290	212	226	1000
95/50	Stranded	1.10/1	0.40	2.20	34.30	3280	4 x 0.80	1.56	34.80	3686	2	1.56	37.20	4237	254	279	1000
120/70	Stranded	1.20/1.10	0.40	2.20	37.60	4140	4 x 0.80	1.72	38.50	4617	2	1.72	41	5225	287	320	500
150/70	Stranded	1.40/1.10	0.50	2.40	42.30	4980	4 x 0.80	1.72	42.70	5481	2	1.88	45	6190	321	365	500
185/95	Stranded	1.60/1.10	0.50	2.60	46.80	4275	4 x 0.80	1.88	47.20	6830	2.50	2.04	50	7989	362	422	500
240/120	Stranded	1.70/1.20	0.60	2.80	52.40	8120	4 x 0.80	2.04	52.70	8700	2.50	2.20	56	10000	418	500	500
300/150	Stranded	1.80/1.40	0.60	3	57	10079	4 x 0.80	2.20	57.90	10716	2.50	2.36	61	12130	469	574	500
400/185	Stranded	2/1.60	0.70	3.40	65	12800	4 x 0.80	2.52	65.50	13550	3.15	2.68	70	15810	528	660	500

The above data is approximate and subject to manufacturing tolerance.
*Delivery Length tolerance is +/-5%

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TABLE 41 - ADCAB FOUR CORE ALUMINUM CONDUCTOR, XLPE INSULATED, ARMORED & UN ARMORED CABLE CONFIRMING TO IS 7098 PART-1

WEIGHT & DIMENSIONS **650/1100 VOLTS**

Nominal Size of Conductor	Form of Conductor Circular	Nominal Thickness of XLPE Insulation For U/A	Minimum Thickness of PVC Inner Sheath	Unarmored Cable			Formed Wire/Strip Armored Cable				Round Wired Armored Cable				Current Rating*		*Normal Standard Length
				Nominal Thickness of PVC Outer Sheath	Approx Overall Dia. of Cable	Approx Weight of Cable	Nominal Dimension of Aluminum Flat Strip	Minimum Thickness of PVC Outer Sheath	Approx Over All Dia. of Cable	Approx Weight of Cable	Nominal Dimension of Aluminum Round Wire	Minimum Thickness of PVC Outer Sheath	Approx Over All Dia. of Cable	Approx Weight of Cable	In Ground	In Air	
sq mm	mm	mm	mm	mm	mm	kgs./km	mm	mm	mm	kgs./mm	mm	mm	mm	kgs./mm	Amps.	Amps.	Mtrs.
4	Solid	0.70	0.30	1.80	13.50	160	-	-	-	-	1.40	1.24	15.30	413	35	32	1000
4	Stranded	0.70	0.30	1.80	14.20	180	-	-	-	-	1.40	1.24	16	435	35	32	1000
6	Solid	0.70	0.30	1.80	14.70	200	-	-	-	-	1.40	1.24	16.50	473	46	42	1000
6	Stranded	0.70	0.30	1.80	15.50	215	-	-	-	-	1.40	1.24	17.30	506	46	42	1000
10	Solid	0.70	0.30	1.80	16.60	250	-	-	-	-	1.40	1.40	18.60	592	57	54	1000
10	Stranded	0.70	0.30	1.80	17.50	260	-	-	-	-	1.40	1.40	19.80	633	57	54	1000
16	Stranded	0.70	0.30	1.80	17.80	350	4 x 0.80	1.40	20	608	1.60	1.40	21	795	74	69	1000
25	Stranded	0.90	0.30	2	21	550	4 x 0.80	1.40	23	828	1.60	1.40	25	1045	95	93	1000
35	Stranded	0.90	0.30	2	23.50	680	4 x 0.80	1.40	25	997	1.60	1.40	26.50	1244	114	114	1000
50	Stranded	1	0.30	2	26	875	4 x 0.80	1.56	28	1230	1.60	1.56	29.50	1520	134	138	1000
70	Stranded	1.10	0.40	2.20	30.50	1200	4 x 0.80	1.56	32	1615	2	1.56	34	2137	164	175	1000
95	Stranded	1.10	0.40	2.20	33.50	1530	4 x 0.80	1.56	35	2014	2	1.72	38	2622	197	216	1000
120	Stranded	1.20	0.50	2.40	37.50	1850	4 x 0.80	1.72	39	2403	2	1.88	42	3087	223	249	500
150	Stranded	1.40	0.50	2.60	42	2280	4 x 0.80	1.88	43	2888	2.50	2.04	47	3980	249	284	500
185	Stranded	1.60	0.50	2.80	46.50	2800	4 x 0.80	2.04	48	3505	2.50	2.20	52	4721	282	329	500
240	Stranded	1.70	0.60	3	52.50	3700	4 x 0.80	2.20	54	4389	2.50	2.36	57.50	5709	327	392	500
300	Stranded	1.80	0.70	3.20	58	4600	4 x 0.80	2.36	59	5291	3.15	2.52	64.50	7372	369	452	500
400	Stranded	2	0.70	3.60	65.50	6000	4 x 0.80	2.68	66	6583	3.15	2.84	71.50	8985	420	526	500

The above data is approximate and subject to manufacturing tolerance.
*Delivery Length tolerance is +/-5%

TABLE 42 - ADCAB FOUR CORE COPPER CONDUCTOR, XLPE INSULATED, ARMORED & UN ARMORED CABLE CONFIRMING TO IS 7098 PART-1

WEIGHT & DIMENSIONS **650/1100 VOLTS**

Nominal Size of Conductor	Form of Conductor Circular	Nominal Thickness of XLPE Insulation For U/A	Minimum Thickness of PVC Inner Sheath	Unarmored Cable			Formed Wire/Strip Armored Cable				Round Wired Armored Cable				Current Rating*		*Normal Standard Length
				Nominal Thickness of PVC Outer Sheath	Approx Overall Dia. of Cable	Approx Weight of Cable	Nominal Dimension of Aluminum Flat Strip	Minimum Thickness of PVC Outer Sheath	Approx Over All Dia. of Cable	Approx Weight of Cable	Nominal Dimension of Aluminum Round Wire	Minimum Thickness of PVC Outer Sheath	Approx Over All Dia. of Cable	Approx Weight of Cable	In Ground	In Air	
sq mm	mm	mm	mm	mm	mm	kgs./km	mm	mm	mm	kgs./mm	mm	mm	mm	kgs./mm	Amps.	Amps.	Mtrs.
4	Solid	0.70	0.30	1.80	13.50	260	-	-	-	-	1.40	1.24	15.30	503	45	41	1000
4	Stranded	0.70	0.30	1.80	14.20	280	-	-	-	-	1.40	1.24	16	533	45	41	1000
6	Solid	0.70	0.30	1.80	14.70	350	-	-	-	-	1.40	1.24	16.50	618	56	52	1000
6	Stranded	0.70	0.30	1.80	15.50	365	-	-	-	-	1.40	1.24	17.30	646	56	52	1000
10	Stranded	0.70	0.30	1.80	17.80	510	-	-	-	-	1.40	1.40	19.80	870	74	70	1000
16	Stranded	0.70	0.30	1.80	17.50	741	4 x 0.80	1.40	16.80	772	1.60	1.40	21	1159	95	89	1000
25	Stranded	0.90	0.30	2	21	1140	4 x 0.80	1.40	20.10	1100	1.60	1.40	25	1615	122	119	1000
35	Stranded	0.90	0.30	2	23.50	1491	4 x 0.80	1.40	22	1395	1.60	1.40	26.50	2033	146	147	1000
50	Stranded	1	0.30	2	26	1957	4 x 0.80	1.56	24.80	1760	1.60	1.56	29.50	2593	173	179	1000
70	Stranded	1.10	0.40	2.20	30.50	2774	4 x 0.80	1.56	28.50	2440	2	1.56	34	3686	212	226	1000
95	Stranded	1.10	0.40	2.20	33.50	3714	4 x 0.80	1.56	31.30	3171	2	1.72	38	4769	254	279	1000
120	Stranded	1.20	0.50	2.20	37.50	4645	4 x 0.80	1.72	34.30	3890	2	1.88	42	5795	287	320	500
150	Stranded	1.40	0.50	2.40	42	5719	4 x 0.80	1.88	38.30	4751	2	2.04	47	7324	321	365	500
185	Stranded	1.60	0.50	2.60	46.50	7125	4 x 0.80	2.04	42.30	5851	2.50	2.20	52	8901	362	422	500
240	Stranded	1.70	0.60	2.80	52.50	9253	4 x 0.80	2.20	47.20	7500	2.50	2.36	57.50	11210	418	500	500
300	Stranded	1.80	0.70	3	58	11524	4 x 0.80	2.36	51.80	9240	2.50	2.52	64.50	14279	469	574	500
400	Stranded																

The above data is approximate and subject to manufacturing tolerance.
*Delivery Length tolerance is +/-5%

TABLE 43 - ADCAB 650/1100 VOLTS MULTICORE CONTROL CABLE WITH SOLID COPPER CONDUCTOR OF SIZE 1.5 SQ MM XLPE INSULATED, ARMORED & UN ARMORED CABLE CONFIRMING TO IS 7098 PART-1

WEIGHT & DIMENSIONS **650/1100 VOLTS**

Number of Cores	Nominal Thickness of XLPE Insulation For U/A	Minimum Thickness of PVC Inner Sheath	Unarmored Cable			Formed Wire/Strip Armored Cable				Round Wired Armored Cable				Current Rating*		*Normal Standard Length
			Nominal Thickness of PVC Outer Sheath	Approx Overall Dia. of Cable	Approx Weight of Cable	Nominal Dimension of Aluminum Flat Strip	Minimum Thickness of PVC Outer Sheath	Approx Over All Dia. of Cable	Approx Weight of Cable	Nominal Dimension of Aluminum Round Wire	Minimum Thickness of PVC Outer Sheath	Approx Over All Dia. of Cable	Approx Weight of Cable	In Ground	In Air	
core	mm	mm	mm	mm	kgs./km	mm	mm	mm	kgs./km	mm	mm	mm	kgs./mm	Amps.	Amps.	Mtrs.
2	0.70	0.30	1.80	10	140	-	-	-	-	1.40	1.24	11.90	288	31	27	1000
3	0.70	0.30	1.80	10.50	160	-	-	-	-	1.40	1.24	12.40	300	26	23	1000
4	0.70	0.30	1.80	11.50	171	-	-	-	-	1.40	1.24	13.10	345	26	23	1000
5	0.70	0.30	1.80	12.10	195	-	-	-	-	1.40	1.24	13.90	381	26	23	1000
6	0.70	0.30	1.80	12.90	222	-	-	-	-	1.40	1.24	14.70	430	23	20	1000
7	0.70	0.30	1.80	12.90	239	-	-	-	-	1.40	1.24	14.70	448	20	18	1000
8	0.70	0.30	1.80	14	275	-	-	-	-	1.40	1.24	16.50	489	17	15	1000
9	0.70	0.30	1.80	15	308	-	-	-	-	1.40	1.24	17.50	540	17	15	1000
10	0.70	0.30	1.80	15.70	327	-	-	-	-	1.40	1.24	17.50	594	17	15	1000
12	0.70	0.30	1.80	16.10	365	-	-	-	-	1.40	1.24	18	645	16	14	1000
14	0.70	0.30	1.80	16.80	413	-	-	-	-	1.40	1.40	18.90	709	16	14	1000
16	0.70	0.30	1.80	17.70	460	4 x 0.80	1.40	18.50	650	1.60	1.40	20.10	800	14	12	500
19	0.70	0.30	1.80	18.50	513	4 x 0.80	1.40	19.30	736	1.60	1.40	20.90	899	14	12	500
21	0.70	0.30	2	19.80	560	4 x 0.80	1.40	20.20	782	1.60	1.40	21.80	952	12	11	500
24	0.70	0.30	2	21.70	627	4 x 0.80	1.40	22.10	870	1.60	1.40	23.70	1090	12	11	500
27	0.70	0.30	2	22.10	684	4 x 0.80	1.40	22.50	950	1.60	1.40	24.10	1150	11	9	500
30	0.70	0.30	2	22.80	741	4 x 0.80	1.40	23.20	1010	1.60	1.40	24.90	1229	11	9	500
33	0.70	0.30	2	23.70	807	4 x 0.80	1.40	24.10	1100	1.60	1.40	25.70	1322	11	9	500
37	0.70	0.30	2	24.50	874	4 x 0.80	1.40	24.90	1161	1.60	1.40	26.50	1415	11	9	500
44	0.70	0.30	2	27.30	1026	4 x 0.80	1.40	27.70	1352	1.60	1.40	29.70	1662	9	8	500
52	0.70	0.30	2	28.40	1170	4 x 0.80	1.56	29.20	1543	1.60	1.56	30.90	1833	9	8	500
61	0.70	0.30	2.20	30.70	1380	4 x 0.80	1.56	31.10	1740	2	1.56	33.50	2251	9	8	500

The above data is approximate and subject to manufacturing tolerance.
*Delivery Length tolerance is +/-5%

TABLE 44 - ADCAB 650/1100 VOLTS MULTICORE CONTROL CABLE WITH SOLID COPPER CONDUCTOR OF SIZE 2.5 SQ MM XLPE INSULATED, ARMORED & UN ARMORED CABLE CONFIRMING TO IS 7098 PART-1

WEIGHT & DIMENSIONS **650/1100 VOLTS**

Number of Cores	Nominal Thickness of XLPE Insulation For U/A	Minimum Thickness of PVC Inner Sheath	Unarmored Cable			Formed Wire/Strip Armored Cable				Round Wired Armored Cable				Current Rating*		*Normal Standard Length
			Nominal Thickness of PVC Outer Sheath	Approx Overall Dia. of Cable	Approx Weight of Cable	Nominal Dimension of Aluminum Flat Strip	Minimum Thickness of PVC Outer Sheath	Approx Over All Dia. of Cable	Approx Weight of Cable	Nominal Dimension of Aluminum Round Wire	Minimum Thickness of PVC Outer Sheath	Approx Over All Dia. of Cable	Approx Weight of Cable	In Ground	In Air	
core	mm	mm	mm	mm	kgs./km	mm	mm	mm	kgs./km	mm	mm	mm	kgs./mm	Amps.	Amps.	Mtrs.
2	0.70	0.30	1.80	10.90	171	-	-	-	-	1.40	1.24	12.70	342	41	36	1000
3	0.70	0.30	1.80	11.40	201	-	-	-	-	1.40	1.24	13.20	358	34	30	1000
4	0.70	0.30	1.80	12.20	215	-	-	-	-	1.40	1.24	14	400	34	30	1000
5	0.70	0.30	1.80	13.10	250	-	-	-	-	1.40	1.24	14.90	461	34	30	1000
6	0.70	0.30	1.80	14	290	-	-	-	-	1.40	1.24	15.90	520	31	27	1000
7	0.70	0.30	1.80	14	311	-	-	-	-	1.40	1.24	15.90	545	27	23	1000
8	0.70	0.30	1.80	16	340	-	-	-	-	1.40	1.24	17	599	23	20	1000
9	0.70	0.30	1.80	16.50	384	-	-	-	-	1.40	1.40	18.50	679	23	20	1000
10	0.70	0.30	1.80	17.20	422	4 x 0.80	1.24	17.80	624	1.40	1.40	19.60	789	23	20	1000
12	0.70	0.30	1.80	17.70	480	4 x 0.80	1.40	18.50	694	1.40	1.40	20.10	865	20	18	1000
14	0.70	0.30	1.80	18.50	551	4 x 0.80	1.40	19.30	780	1.40	1.40	20.90	940	20	18	1000
16	0.70	0.30	1.80	19.80	636	4 x 0.80	1.40	20.20	867	1.60	1.40	21.90	1020	18	16	500
19	0.70	0.30	1.80	20.80	722	4 x 0.80	1.40	21.20	960	1.60	1.40	22.80	1140	18	16	500
21	0.70	0.30	2	21.80	765	4 x 0.80	1.40	22.20	1016	1.60	1.40	23.90	1243	16	14	500
24	0.70	0.30	2	24	860	4 x 0.80	1.40	24.40	1159	1.60	1.40	26	1387	16	14	500
27	0.70	0.30	2	24.50	950	4 x 0.80	1.40	24.90	1235	1.60	1.40	26.50	1480	14	13	500
30	0.70	0.30	2	25.30	1030	4 x 0.80	1.40	25.70	1349	1.60	1.40	27.30	1586	14	13	500
33	0.70	0.30	2	26.20	1128	4 x 0.80	1.40	26.60	1437	1.60	1.56	28.60	1729	14	13	500
37	0.70	0.30	2	27.20	1230	4 x 0.80	1.40	27.60	1567	1.60	1.56	29.60	1852	14	13	500
44	0.70	0.30	2	30.90	1500	4 x 0.80	1.56	31.30	1862	1.60	1.56	33.70	2356	12	11	500
52	0.70	0.30	2	32.20	1710	4 x 0.80	1.56	32.60	2109	1.60	1.56	35	2630	12	11	500
61	0.70	0.30	2.20	34.10	1971	4 x 0.80	1.56	34.50	2375	2	1.56	36.90	2920	12	11	500

The above data is approximate and subject to manufacturing tolerance.
*Delivery Length tolerance is +/-5%

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RATING FACTORS

Table 1 - Rating factors for variation in ambient air temperature for cables in free air

Maximum conductor temperature	Ambient air temperature C							
C	15	30	35	40	45	50	55	60
90	1.14	1.10	1.05	1	0.96	0.89	0.87	0.77

Table 2 - Rating factors for variation in ground temperature for direct buried cables

Maximum conductor temperature	Ground temperature C							
C	15	20	25	30	35	40	45	50
90	1.12	1.08	1.04	1	0.96	0.91	0.87	0.82

Table 3 - Rating factors for variation in ground temperature for cables in ducts

Maximum conductor temperature	Ground temperature C							
C	15	20	25	30	35	40	45	50
90	1.12	1.08	1.04	1	0.96	0.91	0.87	0.82

Table 4 - Rating factors for depths of laying for direct buried cables

Depth of laying mm	Up to 25 mm2		Above 25 mm 2 Up to 300 mm 2		Above 300 mm2	
	Single Core	Multi Core	Single Core	Multi Core	Single Core	Multi Core
750	1	1	1	1	1	1
900	0.98	0.98	0.98	0.98	0.98	0.98
1050	0.97	0.98	0.96	0.97	0.96	0.96
1200	0.96	0.97	0.95	0.95	0.94	0.95
1500	0.94	0.95	0.93	0.93	0.92	0.93
1800	0.93	0.93	0.91	0.92	0.90	0.91
2000	0.92	0.93	0.90	0.91	0.89	0.90
2500	0.90	0.92	0.89	0.89	0.87	0.88
3000	0.90	0.90	0.87	0.88	0.86	0.87

Table 5 - Rating factors for depths of laying for cables in ducts

Depth of laying mm	Up to 25 mm2		Above 25 mm 2 Up to 300 mm 2		Above 300 mm2	
	Single Core	Multi Core	Single Core	Multi Core	Single Core	Multi Core
750	1	1	1	1	1	1
900	0.98	0.98	0.98	0.99	0.98	0.98
1050	0.97	0.98	0.96	0.97	0.96	0.97
1200	0.96	0.97	0.95	0.97	0.94	0.96
1500	0.94	0.96	0.93	0.95	0.92	0.94
1800	0.93	0.95	0.91	0.94	0.90	0.93
2000	0.92	0.94	0.90	0.93	0.89	0.92
2500	0.90	0.93	0.88	0.92	0.87	0.91
3000	0.89	0.92	0.87	0.91	0.86	0.90

Table 6 - Rating factors for variations in soil thermal resistivities for two single-core cables laid direct in ground

Normal area of conductor mm2	Values of soil thermal resistivity K.m/W					
	1	1.2	1.5	2	2.5	3
1.50	1.16	1.09	1	0.91	0.81	0.75
2.50	1.16	1.09	1	0.89	0.81	0.75
4	1.17	1.09	1	0.89	0.81	0.75
6	1.17	1.09	1	0.89	0.81	0.75
10	1.17	1.09	1	0.89	0.80	0.74
16	1.17	1.09	1	0.89	0.80	0.74
25	1.18	1.09	1	0.89	0.80	0.74
35	1.18	1.10	1	0.88	0.80	0.73
50	1.19	1.10	1	0.88	0.80	0.73
70	1.19	1.10	1	0.88	0.80	0.73
95	1.19	1.10	1	0.88	0.79	0.73
120	1.19	1.10	1	0.88	0.79	0.73
150	1.19	1.10	1	0.88	0.79	0.73
185	1.19	1.10	1	0.88	0.79	0.72
240	1.20	1.10	1	0.88	0.79	0.72
300	1.20	1.10	1	0.88	0.79	0.72
400	1.20	1.10	1	0.88	0.79	0.72
500	1.20	1.11	1	0.87	0.79	0.72
630	1.20	1.11	1	0.87	0.79	0.72
800	1.20	1.11	1	0.87	0.79	0.72
1000	1.20	1.11	1	0.87	0.79	0.72

Table 7 - Rating factors for variations in soil thermal resistivities for two single-core cables laid in buried duct

Normal area of conductor mm2	Values of soil thermal resistivity K.m/W					
	1	1.2	1.5	2	2.5	3
1.50	1.16	1.09	1	0.91	0.81	0.75
2.50	1.16	1.09	1	0.89	0.81	0.75
4	1.17	1.09	1	0.89	0.81	0.75
6	1.17	1.09	1	0.89	0.81	0.75
10	1.17	1.09	1	0.89	0.80	0.74
16	1.17	1.09	1	0.89	0.80	0.74
25	1.18	1.09	1	0.89	0.80	0.74
35	1.18	1.10	1	0.88	0.80	0.73
50	1.19	1.10	1	0.88	0.80	0.73
70	1.19	1.10	1	0.88	0.80	0.73
95	1.19	1.10	1	0.88	0.79	0.73
120	1.19	1.10	1	0.88	0.79	0.73
150	1.19	1.10	1	0.88	0.79	0.73
185	1.19	1.10	1	0.88	0.79	0.72
240	1.20	1.10	1	0.88	0.79	0.72
300	1.20	1.10	1	0.88	0.79	0.72
400	1.20	1.10	1	0.88	0.79	0.72
500	1.20	1.11	1	0.87	0.79	0.72
630	1.20	1.11	1	0.87	0.79	0.72
800	1.20	1.11	1	0.87	0.79	0.72
1000	1.20	1.11	1	0.87	0.79	0.72

Table 8 - Rating factors for variations in soil thermal resistivities for three single-core cables laid direct in ground

Normal area of conductor mm2	Values of soil thermal resistivity K.m/W					
	1	1.2	1.5	2	2.5	3
1.50	1.14	1.07	1	0.89	0.80	0.75
2.50	1.17	1.08	1	0.89	0.80	0.75
4	1.17	1.09	1	0.88	0.79	0.73
6	1.17	1.09	1	0.88	0.79	0.73
10	1.18	1.09	1	0.88	0.79	0.73
16	1.18	1.10	1	0.88	0.79	0.72
25	1.19	1.10	1	0.88	0.79	0.72
35	1.19	1.10	1	0.88	0.79	0.72
50	1.19	1.10	1	0.88	0.79	0.72
70	1.20	1.11	1	0.88	0.79	0.72
95	1.20	1.11	1	0.87	0.79	0.72
120	1.20	1.11	1	0.87	0.79	0.72
150	1.20	1.11	1	0.87	0.79	0.72
185	1.20	1.11	1	0.87	0.78	0.72
240	1.20	1.11	1	0.87	0.78	0.72
300	1.20	1.11	1	0.87	0.78	0.72
400	1.20	1.11	1	0.87	0.78	0.72
500	1.21	1.11	1	0.87	0.78	0.72
630	1.21	1.11	1	0.87	0.78	0.72
800	1.21	1.11	1	0.87	0.78	0.72
1000	1.21	1.11	1	0.87	0.78	0.72

Table 9 - Rating factors for variations in soil thermal resistivities for three single-core cables laid in buried duct

Normal area of conductor mm2	Values of soil thermal resistivity K.m/W					
	1	1.2	1.5	2	2.5	3
1.50	1.08	1.04	1	0.92	0.88	0.84
2.50	1.08	1.05	1	0.93	0.88	0.84
4	1.08	1.05	1	0.93	0.87	0.83
6	1.09	1.06	1	0.93	0.87	0.83
10	1.10	1.06	1	0.93	0.87	0.82
16	1.10	1.06	1	0.93	0.87	0.82
25	1.10	1.06	1	0.93	0.87	0.82
35	1.10	1.06	1	0.93	0.86	0.81
50	1.11	1.06	1	0.92	0.86	0.81
70	1.11	1.06	1	0.92	0.86	0.80
95	1.12	1.06	1	0.92	0.85	0.80
120	1.12	1.06	1	0.91	0.85	0.79
150	1.12	1.07	1	0.91	0.84	0.79
185	1.12	1.07	1	0.91	0.84	0.79
240	1.12	1.07	1	0.91	0.84	0.78
300	1.13	1.07	1	0.91	0.84	0.78
400	1.13	1.07	1	0.91	0.84	0.78
500	1.13	1.07	1	0.90	0.83	0.78
630	1.13	1.07	1	0.90	0.83	0.77
800	1.14	1.08	1	0.90	0.83	0.77
1000	1.14	1.08	1	0.90	0.82	0.77

Table 10 - Rating factors for variations in soil thermal resistivities for multi core cables laid direct in ground

Normal area of conductor mm2	Values of soil thermal resistivity K.m/W					
	1	1.2	1.5	2	2.5	3
1.50	1.14	1.04	1	0.92	0.88	0.84
2.50	1.15	1.05	1	0.93	0.88	0.84
4	1.15	1.05	1	0.93	0.87	0.83
6	1.16	1.06	1	0.93	0.87	0.83
10	1.16	1.06	1	0.93	0.87	0.82
16	1.17	1.06	1	0.93	0.87	0.82
25	1.17	1.06	1	0.93	0.87	0.82
35	1.18	1.06	1	0.93	0.86	0.81
50	1.18	1.06	1	0.92	0.86	0.81
70	1.18	1.06	1	0.92	0.86	0.80
95	1.18	1.06	1	0.92	0.85	0.80
120	1.18	1.06	1	0.91	0.85	0.79
150	1.18	1.07	1	0.91	0.84	0.79
185	1.18	1.07	1	0.91	0.84	0.79
240	1.19	1.07	1	0.91	0.84	0.78
300	1.19	1.07	1	0.91	0.84	0.78
400	1.19	1.07	1	0.91	0.84	0.78
500	1.19	1.07	1	0.90	0.83	0.78
630	1.19	1.07	1	0.90	0.83	0.77

Table 11 - Rating factors for variations in soil thermal resistivities for multi core cables laid in buried duct

Normal area of conductor mm2	Values of soil thermal resistivity K.m/W					
	1	1.2	1.5	2	2.5	3
1.50	1.05	1.03	1	0.96	0.92	0.88
2.50	1.05	1.03	1	0.95	0.91	0.88
4	1.06	1.03	1	0.95	0.91	0.87
6	1.06	1.03	1	0.95	0.91	0.87
10	1.06	1.04	1	0.95	0.90	0.86
16	1.06	1.04	1	0.95	0.90	0.86
25	1.07	1.04	1	0.95	0.90	0.86
35	1.07	1.04	1	0.94	0.90	0.85
50	1.07	1.04	1	0.94	0.89	0.85
70	1.07	1.04	1	0.94	0.89	0.84
95	1.08	1.04	1	0.94	0.88	0.84
120	1.08	1.05	1	0.94	0.88	0.84
150	1.08	1.05	1	0.93	0.88	0.83
185	1.08	1.05	1	0.93	0.88	0.83
240	1.09	1.05	1	0.93	0.87	0.83
300	1.09	1.05	1	0.93	0.87	0.82
400	1.09	1.05	1	0.93	0.87	0.82
500	1.09	1.05	1	0.93	0.87	0.82
630	1.10	1.06	1	0.92	0.86	0.81

Table 12 - Current rating (D.C) for Two single core cable with XLPE Insulation and rated voltage 1500 V

Nominal area of conductor mm2	Buried Direct in the Ground		In Single Wau Ducts		In Air	
	Copper	Aluminum	Aluminum	Aluminum	Copper	Aluminum
1.50	32	26	27	22	28	22
2.50	42	32	36	28	37	28
4	54		46	36	48	38
6	67	55	57	47	61	50
10	90	69	76	58	83	64
16	115	89	97	75	108	84
25	148	115	124	96	144	112
35	177	137	148	115	176	137
50	208	161	174	135	212	165
70	255	198	213	165	269	209
95	314	243	258	200	342	265
120	358	278	293	227	399	310
150	401	310	328	254	455	352
185	455	352	371	288	528	409
240	528	409	431	334	628	487
300	598	463	487	377	726	561
400	687	533	558	433	857	664
500	790	613	640	497	1008	1782
630	911	705	736	570	1189	921
800	1046	809	843	652	1398	1082
1000	1190	923	956	741	1629	1264

Table 13 - Current rating (D.C) for Two core cable with XLPE Insulation and rated voltage 1500 V

Nominal area of conductor mm2	Buried Direct in the Ground		In Single Wau Ducts		In Air	
	Copper	Aluminum	Aluminum	Aluminum	Copper	Aluminum
1.50	31	26	27	22	27	22
2.50	41	32	35	27	36	28
4	54	42	45	36	48	38
6	67	55	56	46	61	50
10	89	68	75	57	83	64
16	115	89	96	74	108	84
25	147	114	122	95	141	109
35	176	137	146	113	172	133
50	209	162	174	134	209	162
70	256	198	213	165	265	205
95	306	237	255	198	326	253
120	347	269	290	225	375	290
150	389	301	326	252	430	332
185	441	342	370	287	498	386
240	513	397	432	334	595	461
300	581	449	490	379	689	533
400	666	516	563	436	807	626
500	764	593	647	502	948	735
630	883	684	749	580	1123	870

Table 1 - Group rating factors for circuits of two-core cables laid direct in the ground, horizontal formation

Number of circuits	Spacing between group centres mm				
	Touching	150	300	450	600
2	0.80	0.85	0.90	0.92	0.95
3	0.70	0.78	0.85	0.88	0.91
4	0.64	0.73	0.81	0.86	0.89
5	0.59	0.70	0.79	0.84	0.88
6	0.55	0.67	0.77	0.83	0.87
7	0.53	0.65	0.76	0.82	0.86
8	0.51	0.64	0.75	0.82	0.86
9	0.49	0.63	0.74	0.81	0.85
10	0.48	0.63	0.74	0.81	0.85
11	0.47	0.62	0.73	0.80	0.84
12	0.46	0.61	0.73	0.80	0.84

Table 2 - Group rating factors for circuits of three single-core cables laid direct in the ground, horizontal formation

Number of circuits	Spacing between group centres mm				
	Touching	150	300	450	600
2	0.77	0.81	0.86	0.88	0.89
3	0.67	0.71	0.78	0.81	0.83
4	0.61	0.64	0.72	0.76	0.80
5	0.57	0.60	0.69	0.74	0.77
6	0.53	0.57	0.66	0.72	0.75
7	0.51	0.55	0.64	0.70	0.74
8	0.49	0.53	0.63	0.69	0.73
9	0.47	0.52	0.62	0.68	0.73
10	0.45	0.51	0.61	0.67	0.72
11	0.44	0.50	0.60	0.66	0.72
12	0.43	0.49	0.59	0.65	0.71

Table 3 - Group rating factors for circuits of three single-core cables in single way ducts

Number of circuits	Spacing between group centres mm				
	Touching	150	300	450	600
2	0.78	0.83	0.87	0.90	0.91
3	0.66	0.73	0.78	0.82	0.85
4	0.59	0.67	0.74	0.78	0.82
5	0.55	0.63	0.70	0.76	0.80
6	0.51	0.61	0.68	0.74	0.78
7	0.48	0.58	0.66	0.73	0.77
8	0.46	0.57	0.65	0.72	0.76
9	0.44	0.55	0.64	0.71	0.76
10	0.43	0.54	0.63	0.70	-
11	0.42	0.53	0.62	0.69	-
12	0.40	0.51	0.61	0.69	-

Table 4 - Group rating factors for multi-core cables laid direct in the ground, in tier formation

Number of cables	Number of tiers	Spacing between group centres mm				
		Touching	150	300	450	600
2	1	0.80	0.84	0.87	0.90	0.91
3	1	0.68	0.74	0.79	0.83	0.86
4	2	0.60	0.66	0.73	0.77	0.79
5	2	0.55	0.61	0.68	0.71	0.73
6	2	0.51	0.57	0.63	0.67	0.69
7	3	0.48	0.54	0.59	0.63	0.64
8	3	0.46	0.51	0.56	0.60	0.61
9	3	0.44	0.48	0.53	0.57	0.58
10	4	0.42	0.47	0.52	0.55	0.56
11	4	0.41	0.46	0.50	0.54	0.55
12	4	0.40	0.45	0.49	0.53	0.54

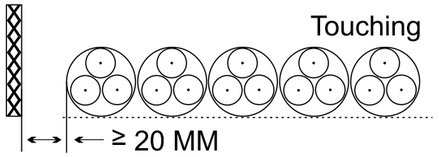
Table 5 - Group rating factors for multi-core cables laid direct in the ground, in horizontal formation

Number of circuits	Spacing between group centres mm				
	Touching	150	300	450	600
2	0.80	0.84	0.87	0.90	0.91
3	0.68	0.74	0.79	0.83	0.86
4	0.62	0.69	0.75	0.80	0.83
5	0.58	0.65	0.72	0.77	0.80
6	0.55	0.62	0.69	0.75	0.78
7	0.52	0.59	0.67	0.73	0.77
8	0.50	0.57	0.66	0.72	0.75
9	0.48	0.55	0.65	0.71	0.75
10	0.46	0.54	0.64	0.70	0.74
11	0.45	0.53	0.63	0.70	0.74
12	0.44	0.52	0.62	0.69	0.73

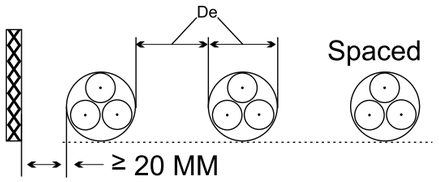
Table 6 - Group rating factors for three-core cables in single way ducts in horizontal formation

Number of circuits	Spacing between group centres mm				
	Touching	150	300	450	600
2	0.85	0.87	0.90	0.92	0.94
3	0.75	0.79	0.83	0.86	0.88
4	0.69	0.74	0.79	0.83	0.86
5	0.65	0.70	0.76	0.80	0.84
6	0.62	0.67	0.73	0.79	0.83
7	0.59	0.65	0.72	0.78	0.82
8	0.57	0.63	0.70	0.77	0.81
9	0.55	0.62	0.69	0.76	0.80
10	0.54	0.61	0.68	0.75	-
11	0.52	0.60	0.68	0.75	-
12	0.51	0.59	0.67	0.74	-

Table 7 - Group rating factors for multi-core cables in air on perforated trays



Number of trays	Numbers of Cables					
	1	2	3	4	6	9
1	1	0.88	0.82	0.79	0.76	0.73
2	1	0.87	0.80	0.77	0.73	0.68
3	1	0.86	0.79	0.76	0.71	0.66

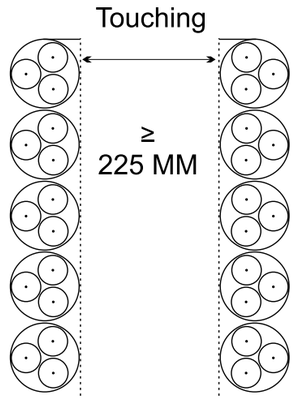


Number of trays	Numbers of Cables					
	1	2	3	4	6	9
1	1	1	0.98	0.95	0.91	-
2	1	0.99	0.96	0.92	0.87	-
3	1	0.98	0.95	0.91	0.85	-

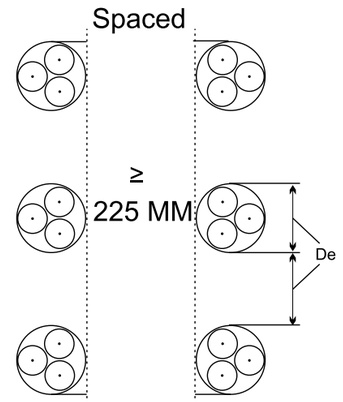
Note 1 : Factors apply to single layer groups of cables as shown above. Factors for cables installed in mote than one layer touching eachother will be significantly lower and must be determined by an appropriate method.

Note 2 : Factors are given for vertical spacing between trays of 300 mm and at least 20 mm between trays and wall. For closer spacing, the factors should be reduced.

Table 8 - Group rating factors for multi-core cables in air on vertical perforated trays



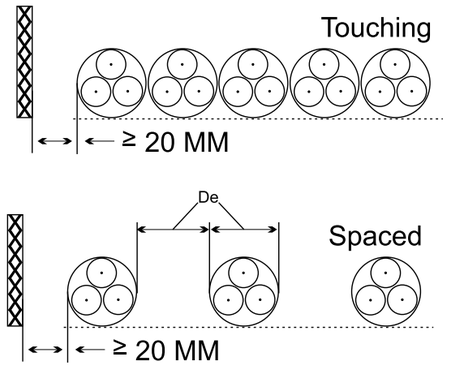
Number of trays	Numbers of Cables					
	1	2	3	4	6	9
1	1	0.88	0.82	0.78	0.73	0.72
2	1	0.88	0.81	0.76	0.71	0.70



Number of trays	Numbers of Cables					
	1	2	3	4	6	9
1	1	0.91	0.89	0.88	0.87	-
2	1	0.91	0.88	0.87	0.85	-

Note 1 : Factors are given for horizontal spacing between trays of 225 mm with trays mounted back to back. For closer spacing, the factors should be reduced.

Table 9 - Group rating factors for multi-core cables in air on ladder supported, cleats ect.

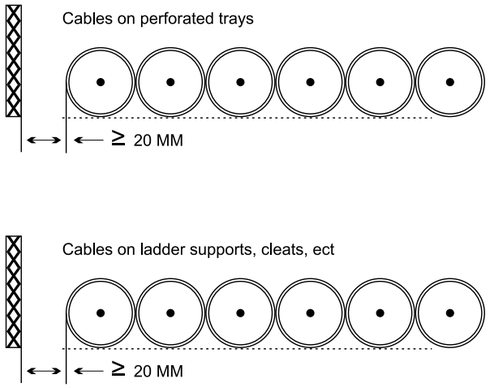


Number of trays	Numbers of Cables					
	1	2	3	4	6	9
1	1	0.87	0.82	0.80	0.79	0.78
2	1	0.86	0.80	0.78	0.76	0.73
3	1	0.85	0.79	0.76	0.73	0.70
1	1	1	1	1	1	1
2	1	0.99	0.98	0.97	0.96	-
3	1	0.98	0.97	0.96	0.93	-

Note 1 : Factors apply to single layer groups of cables as shown above. Factors for cables installed in more than one layer touching each other will be significantly lower and must be determined by an appropriate method.

Note 2 : Factors are given for vertical spacing between trays of 300 mm and at least 20 mm between trays and wall. For closer spacing, the factors should be reduced.

Table 10 - Group rating factors to be applied for circuits of three single core cables in air flat touching



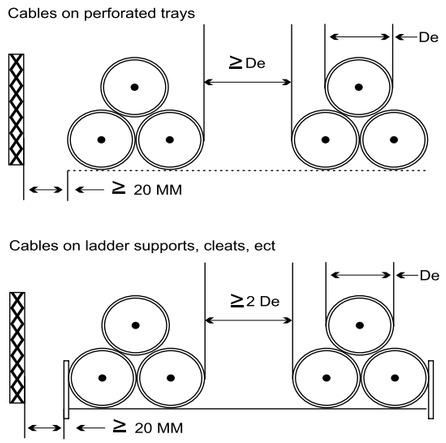
Number of trays	Numbers of three-phase circuits		
	1	2	3
1	0.98	0.91	0.87
2	0.96	0.87	0.81
3	0.95	0.85	0.78
1	1	1	1
2	0.98	0.93	0.89
3	0.97	0.90	0.86

Note 1 : Factors apply to single layer groups of cables as shown above. Factors for cables installed in more than one layer touching each other will be significantly lower and must be determined by an appropriate method.

Note 2 : Factors are given for vertical spacing between trays of 300 mm and at least 20 mm between trays and wall. For closer spacing, the factors should be reduced.

Note 3 : For circuits having more than one cable in parallel per phase, each three phase set of conductors should be considered as a circuit for the purpose of this table.

Table 11 - Group rating to be applied for circuits of three single core cables in air on perforated trays and ladder air on perforated trays and ladder supports in trefoil formation.



Number of trays	Numbers of three-phase circuits		
	1	2	3
1	0.98	0.91	0.87
2	0.96	0.87	0.81
3	0.95	0.85	0.78
1	1	1	1
2	0.98	0.93	0.89
3	0.97	0.90	0.86

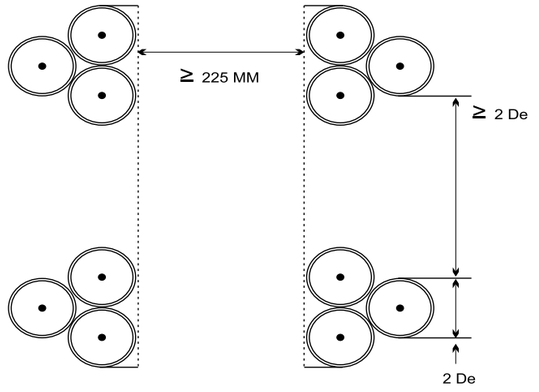
Note 1 : Factors apply to single layer groups of cables as shown above. Factors for cables installed in more than one layer touching each other will be significantly lower and must be determined by an appropriate method.

Note 2 : Factors are given for vertical spacing between trays of 300 mm and at least 20 mm between trays and wall. For closer spacing, the factors should be reduced.

Note 3 : For circuits having more than one cable in parallel per phase, each three phase set of conductors should be considered as a circuit for the purpose of this table.

Table 12 - Group rating factor to be applied for circuits of three single core cables in air on vertical perforated tray in trefoil formation.

Cables on perforated trays



Number of trays	Numbers of three-phase circuits		
	1	2	3
1	1	0.91	0.89
2	1	0.90	0.86

Note 1 : Factors apply to single layer groups of cables as shown above. Factors for cables installed in more than one layer touching each other will be significantly lower and must be determined by an appropriate method.

Note 2 : Factors are given for vertical spacing between trays of 300 mm and at least 20 mm between trays and wall. For closer spacing, the factors should be reduced.

Note 3 : For circuits having more than one cable in parallel per phase, each three phase set of conductors should be considered as a circuit for the purpose of this table.

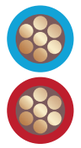
INSTRUMENTATION CABLE CONSTRUCTION

CORE



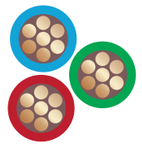
Insulated conductor is known as Core

PAIR



Two cores twisted to form a Pair

TRIAD



Three cores twisted to form a Triad

QUAD

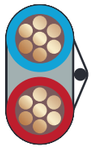


Four cores twisted to form a Quad

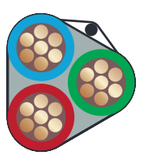
INDIVIDUAL SHIELDING OF ELEMENT:

In case where individual shielding is required, the above element are wrapped rst with plain polyester, then the drain wire is laid parallel, over it Aluminum - polyester tape is applied with Aluminum side touching the drain wire. Above this a plain polyester tape is applied for shield isolation from other shields.

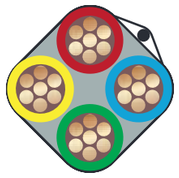
SHIELDED PAIR



SHIELDED TRIAD



SHIELDED QUAD



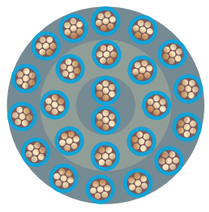
CORE AND PAIR CONSTRUCTION :

There is a confusion in specifying the cable required. If you ask for 24 Core x 1.50 sq.mm cable, we take 2 cores and twist them in one direction, above that 8 cores are laid in opposite direction and above that 14 cores are laid and it looks as drawing (a).

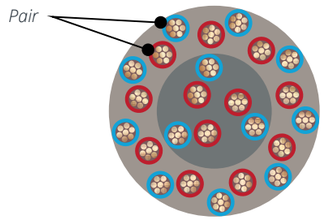
If you specify 12 pair cable, rst we take 2 cores and twist them to form a pair, 3 such pairs are again laid up, above that 9 such pairs are laid up to form a 12 pair cable and it look as drawing (b).

The diameter of multi paired cable is always more then that of multicore core cable having the same number of insulated cores and hence multi pair construction is always costlier.

NOTE: One Pair and Two Core cable are generally the same.



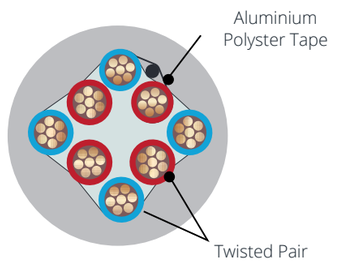
Drawing (a)
24 Pair Cable



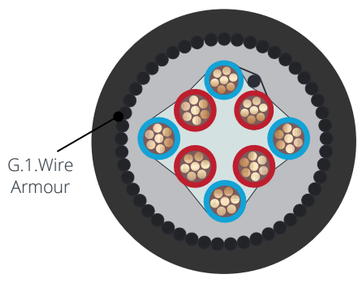
Drawing (b)
12 Pair Cable

CROSS SECTIONAL DRAWING

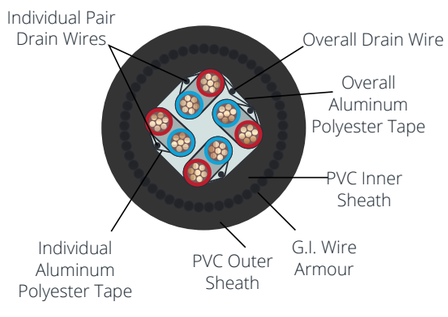
4 PAIR OVERALL SHIELDED UNARMOURED



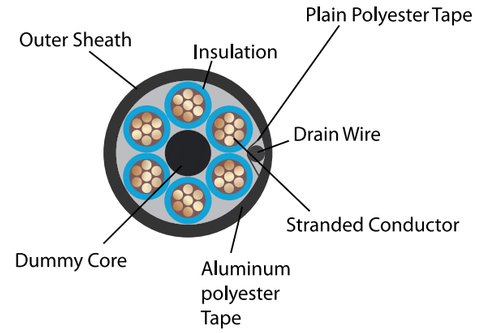
4 PAIR OVERALL SHIELDED ROUND ARMOURED CABLE



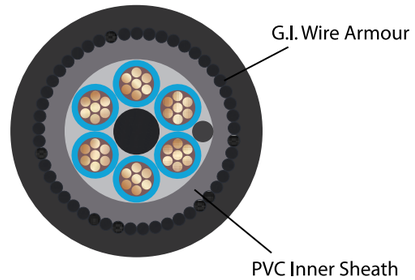
4 PAIR INDIVIDUAL & OVERALL SHIELDED ROUND ARMOURED CABLE



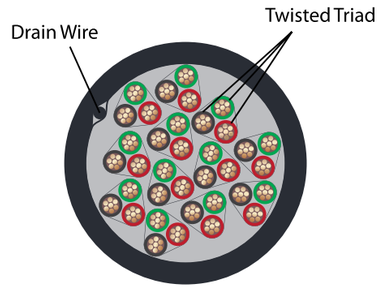
6 CORE OVERALL SHIELDED UNARMOURED



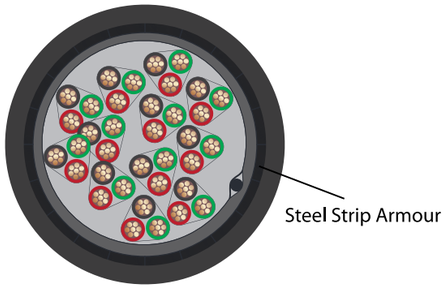
6 CORE OVERALL SHIELDED ARMOURED



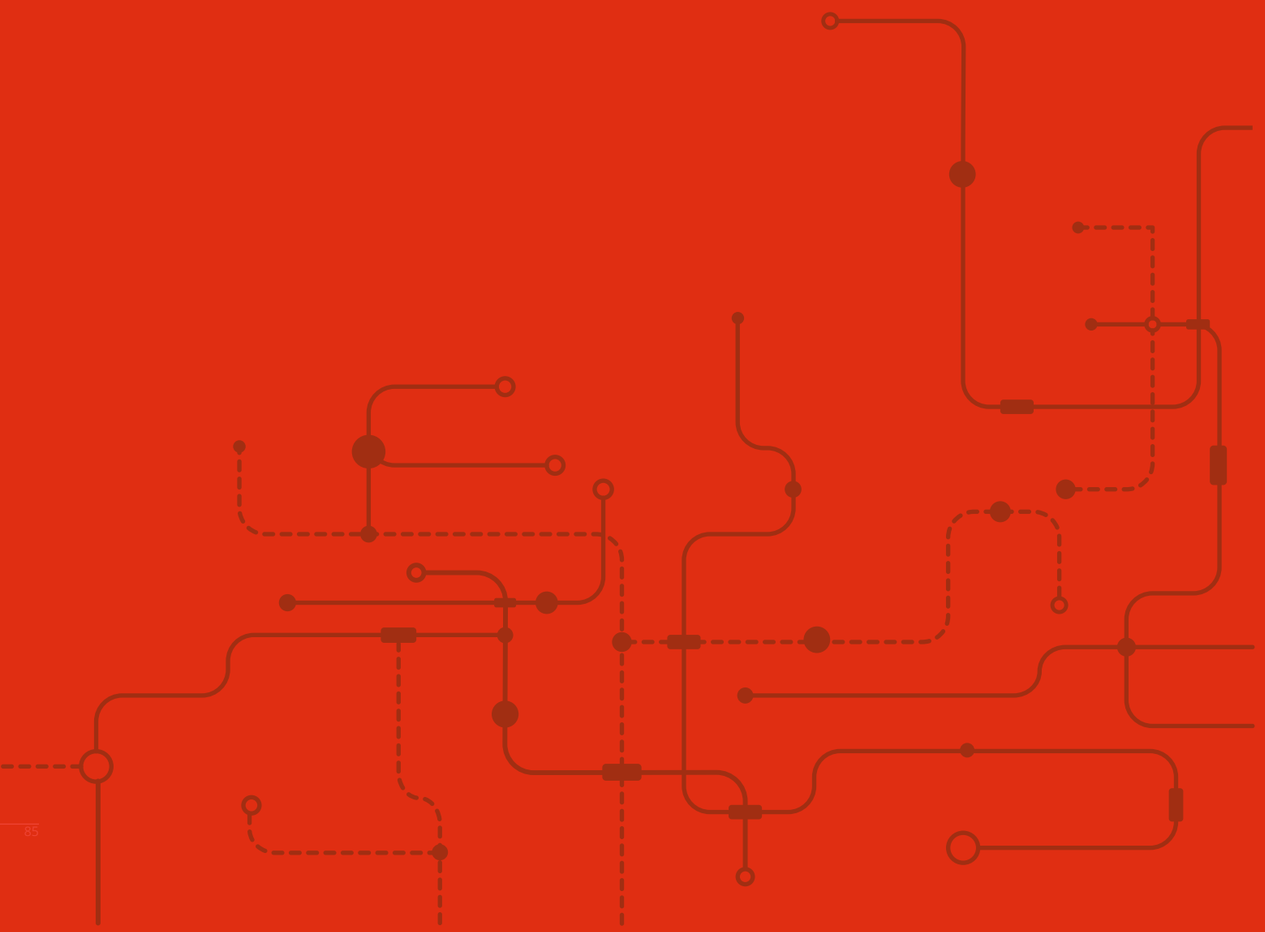
12 TRIAD OVERALL SHIELDED UNARMOURED CABLE

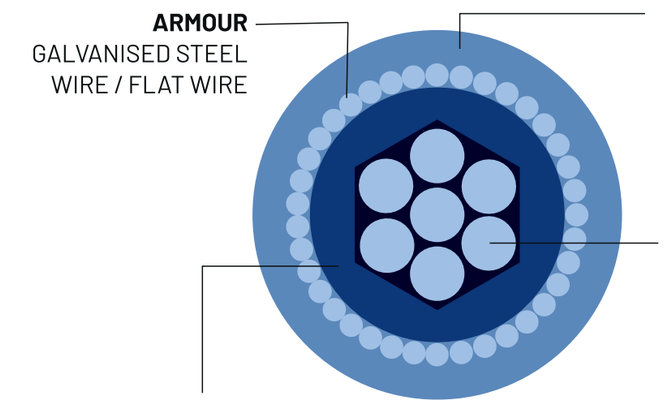


12 TRIAD OVERALL SHIELDED STRIP ARMOURED CABLE



INSTRUMENTATION CABLES





BS 5308, PART 1

COLOUR CODE :
A Identification of Collective Screened Pairs
B Identification of Individually Screened Pairs
C Identification of Cores

CABLE TYPES :
Single and Multitriple, XLPE / PE Insulation, Collective Screen, Type 1 (2XSY).....
Multipair Cables, XLPE / PE Insulation, Individual and Collective Screen, Type 1 (2XSSY) .....
Multitriple, XLPE / PE Insulation, Individual and Collective Screen, Type 1 (2XSSY).....
Multipair cables, XLPE / PE Insulation, Collective Screen, Armour, Type 2 (2XSWY).....
Multitriple, XLPE / PE Insulation, Individual and Collective Screen, Armour, Type 2 (2XSSWY).....
Single and Multitriple, XLPE / PE Insulation, Collective Screen, Armour, Type 2 (2XSWY).....
Multipair cables, XLPE / PE Insulation, Individual and Collective Screen, Armour, Type 2 (2XSSWY).....

BS 5308, PART 2

COLOUR CODE :
A Identification of Collective Screened Pairs
B Identification of Individually Screened Pairs
C Identification of Cores

CABLE TYPES :
Multicore Cables, PVC Insulation, Collective Screen, Type 1 (YSY)
Multipair Cables, PVC Insulation, Collective Screen, Type 1 (YSY)
Multitriple Cables, PVC Insulation, Collective Screen, Type 1 (YSY)
Multipair Cables, PVC Insulation, Individual and Collective Screen, Type 1 (YSSY)
Multicore Cables, PVC Insulation, Collective Screen, Armour, Type 2 (YSWY)
Multipair Cables, PVC Insulation, Collective Screen, Armour, Type 2 (YSWY)
Multipair Cables, PVC Insulation, Individual and Collective Screen, Armour, Type 2 (YSSWY)

BS 5308, PART 1

COLOUR CODE :
A- Identification of Collective Screened Pairs
B - Identification of Individually Screened Pairs
C - Identification of Cores
Core 1 to 40 Black with both printed numbers and written word in White ,"10, TEN"

1	black	blue	26	white	yellow
2	black	green	27	red	yellow
3	blue	green	28	orange	yellow
4	black	brown	29	black	grey
5	blue	brown	30	blue	grey
6	green	brown	31	green	grey
7	black	white	32	brown	grey
8	blue	white	33	white	grey
9	green	white	34	red	grey
10	brown	white	35	orange	grey
11	black	red	36	yellow	grey
12	blue	red	37	black	violet
13	green	red	38	blue	violet
14	brown	red	39	green	violet
15	white	red	40	brown	violet
16	black	orange	41	white	violet
17	blue	orange	42	red	violet
18	green	orange	43	orange	violet
19	brown	orange	44	yellow	violet
20	white	orange	45	grey	violet
21	red	orange	46	black	turquoise
22	black	yellow	47	blue	turquoise
23	blue	yellow	48	green	turquoise
24	green	yellow	49	brown	turquoise
25	brown	yellow	50	white	turquoise

INSTRUMENTATION CABLE BS 5308 PART 1 TYPE 1

Single & Multi Pair, XLPE / PE Insulation, Collective Screen, PVC Sheath (90ºC / 70ºC (300/500 V)

APPLICATION :

For transmission of analogue and digital signals in instrument and control systems; use in zone 1 and zone 2 group II classified areas (IEC 60079 part 14). Not allowed for direct connection to low impedance source, e.g. the public mains electricity supply. Not recommended for direct burial. For indoor and outdoor installation in dry and wet locations on racks, in conduits.

CONSTRUCTION OF CABLE :

CONDUCTOR :

Plain annealed copper, sizes: 0.5 mm² solid / flexible, 0.75 mm² solid / stranded / flexible, 1.0 mm² solid / stranded / flexible or 1.5 mm² stranded / flexible.

INSULATION :

Cross-linked Polyethylene XLPE / Polyethylene PE

COLOUR CODE :

According to BS 5308 PART 1 (see Appendix)

WRAPPING :

At least 1 layer of Polyester Tape

COLLECTIVE SCREEN :

24 µm Aluminium / Polyster tape over tinned copper drain wire, 0.5 mm²

OUTER SHEATH :

Polyvinyl Chloride PVC, Black

TECHNICAL DATA

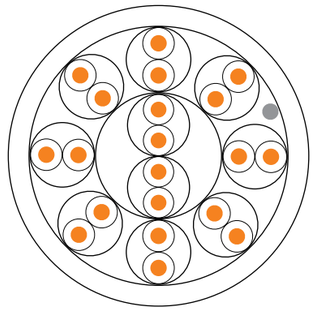
Temperature range:
-30°C up to +90 / 70°C (during operation)
- 5°C up to +50°C (during installation)
Min. Bending Radius :
During Operation - 6 X overall diameter
During Installation - 8 X overall diameter

ABBREVIATION

2X - XLPE Insulation
S - Aluminium / Polyster collective screen
Y - PVC Outer Sheath

Electrical Data @ 20° C

	Character	Unit	Value				
Conductor Size	nom.	mm²	0.5 Solid	1.0 Solid	0.5 Flexible	0.75 Flexible	1.5 Stranded
Conductor Resistance	max.	Ω/km	36.8	18.4	39.0	26.0	12.1
Insulation Resistance	min.	MΩxkm			5000		
Mutual Capacitance at 1kHz 1 Pair and 2 Pair all other Cables	max.	nF/km			115 75		120 85
Capacitance Unbalance at 1 kHz	max.	pF/250m			250		
L/R (Ratio)	max.	µH/Ω			25		
Test Voltage : (Core to Core) (Core to Screen)		V			1000 1000		
Rated Voltage : U_o / U	max.	V			300/500		



GEOMETRICAL DATA

No of Pairs	RT of Insulation Nom (mm)	RT of outer Sheath Nom. (mm)	Overall Diameter Approx (mm)	Weight Approx (mm)
0.5 sq mm (solid)				
1	0.5	0.8	5.50	35
2	0.5	0.8	6.30	55
5	0.5	1.1	10.90	125
10	0.5	1.2	14.00	215
15	0.5	1.2	16.50	300
20	0.5	1.3	18.80	385
30	0.5	1.3	22.30	545
50	0.5	1.5	28.50	875
1.0 sq mm (Stranded)				
1	0.6	0.8	6.6	50
2	0.6	0.8	8.0	80
5	0.6	1.2	13.5	205
10	0.6	1.3	17.7	350
15	0.6	1.3	20.6	495
20	0.6	1.5	23.8	670
30	0.6	1.7	29.5	975
50	0.6	2	36.6	1580
0.5 sq mm (Flexible)				
1	0.6	0.8	6.2	45
2	0.6	0.8	7.6	60
5	0.6	1.1	12.4	145
10	0.6	1.2	16.5	245
15	0.6	1.3	19.2	345
20	0.6	1.3	21.7	435
30	0.6	1.5	26.4	640
50	0.6	1.7	33.4	1010
0.75 sq mm (Flexible)				
1	0.6	0.8	6.7	50
2	0.6	0.8	8.4	75
5	0.6	1.2	13.8	185
10	0.6	1.2	18.4	325
15	0.6	1.3	21.1	445
20	0.6	1.3	24.4	595
30	0.6	1.5	29.5	835
50	0.6	1.7	37.6	1385
1.5 sq mm (Stranded)				
1	0.6	0.8	7.5	70
5	0.6	0.9	9.3	120
5	0.6	1.2	15.6	280
10	0.6	1.3	20.9	515
15	0.6	1.5	24.6	740
20	0.6	1.5	27.8	940
30	0.6	1.7	33.7	1380
50	0.6	2	43	2245

For cables of sizes or pairs not listed above the product data available on request
Dimensions and weights are representative figures and may very

INSTRUMENTATION CABLE BS 5308 PART 1 TYPE 1

Single & Multi Triple, XLPE / PE Insulation,
Collective Screen, PVC Sheath 90° C / 70° C (300/500 V)

APPLICATION :

For transmission of analogue and digital signals in instrument and control systems; use in zone 1 and zone 2 group II classified areas (IEC 60079 part 14). Not allowed for direct connection to low impedance source, e.g. the public mains electricity supply. Not recommended for direct burial. For indoor and outdoor installation in dry and wet locations on racks, in conduits.

CONSTRUCTION OF CABLE :

CONDUCTOR :

Plain annealed copper, sizes: 0.5 mm² solid / flexible, 0.75 mm² solid / stranded / flexible, 1.0 mm² solid / stranded / flexible or 1.5 mm² stranded / flexible.

INSULATION :

Cross-linked Polyethylene XLPE / Polyethylene PE

COLOUR CODE :

According to BS 5308 PART 1 (see Appendix)

WRAPPING :

At least 1 layer of Polyester Tape

COLLECTIVE SCREEN :

24 µm Aluminium / Polyster tape over tinned copper drain wire, 0.5 mm²

OUTER SHEATH :

Polyvinyl Chloride PVC, Black

TECHNICAL DATA

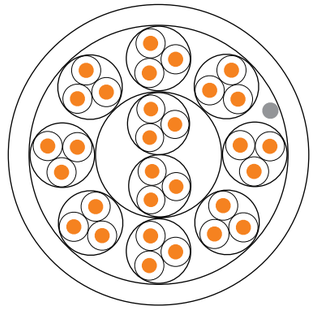
Temperature range:
-30°C up to +90 / 70°C (during operation)
- 5°C up to +50°C (during installation)
Min. Bending Radius :
During Operation - 6 X overall diameter
During Installation - 8 X overall diameter

ABBREVIATION

2X - XLPE Insulation
S - Aluminium / Polyster collective screen
Y - PVC Outer Sheath

Electrical Data @ 20° C

	Character	Unit	Value				
Conductor Size	nom.	mm²	0.5 Solid	1.0 Solid	0.5 Flexible	0.75 Flexible	1.5 Stranded
Conductor Resistance	max.	Ω/km	36.8	18.4	39.0	26.0	12.1
Insulation Resistance	min.	MΩxkm			5000		
Mutual Capacitance at 1kHz 1 & 2 Triples All other Cables	max.	nF/km			115 75		120 85
Capacitance Unbalance at 1 kHz	max.	pF/250m			250		
L/R (Ratio)	max.	µH/Ω			25		
Test Voltage : (Core to Core) (Core to Screen)		V			1000 1000		
Rated Voltage : U_o / U	max.	V			300/500		



GEOMETRICAL DATA				
No of Triples	RT of Insulation Nom (mm)	RT of outer Sheath Nom. (mm)	Overall Diameter Approx (mm)	Weight Approx (mm)
0.5 sq mm (solid)				
1	0.5	0.8	5.50	46
2	0.5	1.1	9.6	110
5	0.5	1.2	12.0	195
10	0.5	1.3	16.4	320
15	0.5	1.3	18.8	430
20	0.5	1.4	21.2	565
30	0.5	1.5	25.8	805
50	0.5	1.7	32.7	1300
1.0 sq mm (Stranded)				
1	0.6	0.8	6.9	75
2	0.6	1.1	12.0	180
5	0.6	1.2	14.9	325
10	0.6	1.5	20.5	570
15	0.6	1.5	23.8	790
20	0.6	1.5	26.9	1000
30	0.6	1.7	32.6	1450
50	0.6	2.2	42.0	2410
0.5 sq mm (Flexible)				
1	0.6	0.8	6.5	55
2	0.6	1.1	11.3	125
5	0.6	1.2	13.9	220
10	0.6	1.3	19.1	360
15	0.6	1.5	21.6	510
20	0.6	1.5	25.0	640
30	0.6	1.7	30.3	975
50	0.6	2.0	38.5	1600
0.75 sq mm (Flexible)				
1	0.6	0.8	7.1	65
2	0.6	1.1	12.5	150
5	0.6	1.2	15.3	270
10	0.6	1.3	21.0	455
15	0.6	1.5	24.4	645
20	0.6	1.5	27.6	850
30	0.6	1.7	33.5	1260
50	0.6	2.2	43.1	2100
1.5 sq mm (Stranded)				
1	0.6	0.8	7.9	95
5	0.6	1.2	13.5	225
5	0.6	1.3	17.3	430
10	0.6	1.5	24.4	750
15	0.6	1.7	27.8	1080
20	0.6	1.7	32	1320
30	0.6	2	38.9	1680
50	0.6	2.2	49.3	2760

For cables of sizes or pairs not listed above the product data available on request
Dimensions and weights are representative figures and may very

INSTRUMENTATION CABLE BS 5308 PART 1 TYPE 1

Single & Multi Pair, XLPE / PE Insulation,
Individual & Collective Screen,
PVC Sheath 90° C / 70° C (300/500 V)

APPLICATION :

For transmission of analogue and digital signals in instrument and control systems; use in zone 1 and zone 2 group II classified areas (IEC 60079 part 14). Not allowed for direct connection to low impedance source, e.g. the public mains electricity supply. Not recommended for direct burial. For indoor and outdoor installation in dry and wet locations on racks, in conduits.

CONSTRUCTION OF CABLE :

CONDUCTOR :

Plain annealed copper, sizes: 0.5 mm² solid / flexible, 0.75 mm² solid / stranded / flexible, 1.0 mm² solid / stranded / flexible or 1.5 mm² stranded / flexible.

INSULATION :

Cross-linked Polyethylene XLPE / Polyethylene PE

COLOUR CODE :

According to BS 5308 PART 1 (see Appendix)

WRAPPING :

At least 1 layer of Polyester Tape

COLLECTIVE SCREEN :

24 µm Aluminium / Polyster tape over tinned copper drain wire, 0.5 mm²

OUTER SHEATH :

Polyvinyl Chloride PVC, Black

TECHNICAL DATA

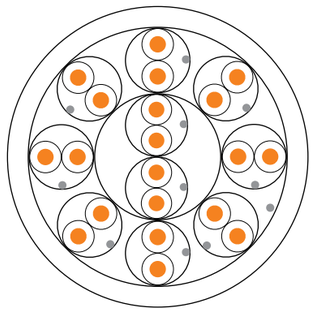
Temperature range:
-30°C up to +90 / 70°C (during operation)
- 5°C up to +50°C (during installation)
Min. Bending Radius :
During Operation - 6 X overall diameter
During Installation - 8 X overall diameter

ABBREVIATION

2X - XLPE Insulation
S - Aluminium / Polyster individual screen
S - Aluminium / Polyster collective screen
Y - PVC Outer Sheath

Electrical Data @ 20° C

	Character	Unit	Value				
Conductor Size	nom.	mm²	0.5 Solid	1.0 Solid	0.5 Flexible	0.75 Flexible	1.5 Stranded
Conductor Resistance	max.	Ω/km	36.8	18.4	39.0	26.0	12.1
Insulation Resistance	min.	MΩxkm			5000		
Mutual Capacitance at 1kHz 1 & 2 Pairs All other Cables	max.	nF/km			115 75		120 85
Capacitance Unbalance at 1 kHz	max.	pF/250m			250		
L/R (Ratio)	max.	µH/Ω			25		40
Test Voltage : (Core to Core) (Core to Screen)		V			1000 1000		
Rated Voltage : U_o / U	max.	V			300/500		



GEOMETRICAL DATA				
No of Pairs	RT of Insulation Nom (mm)	RT of outer Sheath Nom. (mm)	Overall Diameter Approx (mm)	Weight Approx (mm)
0.5 sq mm (solid)				
2	0.5	0.9	9.7	95
5	0.5	1.2	13.0	180
10	0.5	1.2	16.9	310
15	0.5	1.3	19.7	440
20	0.5	1.3	22.3	560
30	0.5	1.5	27.1	820
50	0.5	2.0	35.0	1370
1.0 sq mm (Stranded)				
2	0.6	1.2	11.9	135
5	0.6	1.2	15.4	250
10	0.6	1.3	20.5	450
15	0.6	1.5	24.1	675
20	0.6	1.5	27.7	875
30	0.6	2.0	33.7	1290
50	0.3	2.2	42.5	2055
0.5 sq mm (Flexible)				
2	0.6	1.1	11.2	110
5	0.6	1.2	14.5	200
10	0.6	1.3	19.3	350
15	1.6	1.3	22.6	510
20	0.6	1.5	25.7	620
30	0.6	1.7	31.0	895
50	0.6	2.2	39.9	1535
0.75 sq mm (Flexible)				
2	0.6	1.1	12.1	128
5	0.6	1.2	15.7	238
10	0.6	1.3	20.9	421
15	0.6	1.5	24.6	614
20	0.6	1.5	27.9	806
30	0.6	1.7	34.4	1188
50	0.6	2.2	43.5	1880
1.5 sq mm (Stranded)				
2	0.6	1.2	13.6	180
5	0.6	1.3	17.7	340
10	0.6	1.5	23.9	635
15	0.6	1.7	28	915
20	0.6	1.7	31.7	1165
30	0.6	2	38.6	1725
50	0.6	2.2	48.9	2770

For cables of sizes or pairs not listed above the product data available on request
Dimensions and weights are representative figures and may very

INSTRUMENTATION CABLE BS 5308 PART 1 TYPE 1

Multi Triple, XLPE / PE Insulation,
Individual and Collective Screen,
PVC Sheath 90° C / 70° C (300/500 V)

APPLICATION :

For transmission of analogue and digital signals in instrument and control systems; use in zone 1 and zone 2 group II classified areas (IEC 60079 part 14). Not allowed for direct connection to low impedance source, e.g. the public mains electricity supply. Not recommended for direct burial. For indoor and outdoor installation in dry and wet locations on racks, in conduits.

CONSTRUCTION OF CABLE :

CONDUCTOR :

Plain annealed copper, sizes: 0.5 mm² solid / flexible, 0.75 mm² solid / stranded / flexible, 1.0 mm² solid / stranded / flexible or 1.5 mm² stranded / flexible.

INSULATION :

Cross-linked Polyethylene XLPE / Polyethylene PE

COLOUR CODE :

According to BS 5308 PART 1 (see Appendix)

TRIPLE SCREEN :

24 µm aluminium / Polyster tape over tinned copper drain wire, 0.5 mm²

WRAPPING :

At least 1 layer of Polyester Tape

COLLECTIVE SCREEN :

24 µm Aluminium / Polyster tape over tinned copper drain wire, 0.5 mm²

OUTER SHEATH :

Polyvinyl Chloride PVC, Black

TECHNICAL DATA

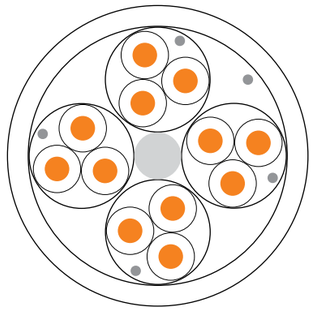
Temperature range:
-30°C up to +90 / 70°C (during operation)
- 5°C up to +50°C (during installation)
Min. Bending Radius :
During Operation - 6 X overall diameter
During Installation - 8 X overall diameter

ABBREVIATION

2X - XLPE Insulation
S - Aluminium / Polyster individual screen
S - Aluminium / Polyster collective screen
Y - PVC Outer Sheath

Electrical Data @ 20° C

	Character	Unit	Value				
Conductor Size	nom.	mm²	0.5 Solid	1.0 Solid	0.5 Flexible	0.75 Flexible	1.5 Stranded
Conductor Resistance	max.	Ω/km	36.8	18.4	39.0	26.0	12.1
Insulation Resistance	min.	MΩxkm			5000		
Mutual Capacitance at 1kHz 1 & 2 Triples All other Cables	max.	nF/km			115 75		120 85
Capacitance Unbalance at 1 kHz	max.	pF/250m			250		
L/R (Ratio)	max.	µH/Ω			25		40
Test Voltage : (Core to Core) (Core to Screen)		V			1000 1000		
Rated Voltage : U_o / U	max.	V			300/500		



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GEOMETRICAL DATA				
No of Triples	RT of Insulation Nom (mm)	RT of outer Sheath Nom. (mm)	Overall Diameter Approx (mm)	Weight Approx (mm)
0.5 sq mm (solid)				
2	0.5	1.1	11.0	120
5	0.5	1.2	14.1	220
10	0.5	1.3	19.4	410
15	0.5	1.3	22.0	555
20	0.5	1.5	25.4	710
30	0.5	1.7	30.8	1040
50	0.5	2.0	39.2	1685
1.0 sq mm (Stranded)				
2	0.6	1.2	13.3	190
5	0.6	1.2	16.8	355
10	0.6	1.5	23.8	700
15	0.6	1.5	27.0	950
20	0.6	1.7	31.1	1185
30	0.6	2.0	37.8	1790
50	0.6	2.2	47.9	2805
0.5 sq mm (Flexible)				
2	0.6	1.1	12.5	135
5	0.6	1.2	15.9	245
10	0.6	1.3	21.8	465
15	0.6	1.5	25.4	645
20	0.6	1.7	29.2	815
30	0.6	2.0	35.4	1200
50	0.6	2.2	44.8	1955
0.75 sq mm (Flexible)				
2	0.6	1.2	13.5	165
5	0.6	1.2	17.2	300
10	0.6	1.5	24.3	590
15	0.6	1.5	27.6	795
20	0.6	1.7	31.8	1000
30	0.6	2	38.6	1475
50	0.6	2.2	49	2355
1.5 sq mm (Stranded)				
2	0.6	1.2	15	235
5	1.6	1.3	19.4	460
10	0.6	1.5	27.2	900
15	1.6	1.7	31.4	1260
20	0.6	2	36.3	1600
30	0.6	2.2	43.8	2330
50	0.6	2.2	55.2	3695

For cables of sizes or pairs not listed above the product data available on request
Dimensions and weights are representative figures and may very

INSTRUMENTATION CABLE BS 5308 PART 1 TYPE 2

Single & Multi Pair, XLPE / PE Insulation, Collective Screen, Armour, PVC Sheath 90° C / 70° C (300/500 V)

APPLICATION :

For transmission of analogue and digital signals in instrument and control systems; use in zone 1 and zone 2 group II classified areas (IEC 60079 part 14). Not allowed for direct connection to low impedance source, e.g. the public mains electricity supply. Not recommended for direct burial. For indoor and outdoor installation in dry and wet locations on racks, in conduits.

CONSTRUCTION OF CABLE :

CONDUCTOR :

Plain annealed copper, sizes: 0.5 mm² solid / flexible, 0.75 mm² solid / stranded / flexible, 1.0 mm² solid / stranded / flexible or 1.5 mm² stranded / flexible.

INSULATION :

Cross-linked Polyethylene XLPE / Polyethylene PE

COLOUR CODE :

According to BS 5308 PART 1 (see Appendix)

WRAPPING :

At least 1 layer of Polyester Tape

COLLECTIVE SCREEN :

24 µm Aluminium / Polyster tape over tinned copper drain wire, 0.5 mm²

BEDDING :

Polyvinyl Chloride PVC, Black

ARMOUR :

Galvanized Round Steel Wires

OUTER SHEATH :

Polyvinyl Chloride PVC, Black

TECHNICAL DATA

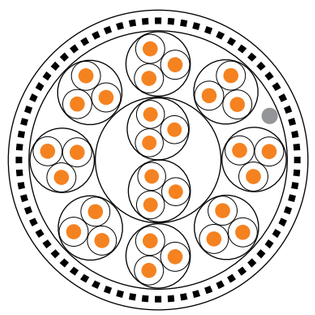
Temperature range:
-30°C up to +90 / 70°C (during operation)
- 5°C up to +50°C (during installation)
Min. Bending Radius :
During Operation - 6 X overall diameter
During Installation - 8 X overall diameter

ABBREVIATION

2X - XLPE Insulation
S - Aluminium / Polyster individual screen
W - G.I Round Armour
Y - PVC Outer Sheath

Electrical Data @ 20° C

	Character	Unit	Value				
Conductor Size	nom.	mm²	0.5 Solid	1.0 Solid	0.5 Flexible	0.75 Flexible	1.5 Stranded
Conductor Resistance	max.	Ω/km	36.8	18.4	39.0	26.0	12.1
Insulation Resistance	min.	MΩxkm			5000		
Mutual Capacitance at 1kHz 1 & 2 Triples All other Cables	max.	nF/km			115 75		120 85
Capacitance Unbalance at 1 kHz	max.	pF/250m			250		
L/R (Ratio)	max.	µH/Ω			25		40
Test Voltage : (Core to Core) (Core to Screen)		V			1000 1000		
Rated Voltage : U_o / U	max.	V			300/500		



GEOMETRICAL DATA

No of Triples	RT of Insulation Nom (mm)	RT pf bedding nom. (mm)	Dia. over bedding approx (mm)	Dia of armour wire nom (mm)	RT of outer sheath nom. (mm)	Overall Diameter approx (mm)	Weight approx (kg/km)
0.5 sq mm (solid)							
1	0.5	0.8	5.5	0.9	1.3	9.9	190
2	0.5	0.8	6.8	0.9	1.3	11.2	240
5	0.5	1.1	10.9	0.9	1.4	15.5	400
10	0.5	1.2	14.4	1.25	1.6	20.1	694
15	0.5	1.2	16.5	1.25	1.6	22.2	840
20	0.5	1.3	18.8	1.6	1.7	25.4	1160
30	0.5	1.3	22.3	1.6	1.8	29.1	1460
50	0.5	1.5	28.5	1.6	2.0	35.7	2020
1.0 sq mm (Stranded)							
1	0.6	0.8	6.6	0.9	1.3	11.0	220
2	0.6	0.8	8.0	0.9	1.4	12.6	300
5	0.6	1.2	13.5	1.25	1.5	19.0	645
10	0.6	1.3	17.7	1.25	1.7	23.6	930
15	0.6	0.3	20.6	1.6	1.8	27.4	1345
20	0.6	1.5	23.8	1.6	1.8	30.6	1625
30	0.6	1.7	28.4	1.6	2.0	35.6	2095
50	0.6	2.0	36.6	2.0	2.2	45.0	3482
0.5 sq mm (Flexible)							
1	0.6	0.8	6.2	0.9	1.3	10.6	200
2	0.6	0.8	7.6	0.9	1.3	12.0	245
5	0.6	1.1	12.4	0.9	1.5	17.2	460
10	0.6	1.2	16.5	1.25	1.6	22.2	790
15	0.6	1.3	19.2	1.6	1.7	25.8	1140
20	0.6	1.3	21.7	1.6	1.8	28.5	1310
30	0.6	1.5	29.5	2.0	1.9	37.5	2020
50	0.6	1.7	37.6	2.5	2.2	47.2	3210
0.75 sq mm (Flexible)							
1	0.6	0.8	6.7	0.9	1.3	11.1	230
2	0.6	0.8	8.4	0.9	1.4	13.0	295
5	0.6	1.2	13.8	1.25	1.5	19.5	645
10	0.6	1.2	18.4	1.3	1.6	25.0	1090
15	0.6	1.3	21.1	1.6	1.7	27.9	1300
20	0.6	1.3	24.4	1.6	1.8	31.4	1570
30	0.6	1.5	29.5	2.0	1.9	37.5	2020
50	0.6	1.7	37.6	2.5	2.2	47.2	3210
1.5 sq mm (Stranded)							
1	0.6	0.8	7.5	0.9	1.4	12.1	270
2	0.6	0.9	9.3	0.9	1.4	13.9	360
5	0.6	1.2	15.6	1.25	1.6	21.3	800
10	0.6	1.3	20.9	1.6	1.8	27.7	1385
15	0.6	1.5	24.6	1.6	1.9	31.6	1750
20	0.6	1.5	27.8	1.6	2.0	35.8	2315
30	0.6	1.7	33.7	2.0	2.1	41.9	3040
50	0.6	2.0	43.0	2.5	2.4	52.8	4810

For cables of sizes or pairs not listed above the product data available on request
Dimensions and weights are representative figures and may very

INSTRUMENTATION CABLE BS 5308 PART 1 TYPE 2

Multi Pair, XLPE / PE Insulation, Individual & Collective Screen, Armour, PVC Sheath 90° C / 70° C (300/500 V)

APPLICATION :

For transmission of analogue and digital signals in instrument and control systems; use in zone 1 and zone 2 group II classified areas (IEC 60079 part 14). Not allowed for direct connection to low impedance source, e.g. the public mains electricity supply. Not recommended for direct burial. For indoor and outdoor installation in dry and wet locations on racks, in conduits.

CONSTRUCTION OF CABLE :

CONDUCTOR :

Plain annealed copper, sizes: 0.5 mm² solid / flexible, 0.75 mm² solid / stranded / flexible, 1.0 mm² solid / stranded / flexible or 1.5 mm² stranded / flexible.

INSULATION :

Cross-linked Polyethylene XLPE / Polyethylene PE

COLOUR CODE :

According to BS 5308 PART 1 (see Appendix)

PAIR SCREEN :

24 µm Aluminium / Polyster tape over tinned copper drain wire, 0.5 mm²

WRAPPING :

At least 1 layer of Polyester Tape

COLLECTIVE SCREEN :

24 µm aluminium / Polyster tape over tinned copper drain wire, 0.5 mm²

BEDDING :

Polyvinyl Chloride PVC, black

ARMOUR :

Galvanized Round Steel Wires

OUTER SHEATH :

Polyvinyl Chloride PVC, Black

TECHNICAL DATA

Temperature range:
-30°C up to +90 / 70°C (during operation)
- 5°C up to +50°C (during installation)

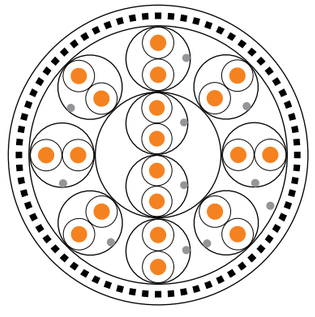
Min. Bending Radius :
During Operation - 6 X overall diameter
During Installation - 8 X overall diameter

ABBREVIATION

2X - XLPE Insulation
S - Aluminium / Polyester Individual Screen
S - Aluminium / Polyester Collective Screen
W - G.I Round Armour
Y - PVC Outer Sheath

Electrical Data @ 20° C

	Character	Unit	Value				
Conductor Size	nom.	mm²	0.5 Solid	1.0 Solid	0.5 Flexible	0.75 Flexible	1.5 Stranded
Conductor Resistance	max.	Ω/km	36.8	18.4	39.0	26.0	12.1
Insulation Resistance	min.	MΩxkm			5000		
Mutual Capacitance at 1kHz 1 Pair and 2 Pair All other Cables	max.	nF/km			115 75		120 85
Capacitance Unbalance at 1 kHz	max.	pF/250m			250		
L/R (Ratio)	max.	µH/Ω			25		40
Test Voltage : (Core to Core) (Core to Screen)		V			1000 1000		
Rated Voltage : U_o / U	max.	V			300/500		



GEOMETRICAL DATA

No of Pairs	RT of Insulation Nom (mm)	RT of bedding Nom. (mm)	Dia. of bedding approx (mm)	Dia of Armour wire nom.	RT of Outer Sheath nom. (mm)	Overall Diameter approx. (mm)	Weight approx. (mm)
0.5 sq mm (solid)							
2	0.5	0.9	9.7	0.9	1.4	14.3	345
5	0.5	1.2	13.0	1.25	1.5	18.5	610
10	0.5	1.2	16.9	1.25	1.7	22.8	870
15	0.5	1.3	19.7	1.6	1.7	26.3	1265
20	0.5	1.3	22.3	1.6	1.8	29.1	1475
30	0.5	1.5	27.1	1.6	1.9	34.1	1915
50	0.5	2.0	35.0	2.0	2.2	43.4	3075
1.0 sq mm (Stranded)							
2	0.6	1.2	11.9	1.25	1.5	16.7	435
5	0.6	1.2	15.4	1.25	1.6	21.1	755
10	0.6	1.3	20.5	1.6	1.8	27.3	1300
15	0.6	1.5	24.1	1.6	1.9	31.1	1665
20	0.6	1.5	27.7	1.6	2.0	35.7	2240
30	0.6	2.0	33.7	2.0	2.2	42.1	2950
50	0.6	2.2	42.5	2.5	2.5	52.5	4639
0.5 sq mm (Flexible)							
2	0.6	1.1	11.2	0.9	1.4	16.0	400
5	0.6	1.2	14.5	1.25	1.5	20.2	680
10	0.6	1.3	19.3	1.6	1.7	26.1	1175
15	0.6	1.3	22.6	1.6	1.8	29.4	1420
20	0.6	1.5	25.7	1.6	1.8	32.7	1680
30	0.6	1.7	31.0	2.0	2.0	39.2	2415
50	0.6	2.2	39.9	2.5	2.4	49.7	3940
0.75 sq mm (Flexible)							
2	0.6	1.1	12.1	0.9	1.5	16.9	437
5	0.6	1.2	15.7	1.5	1.6	21.4	755
10	1.6	1.3	20.9	1.6	1.7	27.5	1291
15	1.6	1.5	24.6	1.6	1.8	31.6	1680
20	0.6	1.5	27.9	1.6	1.9	34.9	2202
30	0.6	1.7	34.4	2.0	2.1	42.8	2880
50	0.6	2.2	43.5	2.5	2.5	53.5	4406
1.5 sq mm (Stranded)							
2	0.6	1.2	13.6	1.25	1.6	19.3	635
5	0.6	1.3	17.7	1.6	1.7	24.3	1070
10	0.6	1.5	23.9	1.6	1.9	30.9	1605
15	0.6	1.7	28.0	2.0	2.0	36.0	2280
20	0.6	1.7	31.7	2.0	2.1	39.9	2730
30	0.6	2.0	38.6	2.5	2.4	48.6	4075
50	0.6	2.2	48.9	2.5	2.7	59.3	5765

For cables of sizes or pairs not listed above the product data available on request
Dimensions and weights are representative figures and may very

INSTRUMENTATION CABLE BS 5308 PART 1 TYPE 2

Single & Multi Triple, XLPE / PE Insulation, Collective Screen, Armour, PVC Sheath 900° C / 700° C (300/500 V)

APPLICATION :

For transmission of analogue and digital signals in instrument and control systems; use in zone 1 and zone 2 group II classified areas (IEC 60079 part 14). Not allowed for direct connection to low impedance source, e.g. the public mains electricity supply. Not recommended for direct burial. For indoor and outdoor installation in dry and wet locations on racks, in conduits.

CONSTRUCTION OF CABLE :

CONDUCTOR :

Plain annealed copper, sizes: 0.5 mm² solid / flexible, 0.75 mm² solid / stranded / flexible, 1.0 mm² solid / stranded / flexible or 1.5 mm² stranded / flexible.

INSULATION :

Cross-linked Polyethylene XLPE / Polyethylene PE

COLOUR CODE :

According to BS 5308 PART 1 (see Appendix)

WRAPPING :

At least 1 layer of Polyester Tape

COLLECTIVE SCREEN :

24 µm Aluminium / Polyster tape over tinned copper drain wire, 0.5 mm²

BEDDING :

Polyvinyl Chloride PVC, Black

ARMOUR :

Galvanized Round Steel Wires

OUTER SHEATH :

Polyvinyl Chloride PVC, Black

TECHNICAL DATA

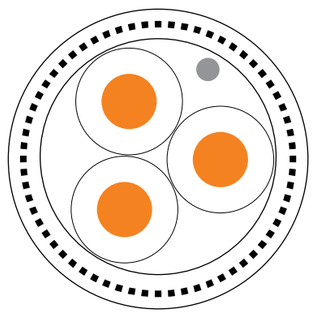
Temperature range:
-30°C up to +90 / 70°C (during operation)
- 5°C up to +50°C (during installation)
Min. Bending Radius :
During Operation - 6 X overall diameter
During Installation - 8 X overall diameter

ABBREVIATION

2X - XLPE Insulation
S - Aluminium / Polyester Collective Screen
W - G.I Round Armour
Y - PVC Outer Sheath

Electrical Data @ 20° C

	Character	Unit	Value				
Conductor Size	nom.	mm²	0.5 Solid	1.0 Solid	0.5 Flexible	0.75 Flexible	1.5 Stranded
Conductor Resistance	max.	Ω/km	36.8	18.4	39.0	26.0	12.1
Insulation Resistance	min.	MΩxkm			5000		
Mutual Capacitance at 1kHz 1 & 2 Triples All other Cables	max.	nF/km			115 75		120 85
Capacitance Unbalance at 1 kHz	max.	pF/250m			250		
L/R (Ratio)	max.	µH/Ω			25		40
Test Voltage : (Core to Core) (Core to Screen)		V			1000 1000		
Rated Voltage : U_o / U	max.	V			300/500		



GEOMETRICAL DATA							
No of Triples	RT of Insulation Nom (mm)	RT of bedding Nom. (mm)	Dia Over bedding approx. (mm)	Dia of Armour Wire Nom.	RT of Outer Sheath nom. (mm)	Overall Diameter approx (mm)	Weight approx (kg/km)
0.5 sq mm (solid)							
1	0.5	0.8	5.8	0.9	1.3	10.2	210
2	0.5	1.1	9.6	0.9	1.4	14.2	330
5	0.5	1.2	12.0	1.3	1.5	16.8	470
10	0.5	1.3	16.4	1.6	1.7	22.1	840
15	0.5	1.3	18.8	1.6	1.8	25.4	1170
20	0.5	1.3	21.2	1.6	1.8	28.0	1385
30	0.5	1.5	25.8	1.6	1.9	32.8	2050
50	0.5	1.7	32.7	2.0	2.1	40.9	3010
1.0 sq mm (Stranded)							
1	0.6	0.8	6.9	0.9	1.3	11.3	270
2	0.6	1.2	12.0	1.25	1.5	16.8	450
5	0.6	1.2	14.9	1.25	1.6	20.6	760
10	0.6	1.5	20.5	1.6	1.9	27.1	1330
15	0.6	1.5	23.8	1.6	1.9	30.6	1670
20	0.6	1.5	26.9	1.6	1.9	33.9	2000
30	0.6	1.7	32.6	2.0	2.1	40.8	3345
50	0.6	2.2	42.0	2.5	2.4	51.8	5285
0.5 sq mm (Flexible)							
1	0.6	0.8	6.5	0.9	1.3	10.9	215
2	0.6	1.1	11.3	0.9	1.5	16.1	365
5	1.6	1.2	13.9	1.25	1.6	19.6	635
10	0.6	1.3	19.1	1.6	1.7	25.7	1080
15	0.6	1.5	21.6	1.6	1.8	28.4	1330
20	0.6	1.5	25.0	1.6	1.9	32.0	1900
30	0.6	1.7	30.3	2.0	2.0	38.3	2535
50	0.6	2.0	38.5	2.5	2.3	48.1	4005
0.75 sq mm (Flexible)							
1	0.6	1.8	7.1	0.9	1.3	11.5	270
2	0.6	1.1	12.5	0.9	1.5	18.0	440
5	0.6	1.2	15.3	1.25	1.6	21.0	750
10	0.6	1.3	21.0	1.6	1.8	27.8	1300
15	0.6	1.5	24.4	1.6	1.9	31.4	1630
20	0.6	1.5	27.6	1.6	1.9	34.6	1940
30	0.6	1.7	33.5	2.0	2.1	41.7	2960
50	0.6	2.2	43.1	2.5	2.4	52.9	4588
1.5 sq mm (Stranded)							
1	0.6	0.8	8.1	0.9	1.4	12.7	320
2	0.6	1.2	13.5	1.25	1.6	19.0	650
5	0.6	1.3	17.3	1.6	1.7	23.2	960
10	0.6	1.5	24.4	1.6	1.9	31.4	1720
15	0.6	1.7	27.8	2.0	2.0	34.8	2160
20	0.6	1.9	32.0	2.0	2.1	40.2	2850
30	0.6	2.0	38.9	2.5	2.3	48.5	4610
50	0.6	2.2	49.3	2.5	2.6	59.5	6720

For cables of sizes or triples not listed above the product data available on request
Dimensions and weights are representative figures and may very

INSTRUMENTATION CABLE BS 5308 PART 1 TYPE 2

Single & Multi Triple, XLPE / PE Insulation,
Individual & Collective Screen,
Armour, PVC Sheath 900° C / 700° C (300/500 V)

APPLICATION :

For transmission of analogue and digital signals in instrument and control systems; use in zone 1 and zone 2 group II classified areas (IEC 60079 part 14). Not allowed for direct connection to low impedance source, e.g. the public mains electricity supply. Not recommended for direct burial. For indoor and outdoor installation in dry and wet locations on racks, in conduits.

CONSTRUCTION OF CABLE :

CONDUCTOR :

Plain annealed copper, sizes: 0.5 mm² solid / flexible, 0.75 mm² solid / stranded / flexible, 1.0 mm² solid / stranded / flexible or 1.5 mm² stranded / flexible.

INSULATION :

Cross-linked Polyethylene XLPE / Polyethylene PE

COLOUR CODE :

According to BS 5308 PART 1 (see Appendix)

TRIPLE SCREEN :

24 µm aluminium / Polyster tape over tinned copper drain wire, 0.5 mm²

WRAPPING :

At least 1 layer of Polyester Tape

COLLECTIVE SCREEN :

24 µm Aluminium / Polyster tape over tinned copper drain wire, 0.5 mm²

BEDDING :

Polyvinyl Chloride PVC, Black

ARMOUR :

Galvanized Round Steel Wires

OUTER SHEATH :

Polyvinyl Chloride PVC, Black

TECHNICAL DATA

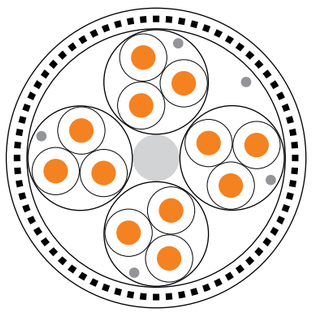
Temperature range:
-30°C up to +90 / 70°C (during operation)
- 5°C up to +50°C (during installation)
Min. Bending Radius :
During Operation - 6 X overall diameter
During Installation - 8 X overall diameter

ABBREVIATION

2X - XLPE Insulation
S - Aluminium / Polyester Individual Screen
S - Aluminium / Polyester Collective Screen
W - G.I Round Armour
Y - PVC Outer Sheath

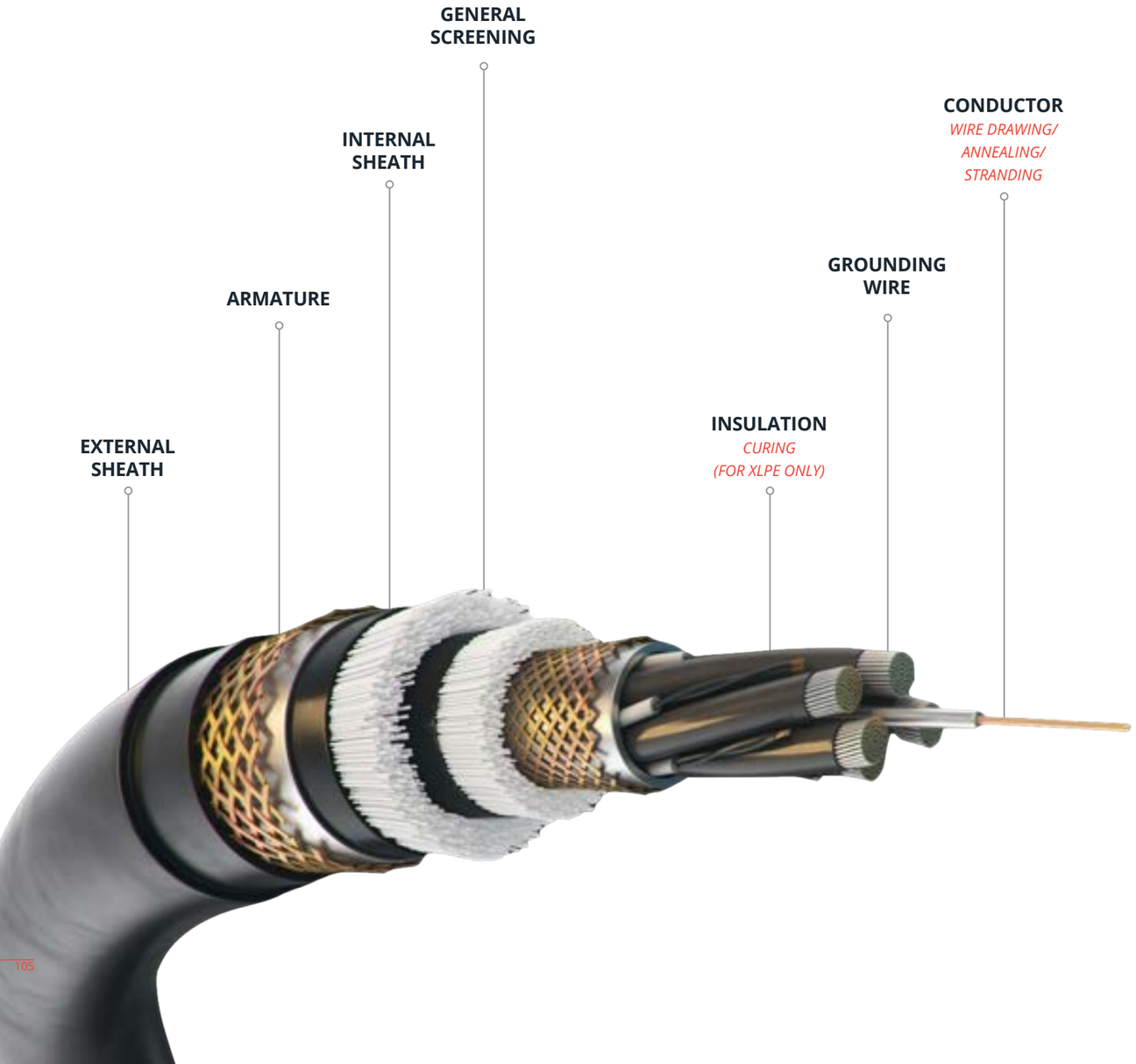
Electrical Data @ 20° C

	Character	Unit	Value				
Conductor Size	nom.	mm²	0.5 Solid	1.0 Solid	0.5 Flexible	0.75 Flexible	1.5 Stranded
Conductor Resistance	max.	Ω/km	36.8	18.4	39.0	26.0	12.1
Insulation Resistance	min.	MΩxkm			5000		
Mutual Capacitance at 1kHz 1 & 2 Triples All other Cables	max.	nF/km			115 75		120 85
Capacitance Unbalance at 1 kHz	max.	pF/250m			250		
L/R (Ratio)	max.	µH/Ω			25		40
Test Voltage : (Core to Core) (Core to Screen)		V			1000 1000		
Rated Voltage : U_o / U	max.	V			300/500		



GEOMETRICAL DATA							
No of Triples	RT of Insulation Nom (mm)	RT of bedding Nom. (mm)	Dia Over bedding approx. (mm)	Dia of Armour Wire Nom.	RT of Outer Sheath nom. (mm)	Overall Diameter approx (mm)	Weight approx (kg/km)
0.5 sq mm (solid)							
2	0.5	1.1	11.0	0.9	1.4	15.8	400
5	0.5	1.2	14.1	1.25	1.5	19.8	690
10	0.5	1.3	19.4	1.6	1.7	26.0	1190
15	0.5	1.3	22.0	1.6	1.8	28.8	1450
20	0.5	1.5	25.4	1.6	1.9	32.4	1760
30	0.5	1.7	30.8	2.0	2.0	38.8	2155
50	0.5	2.0	39.2	2.5	2.3	48.8	3310
50							
1.0 sq mm (Stranded)							
1							
2	0.6	1.2	13.3	1.25	1.5	18.8	590
5	0.6	1.2	16.8	1.25	1.6	22.5	840
10	0.6	1.5	23.8	1.6	1.9	30.6	1480
15	0.6	1.5	27.0	1.6	2.0	34.0	1900
20	0.6	1.7	31.1	2.0	2.0	39.1	2570
30	0.6	2.0	37.8	2.5	2.3	47.4	3545
50	0.6	2.2	47.9	2.5	2.6	58.1	5685
0.5 sq mm (Flexible)							
2	0.6	1.1	12.5	0.9	1.5	18.0	380
5	0.6	1.2	15.9	1.25	1.6	21.6	665
10	0.6	1.3	21.8	1.6	1.8	28.6	1170
15	0.6	1.5	25.4	1.6	1.8	32.4	1540
20	0.6	1.7	29.2	2.0	2.0	37.2	1900
30	0.6	2.0	35.4	2.0	2.2	43.8	2735
50	0.6	2.2	44.8	2.5	2.5	54.8	4305
0.75 sq mm (Flexible)							
2	0.6	1.2	13.5	1.25	1.5	19.0	620
5	0.6	1.2	17.2	1.25	1.6	23.1	860
10	0.6	1.5	24.3	1.6	1.8	31.3	1570
15	0.6	1.5	27.6	1.6	1.9	34.6	1920
20	0.6	1.7	31.8	2.0	2.1	40.0	2550
30	0.6	2.0	38.6	2.5	2.3	48.2	3160
50	0.6	2.2	49.0	2.5	2.6	59.2	5055
1.5 sq mm (Stranded)							
2	0.6	1.2	15.0	1.25	1.6	20.7	730
5	0.6	1.3	19.4	1.6	1.7	26.0	1230
10	0.6	1.5	27.2	1.6	1.9	34.2	1950
15	0.6	1.7	31.4	2.0	2.1	39.4	2760
20	0.6	2.2	36.3	2.0	2.2	44.7	3390
30	0.6	2.2	43.8	2.5	2.5	53.8	4810
50	0.6	2.2	55.2	2.5	2.9	66.0	6920

For cables of sizes or triples not listed above the product data available on request
Dimensions and weights are representative figures and may very



BS 5308, PART 2

COLOUR CODE :

A - Identification of Collective Screened Pairs
B - Identification of Individually Screened Pairs
All cables up to 50 pairs conform to the coding of following table:
C - Identification of Cores
Core 1 to 40 Black with both printed numbers and written word in White ,"10, TEN"

PAIR-NO	A-WIRE	B-WIRE	PARI-NO	A-WIRE	B-WIRE
1	White	Blue	26	Red-Blue	Blue
2	White	Orange	27	Red-Blue	Orange
3	White	Green	28	Red-Blue	Green
4	White	brown	29	Red-Blue	Brown
5	White	Grey	30	Red-Blue	Grey
6	Red	Blue	31	Blue-Black	Blue
7	Red	Orange	32	Blue-Black	Orange
8	Red	Green	33	Blue-Black	Green
9	Red	Brown	34	Blue-Black	Brown
10	Red	Grey	35	Blue-Black	Grey
11	Black	Blue	36	Yellow-Blue	Blue
12	Black	Orange	37	Yellow-Blue	Orange
13	Black	Green	38	Yellow-Blue	Green
14	Black	Brown	39	Yellow-Blue	Brown
15	Black	Grey	40	Yellow-Blue	Grey
16	Yellow	Blue	41	White-Orange	Blue
17	Yellow	Orange	42	White-Orange	Orange
18	Yellow	Green	43	White-Orange	Green
19	Yellow	Brown	44	White-Orange	Brown
20	Yellow	Grey	45	White-Orange	Grey
21	White-Blue	Blue	46	Orange-Red	Blue
22	White-Blue	Orange	47	Orange-Red	Orange
23	White-Blue	Green	48	Orange-Red	Green
24	White-Blue	Brown	49	Orange-Red	Brown
25	White-Blue	Grey	50	Orange-Red	Grey

INSTRUMENTATION CABLE BS 5308 PART 2 TYPE 1

Multi Core, PVC Insulation, Collective Screen,
PVC Sheath 70ºC (300/500 V)

APPLICATION :

For transmission of analogue and digital signals in instrument and control systems; use in zone 1 and zone 2 group II classified areas (IEC 60079 part 14). Not allowed for direct connection to low impedance source, e.g. the public mains electricity supply. Not recommended for direct burial. For indoor and outdoor installation in dry and wet locations on racks, in conduits.

CONSTRUCTION OF CABLE :

CONDUCTOR :

Plain annealed copper, sizes: 0.5 mm² solid / flexible, 0.75 mm² solid / stranded / flexible, 1.0 mm² solid / stranded / flexible or 1.5 mm² stranded / flexible.

INSULATION :

Polyvinyl Chloride PVC

COLOUR CODE :

According to BS 5308 PART 2 (see Appendix)

WRAPPING :

At least 1 layer of Polyester Tape

COLLECTIVE SCREEN :

24 µm Aluminium / Polyster tape over tinned copper drain wire, 0.5 mm²

OUTER SHEATH :

Polyvinyl Chloride PVC, Black

TECHNICAL DATA

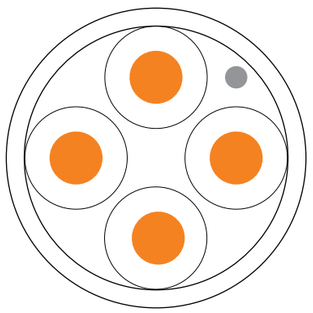
Temperature range:
-30°C up to +90 / 70°C (during operation)
- 5°C up to +50°C (during installation)
Min. Bending Radius :
During Operation - 6 X overall diameter
During Installation - 8 X overall diameter

ABBREVIATION

Y - PVC Insulation
S - Aluminium / Polyester Collective Screen
Y - PVC Outer Sheath

Electrical Data @ 20° C

	Character	Unit	Value			
Conductor Size	nom.	mm²	0.5 Flexible	0.75 Flexible	1.0 Stranded	1.5 Stranded
Conductor Resistance	max.	Ω/km	39	26.0	18.1	12.1
Insulation Resistance	min.	MΩxkm			25	
Mutual Capacitance at 1kHz 1 & 2 Pairs All other Cables	max.	nF/km			250	
Capacitance Unbalance at 1 kHz	max.	pF/250m			400	
L/R (Ratio)	max.	µH/Ω			25	40
Test Voltage : (Core to Core) (Core to Screen)		V			1000 1000	
Rated Voltage : U_o / U	max.	V			300/500	



GEOMETRICAL DATA

No of Cores	RT of Insulation Nom (mm)	RT of outer Sheath Nom. (mm)	Overall Diameter Approx (mm)	Weight Approx (mm)
0.5 sq mm (Flexible)				
1				
2	0.6	0.8	6.2	50
3	0.6	0.8	6.6	60
4	0.6	0.8	7.2	70
6	0.6	0.9	8.6	100
10	0.6	1.1	11.2	150
20	0.6	1.2	14.2	260
40	0.6	1.3	18.7	470
0.75 sq mm (Flexible)				
1				
2	0.6	0.8	6.7	60
3	0.6	0.8	7.2	70
4	0.6	0.8	7.8	80
6	0.6	0.9	9.4	120
10	0.6	1.1	12.2	190
20	0.6	1.2	15.6	330
40	0.6	1.3	20.6	610
1.0 sq mm (Stranded)				
2	0.6	0.8	6.8	60
3	0.6	0.8	7.6	80
4	0.6	0.8	7.8	90
6	0.6	1.1	12.0	150
10	0.6	1.2	14.0	215
20	0.6	1.3	18.0	375
40	0.6	1.5	25.0	700
1.5 sq mm (Stranded)				
2	0.6	0.8	8.0	90
3	0.6	0.9	8.2	100
4	0.6	0.9	9.0	130
6	0.6	1.1	11.0	190
10	0.6	1.2	14.0	290
20	0.6	1.3	17.9	530
40	0.6	1.5	24.0	1010

For cables of sizes or pairs not listed above the product data available on request
Dimensions and weights are representative figures and may very

INSTRUMENTATION CABLE BS 5308 PART 2 TYPE 1

Single & Multi Pair, PVC Insulation, Collective Screen, PVC Sheath 70° C (300/500 V)

APPLICATION :

For transmission of analogue and digital signals in instrument and control systems; use in zone 1 and zone 2 group II classified areas (IEC 60079 part 14). Not allowed for direct connection to low impedance source, e.g. the public mains electricity supply. Not recommended for direct burial. For indoor and outdoor installation in dry and wet locations on racks, in conduits.

CONSTRUCTION OF CABLE :

CONDUCTOR :

Plain annealed copper, sizes: 0.5 mm² solid / flexible, 0.75 mm² solid / stranded / flexible, 1.0 mm² solid / stranded / flexible or 1.5 mm² stranded / flexible.

INSULATION :

Polyvinyl Chloride PVC

COLOUR CODE :

According to BS 5308 PART 2 (see Appendix)

WRAPPING :

At least 1 layer of Polyester Tape

COLLECTIVE SCREEN :

24 µm Aluminium / Polyster tape over tinned copper drain wire, 0.5 mm²

OUTER SHEATH :

Polyvinyl Chloride PVC, Black

TECHNICAL DATA

Temperature range:
-30°C up to +70°C (during operation)
- 5°C up to +50°C (during installation)

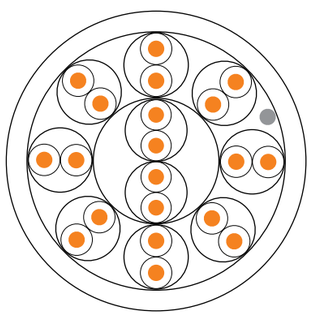
Min. Bending Radius :
During Operation - 6 X overall diameter
During Installation - 8 X overall diameter

ABBREVIATION

Y - PVC Insulation
S - Aluminium / Polyester Collective Screen
Y - PVC Outer Sheath

Electrical Data @ 20° C

	Character	Unit	Value			
Conductor Size	nom.	mm²	0.5 Flexible	0.75 Flexible	1.0 Stranded	1.5 Stranded
Conductor Resistance	max.	Ω/km	39	26.0	18.1	12.1
Insulation Resistance	min.	MΩxkm			25	
Mutual Capacitance at 1kHz 1 & 2 Pairs All other Cables	max.	nF/km			250	
Capacitance Unbalance at 1 kHz	max.	pF/250m			400	
L/R (Ratio)	max.	µH/Ω			25	40
Test Voltage : (Core to Core) (Core to Screen)		V			1000 1000	
Rated Voltage : U_o / U	max.	V			300/500	



GEOMETRICAL DATA				
No of Pairs	RT of Insulation Nom (mm)	RT of outer Sheath Nom. (mm)	Overall Diameter Approx (mm)	Weight Approx (mm)
0.5 sq mm (Flexible)				
1	0.6	0.8	6.2	40
2	0.6	0.8	7.6	70
5	0.6	1.1	12.4	160
10	0.6	1.2	16.5	280
15	0.6	1.3	19.2	390
20	0.6	1.3	21.7	450
30	0.6	1.5	26.4	730
50	0.6	1.7	33.4	1160
0.75 sq mm (Flexible)				
1	0.6	0.8	6.7	50
2	0.6	0.8	8.2	80
5	0.6	1.2	13.8	200
10	0.6	1.3	13.8	350
15	0.6	1.3	21.1	490
20	0.6	1.5	24.4	660
30	0.6	1.7	29.5	960
50	0.6	2.0	37.6	1540
1.0 sq mm (Stranded)				
1	0.6	0.8	6.8	60
2	0.6	0.8	7.8	90
5	0.6	1.2	14.0	215
10	0.6	1.3	18.0	375
15	0.6	1.3	22.0	530
20	0.6	1.5	25.0	700
30	0.6	1.7	30.0	1020
50	0.6	2	39.0	1750
1.5 sq mm (Stranded)				
1	0.6	0.8	7.5	70
2	0.6	0.9	9.3	130
5	0.6	1.2	15.6	300
10	0.6	1.3	20.9	540
15	0.6	1.5	24.6	810
20	0.6	1.5	27.8	1030
30	0.6	1.7	33.7	1510
50	0.6	2.0	43.0	2470

For cables of sizes or pairs not listed above the product data available on request
Dimensions and weights are representative figures and may very

INSTRUMENTATION CABLE BS 5308 PART 2 TYPE 1

Single & Multi Triple, PVC Insulation, Collective Screen, PVC Sheath 70° C (300/500 V)

APPLICATION :

For transmission of analogue and digital signals in instrument and control systems; use in zone 1 and zone 2 group II classified areas (IEC 60079 part 14). Not allowed for direct connection to low impedance source, e.g. the public mains electricity supply. Not recommended for direct burial. For indoor and outdoor installation in dry and wet locations on racks, in conduits.

CONSTRUCTION OF CABLE :

CONDUCTOR :

Plain annealed copper, sizes: 0.5 mm² solid / flexible, 0.75 mm² solid / stranded / flexible, 1.0 mm² solid / stranded / flexible or 1.5 mm² stranded / flexible.

INSULATION :

Polyvinyl Chloride PVC

COLOUR CODE :

According to BS 5308 PART 2 (see Appendix)

WRAPPING :

At least 1 layer of Polyester Tape

COLLECTIVE SCREEN :

24 µm Aluminium / Polyster tape over tinned copper drain wire, 0.5 mm²

OUTER SHEATH :

Polyvinyl Chloride PVC, Black

TECHNICAL DATA

Temperature range:
-30°C up to +70°C (during operation)
- 5°C up to +50°C (during installation)

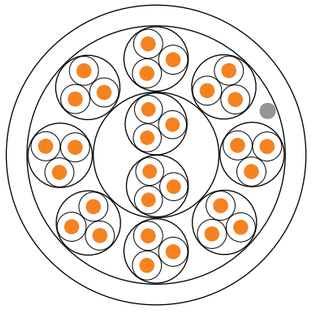
Min. Bending Radius :
During Operation - 6 X overall diameter
During Installation - 8 X overall diameter

ABBREVIATION

Y - PVC Insulation
S - Aluminium / Polyester Collective Screen
Y - PVC Outer Sheath

Electrical Data @ 20° C

	Character	Unit	Value			
Conductor Size	nom.	mm²	0.5 Flexible	0.75 Flexible	1.0 Stranded	1.5 Stranded
Conductor Resistance	max.	Ω/km	39	26.0	18.1	12.1
Insulation Resistance	min.	MΩxkm			25	
Mutual Capacitance at 1kHz 1 & 2 Triples All other Cables	max.	nF/km			250	
Capacitance Unbalance at 1 kHz	max.	pF/250m			400	
L/R (Ratio)	max.	µH/Ω			25	40
Test Voltage : (Core to Core) (Core to Screen)		V			1000 1000	
Rated Voltage : U_o / U	max.	V			300/500	



GEOMETRICAL DATA

No of Triples	RT of Insulation Nom (mm)	RT of outer Sheath Nom. (mm)	Overall Diameter Approx (mm)	Weight Approx (mm)
0.5 sq mm (Flexible)				
1				
2	0.6	1.1	11.2	120
5	0.6	1.2	14.6	210
10	0.6	1.3	19.4	370
15	0.6	1.5	22.7	540
20	0.6	1.5	25.9	690
30	0.6	1.7	31.2	950
50	0.6	2.2	40.1	1650
0.75 sq mm (Flexible)				
1				
2	0.6	1.1	12.2	130
5	0.6	1.2	15.8	250
10	0.6	1.3	21.1	450
15	0.6	1.5	24.9	650
20	0.6	1.7	28.6	850
30	0.6	2.0	34.7	1260
50	0.6	2.2	43.9	2000
1.0 sq mm (Stranded)				
2	0.6	1.2	13.5	180
5	0.6	1.2	17.0	325
10	0.6	1.5	25.0	570
15	0.6	1.5	27.0	790
20	0.6	1.7	29.0	1040
30	0.6	2.0	34.0	1520
50	0.6	2.2	42.0	2420
1.5 sq mm (Stranded)				
2	0.6	1.2	13.6	190
5	0.6	1.3	17.8	360
10	0.6	1.5	24.1	670
15	0.6	1.7	28.2	970
20	0.6	1.7	31.9	1240
30	0.6	2.0	38.8	1830
50	0.6	2.2	49.1	2940

For cables of sizes or pairs not listed above the product data available on request
Dimensions and weights are representative figures and may very

INSTRUMENTATION CABLE — BS 5308 PART 2 TYPE 1

Single & Multi Pair, PVC Insulation, Individual & Collective Screen, PVC Sheath 70° C (300/500 V)

APPLICATION :

For transmission of analogue and digital signals in instrument and control systems; use in zone 1 and zone 2 group II classified areas (IEC 60079 part 14). Not allowed for direct connection to low impedance source, e.g. the public mains electricity supply. Not recommended for direct burial. For indoor and outdoor installation in dry and wet locations on racks, in conduits.

CONSTRUCTION OF CABLE :

CONDUCTOR :

Plain annealed copper, sizes: 0.5 mm² solid / flexible, 0.75 mm² solid / stranded / flexible, 1.0 mm² solid / stranded / flexible or 1.5 mm² stranded / flexible.

INSULATION :

Polyvinyl Chloride PVC

PAIR SCREEN :

24 µm Aluminium / Polyster tape over tinned copper drain wire, 0.5 mm²

COLOUR CODE :

According to BS 5308 PART 2 (see Appendix)

WRAPPING :

At least 1 layer of Polyester Tape

COLLECTIVE SCREEN :

24 µm Aluminium / Polyster tape over tinned copper drain wire, 0.5 mm²

OUTER SHEATH :

Polyvinyl Chloride PVC, Black

TECHNICAL DATA

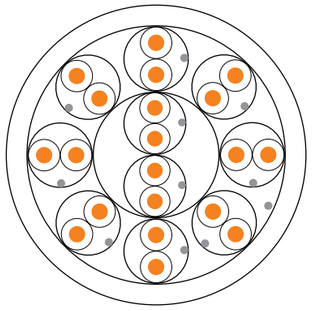
Temperature range:
-30°C up to +70°C (during operation)
- 5°C up to +50°C (during installation)
Min. Bending Radius :
During Operation - 6 X overall diameter
During Installation - 8 X overall diameter

ABBREVIATION

Y - PVC Insulation
S - Aluminium / Polyester Collective Screen
Y - PVC Outer Sheath

Electrical Data @ 20° C

	Character	Unit	Value			
Conductor Size	nom.	mm²	0.5 Flexible	0.75 Flexible	1.0 Stranded	1.5 Stranded
Conductor Resistance	max.	Ω/km	39	26.0	18.1	12.1
Insulation Resistance	min.	MΩxkm			25	
Mutual Capacitance at 1kHz 1 & 2 Pairs All other Cables	max.	nF/km			250	
Capacitance Unbalance at 1 kHz	max.	pF/250m			400	
L/R (Ratio)	max.	µH/Ω			25	40
Test Voltage : (Core to Core) (Core to Screen)		V			1000 1000	
Rated Voltage : U_o / U	max.	V			300/500	



GEOMETRICAL DATA

No of Pairs	RT of Insulation Nom (mm)	RT of outer Sheath Nom. (mm)	Overall Diameter Approx (mm)	Weight Approx (mm)
0.5 sq mm (Flexible)				
1				
2	0.6	1.1	11.2	120
5	0.6	1.2	14.6	210
10	0.6	1.3	19.4	370
15	0.6	1.5	22.7	540
20	0.6	1.5	25.9	690
30	0.6	1.7	31.2	950
50	0.6	2.2	40.1	1650
0.75 sq mm (Flexible)				
1				
2	0.6	1.1	12.2	130
5	0.6	1.2	15.8	250
10	0.6	1.3	21.1	450
15	0.6	1.5	24.9	650
20	0.6	1.7	28.6	850
30	0.6	2.0	34.7	1260
50	0.6	2.2	43.9	2000
1.0 sq mm (Stranded)				
2	0.6	1.2	13.0	155
5	0.6	1.2	16.0	270
10	0.6	1.3	22.0	495
15	0.6	1.5	25.0	700
20	0.6	1.5	28.0	880
30	0.6	2.0	35.0	1370
50	0.6	2.2	45.0	2190
1.5 sq mm (Stranded)				
2	0.6	1.2	13.6	190
5	0.6	1.3	17.8	360
10	0.6	1.5	24.1	670
15	0.6	1.7	28.2	970
20	0.6	1.7	31.9	1240
30	0.6	2.0	38.8	1830
50	0.6	2.2	49.1	2940

For cables of sizes or pairs not listed above the product data available on request
Dimensions and weights are representative figures and may very

INSTRUMENTATION CABLE BS 5308 PART 2 TYPE 1

Multi Core, PVC Insulation, Collective Screen, Armour PVC Sheath 700° C (300/500 V)

APPLICATION :

For transmission of analogue and digital signals in instrument and control systems; use in zone 1 and zone 2 group II classified areas (IEC 60079 part 14). Not allowed for direct connection to low impedance source, e.g. the public mains electricity supply. Not recommended for direct burial. For indoor and outdoor installation in dry and wet locations on racks, in conduits.

CONSTRUCTION OF CABLE :

CONDUCTOR :

Plain annealed copper, sizes: 0.5 mm² solid / flexible, 0.75 mm² solid / stranded / flexible, 1.0 mm² solid / stranded / flexible or 1.5 mm² stranded / flexible.

INSULATION :

Polyvinyl Chloride PVC

COLOUR CODE :

According to BS 5308 PART 2 (see Appendix)

WRAPPING :

At least 1 layer of Polyester Tape

COLLECTIVE SCREEN :

24 µm Aluminium / Polyster tape over tinned copper drain wire, 0.5 mm²

ARMOUR :

Galvanized Round Steel Wire

OUTER SHEATH :

Polyvinyl Chloride PVC, Black

TECHNICAL DATA

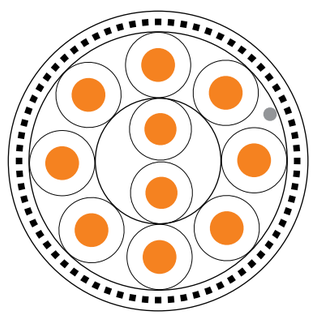
Temperature range:
-30°C up to +70°C (during operation)
- 5°C up to +50°C (during installation)
Min. Bending Radius :
During Operation - 6 X overall diameter
During Installation - 8 X overall diameter

ABBREVIATION

Y - PVC Insulation
S - Aluminium / Polyester Individual Screen
S - Aluminium / Polyester Collective Screen
W - Galvanized Round Steel Wire
Y - PVC Outer Sheath

Electrical Data @ 20° C

	Character	Unit	Value			
Conductor Size	nom.	mm²	0.5 Flexible	0.75 Flexible	1.0 Stranded	1.5 Stranded
Conductor Resistance	max.	Ω/km	39	26.0	18.1	12.1
Insulation Resistance	min.	MΩxkm			25	
Mutual Capacitance at 1kHz 1 & 2 Pairs All other Cables	max.	nF/km			250	
Capacitance Unbalance at 1 kHz	max.	pF/250m			400	
L/R (Ratio)	max.	µH/Ω			25	40
Test Voltage : (Core to Core) (Core to Screen)		V			1000 1000	
Rated Voltage : U_o / U	max.	V			300/500	



GEOMETRICAL DATA

No of Cores	RT of Insulation Nom (mm)	RT of bedding Nom. (mm)	Dia Over bedding approx. (mm)	Dia of Armour Wire Nom.	RT of Outer Sheath nom. (mm)	Overall Diameter approx (mm)	Weight approx (kg/km)
0.5 sq mm (Flexible)							
1							
2	0.6	0.8	6.7	0.9	1.3	11.1	210
3	0.6	0.8	6.6	0.9	1.3	11.0	250
4	0.6	0.8	7.2	0.9	1.3	11.6	280
6	0.6	0.9	8.6	0.9	1.4	13.2	330
10	0.6	1.1	11.2	0.9	1.5	16.0	460
20	0.6	1.2	14.2	1.25	1.6	19.9	760
40	0.6	1.3	18.7	1.6	1.7	25.3	1290
0.75 sq mm (Flexible)							
1							
2	0.6	1.8	7.2	0.9	1.3	11.6	240
3	0.6	1.8	7.2	0.9	1.3	11.6	280
4	0.6	0.8	7.8	0.9	1.4	12.4	310
6	0.6	0.9	9.4	0.9	1.4	14.0	380
10	0.6	1.1	12.2	1.9	1.5	17.0	520
20	0.6	1.2	15.6	1.25	1.6	21.3	870
40	0.6	1.3	20.6	1.6	1.8	27.4	1510
1.0 sq mm (Stranded)							
2	0.6	0.8	6.8	0.9	1.3	11.0	235
3	0.6	1.8	7.6	0.9	1.3	11.8	255
4	0.6	1.8	7.8	0.9	1.4	12.0	275
6	0.6	1.1	11.5	0.9	1.5	15.5	395
10	0.6	1.2	13.5	1.25	1.5	18.5	600
20	0.6	1.3	18.0	1.6	1.7	24.0	1020
40	0.6	1.5	24.0	1.6	19	31.0	1580
1.5 sq mm (Stranded)							
2	0.6	0.8	0.8	0.9	1.4	12.6	280
3	0.6	0.9	8.2	0.9	1.4	12.8	330
4	0.6	0.9	9.0	0.9	1.4	13.6	380
6	0.6	1.1	11.0	0.9	1.4	15.6	480
10	0.6	1.2	14.0	1.25	1.6	19.7	790
20	0.6	1.3	17.9	1.6	1.7	24.5	1320
40	0.6	1.5	24.0	1.6	1.9	31.0	2110

For cables of sizes or pairs not listed above the product data available on request
Dimensions and weights are representative figures and may very

INSTRUMENTATION CABLE BS 5308 PART 2 TYPE 1

Multi Pair, PVC Insulation, Individual & Collective Screen, Armour PVC Sheath 70° C (300/500 V)

APPLICATION :

For transmission of analogue and digital signals in instrument and control systems; use in zone 1 and zone 2 group II classified areas (IEC 60079 part 14). Not allowed for direct connection to low impedance source, e.g. the public mains electricity supply. Not recommended for direct burial. For indoor and outdoor installation in dry and wet locations on racks, in conduits.

CONDUCTOR :

Plain annealed copper, sizes: 0.5 mm² solid / flexible, 0.75 mm² solid / stranded / flexible, 1.0 mm² solid / stranded / flexible or 1.5 mm² stranded / flexible.

INSULATION :

Polyvinyl Chloride PVC

COLOUR CODE :

According to BS 5308 PART 2 (see Appendix)

PAIR SCREEN :

24 µm aluminium / Polyster tape over tinned copper drain wire, 0.5 mm²

WRAPPING :

At least 1 layer of Polyester Tape

COLLECTIVE SCREEN :

24 µm Aluminium / Polyster tape over tinned copper drain wire, 0.5 mm²

BEDDING :

Polyvinyl Chloride PVC, Black

ARMOUR :

Galvanized Round Steel Wire

OUTER SHEATH :

Polyvinyl Chloride PVC, Black

TECHNICAL DATA

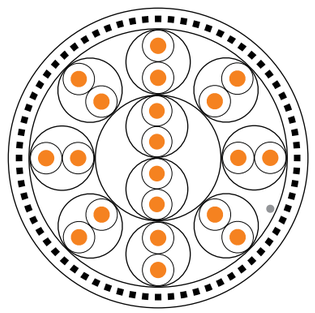
Temperature range:
-30°C up to +70°C (during operation)
- 5°C up to +50°C (during installation)
Min. Bending Radius :
During Operation - 6 X overall diameter
During Installation - 8 X overall diameter

ABBREVIATION

Y - PVC Insulation
S - Aluminium / Polyester Individual Screen
S - Aluminium / Polyester Collective Screen
W - Galvanized Round Steel Wire
Y - PVC Outer Sheath

Electrical Data @ 20° C

	Character	Unit	Value			
Conductor Size	nom.	mm²	0.5 Flexible	0.75 Flexible	1.0 Stranded	1.5 Stranded
Conductor Resistance	max.	Ω/km	39	26.0	18.1	12.1
Insulation Resistance	min.	MΩxkm			25	
Mutual Capacitance at 1 & 2 Pairs All other Cables	max.	nF/km			250	
Capacitance Unbalance at 1 kHz	max.	pF/250m			400	
L/R (Ratio)	max.	µH/Ω			25	40
Test Voltage : (Core to Core) (Core to Screen)		V			1000 1000	
Rated Voltage : U_o / U	max.	V			300/500	



GEOMETRICAL DATA

No of Pairs	RT of Insulation Nom (mm)	RT of bedding Nom. (mm)	Dia Over bedding approx. (mm)	Dia of Armour Wire Nom.	RT of Outer Sheath nom. (mm)	Overall Diameter approx (mm)	Weight approx (kg/km)
0.5 sq mm (Flexible)							
1	0.6	0.8	6.2	0.9	1.3	10.6	230
2	0.6	0.8	7.1	0.9	1.3	11.5	260
5	0.6	1.1	12.4	0.9	1.5	17.2	490
10	0.6	1.2	16.5	1.25	1.6	22.2	840
15	0.6	1.3	19.2	1.6	1.7	25.8	1220
20	0.6	1.3	21.7	1.6	1.8	28.5	1430
30	0.6	1.5	26.4	1.6	1.9	33.4	1890
50	0.6	1.7	33.4	2.0	2.1	41.6	2910
0.75 sq mm (Flexible)							
1	0.6	0.8	6.7	0.9	1.3	11.1	250
2	0.6	0.8	7.7	0.9	1.4	12.3	300
5	0.6	1.2	13.8	1.25	1.5	19.3	670
10	0.6	1.3	18.4	1.6	1.7	25.0	1190
15	0.6	1.3	21.1	1.6	1.8	27.9	1390
20	0.6	1.5	24.4	1.6	1.8	31.2	1700
30	0.6	1.7	29.6	2.0	2.0	37.6	2490
50	0.6	2.0	37.6	2.5	2.3	47.3	3930
1.0 sq mm (Stranded)							
1	0.6	0.8	6.8	0.9	1.3	11.0	235
2	0.6	0.8	7.8	0.9	1.4	12.0	275
5	0.6	1.2	13.5	1.25	1.5	18.5	600
10	0.6	1.3	18.0	1.6	1.7	24.0	1020
15	0.6	1.3	21.0	1.6	1.8	28.0	1300
20	0.6	1.5	24.0	1.6	1.9	31.4	1580
30	0.6	1.7	30.0	2.0	2.0	38.0	2310
50	0.6	2.0	39.0	2.5	2.3	49.0	4010
1.5 sq mm (Stranded)							
1	0.6	0.8	7.5	0.9	1.4	12.1	290
2	0.6	0.9	8.8	0.9	1.4	13.4	390
5	0.6	1.2	15.6	1.25	1.6	21.3	850
10	0.6	1.3	20.9	1.6	1.8	27.7	1460
15	0.6	1.5	24.6	1.6	1.9	31.6	1900
20	0.6	1.5	27.8	1.6	2.0	35.0	2240
30	0.6	1.7	33.7	2.0	2.1	41.9	3310
50	0.6	2.0	43.0	2.5	2.4	52.8	5290

For cables of sizes or pairs not listed above the product data available on request
Dimensions and weights are representative figures and may very

INSTRUMENTATION CABLE BS 5308 PART 2 TYPE 1

Multi Pairs, PVC Insulation, Individual & Collective Screen, Armour PVC Sheath 70° C (300/500 V)

APPLICATION :

For transmission of analogue and digital signals in instrument and control systems; use in zone 1 and zone 2 group II classified areas (IEC 60079 part 14). Not allowed for direct connection to low impedance source, e.g. the public mains electricity supply. Not recommended for direct burial. For indoor and outdoor installation in dry and wet locations on racks, in conduits.

CONDUCTOR :

Plain annealed copper, sizes: 0.5 mm² solid / flexible, 0.75 mm² solid / stranded / flexible, 1.0 mm² solid / stranded / flexible or 1.5 mm² stranded / flexible.

INSULATION :

Polyvinyl Chloride PVC

COLOUR CODE :

According to BS 5308 PART 2 (see Appendix)

PAIR SCREEN :

24 µm Aluminium / Polyster tape over tinned copper drain wire, 0.5 mm²

WRAPPING :

At least 1 layer of Polyester Tape

COLLECTIVE SCREEN :

24 µm Aluminium / Polyster tape over tinned copper drain wire, 0.5 mm²

BEDDING :

Polyvinyl Chloride PVC, Black

ARMOUR :

Galvanized Round Steel Wire

OUTER SHEATH :

Polyvinyl Chloride PVC, Black

TECHNICAL DATA

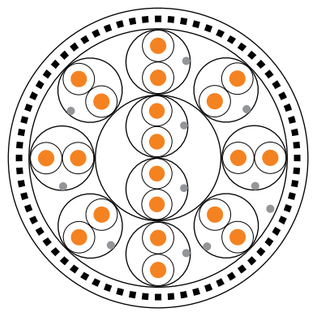
Temperature range:
-30°C up to +70°C (during operation)
- 5°C up to +50°C (during installation)
Min. Bending Radius :
During Operation - 6 X overall diameter
During Installation - 8 X overall diameter

ABBREVIATION

Y - PVC Insulation
S - Aluminium / Polyester Individual Screen
S - Aluminium / Polyester Collective Screen
W - Galvanized Round Steel Wire
Y - PVC Outer Sheath

Electrical Data @ 20° C

	Character	Unit	Value			
Conductor Size	nom.	mm²	0.5 Flexible	0.75 Flexible	1.0 Stranded	1.5 Stranded
Conductor Resistance	max.	Ω/km	39	26.0	18.1	12.1
Insulation Resistance	min.	MΩxkm			25	
Mutual Capacitance at 1kHz 1 & 2 Pairs All other Cables	max.	nF/km			250	
Capacitance Unbalance at 1 kHz	max.	pF/250m			400	
L/R (Ratio)	max.	µH/Ω			25	40
Test Voltage : (Core to Core) (Core to Screen)		V			1000 1000	
Rated Voltage : U_o / U	max.	V			300/500	



GEOMETRICAL DATA

No of Pairs	RT of Insulation Nom (mm)	RT of bedding Nom. (mm)	Dia Over bedding approx. (mm)	Dia of Armour Wire Nom.	RT of Outer Sheath nom. (mm)	Overall Diameter approx (mm)	Weight approx (kg/km)
0.5 sq mm (Flexible)							
1							
2	0.6	0.8	10.6	0.9	1.3	15.0	430
5	0.6	1.1	14.3	0.9	1.5	19.1	720
10	0.6	1.2	19.1	1.25	1.6	24.8	1240
15	0.6	1.3	22.2	1.6	1.7	28.8	1520
20	0.6	1.3	25.3	1.6	1.8	32.1	1790
30	0.6	1.5	30.6	1.6	1.9	37.6	2570
50	0.6	1.7	38.9	2.0	2.1	47.1	4210
0.75 sq mm (Flexible)							
1							
2	0.6	0.8	11.5	0.9	1.4	16.1	460
5	0.6	1.2	15.7	1.25	1.5	21.2	800
10	0.6	1.3	20.9	1.6	1.7	27.5	1360
15	0.6	1.3	24.2	1.6	1.8	31.0	1700
20	0.6	1.5	27.9	1.6	1.8	34.7	2340
30	0.6	1.7	33.8	2.0	2.0	41.8	3050
50	0.6	2.0	43.1	2.5	2.3	52.7	4800
1.00 sq mm (Stranded)							
2	0.6	1.2	12.5	1.25	1.5	175	515
5	0.6	1.2	16.0	1.25	1.6	21.0	820
10	0.6	1.3	22.0	0.6	1.8	28.0	1400
15	0.6	1.5	25.0	1.6	1.9	31.0	1850
20	0.6	1.5	28.0	1.6	2.0	34.0	2810
30	0.6	2.0	35.0	2.0	2.2	43.0	3510
50	0.6	2.2	45.0	2.5	235	55.0	5050
1.5 sq mm (Stranded)							
2	0.6	0.9	13.0	1.9	1.4	17.6	670
5	0.6	1.2	17.5	1.25	1.6	23.2	1130
10	0.6	1.3	23.5	1.6	1.8	30.3	1710
15	0.6	1.5	27.6	1.6	1.9	34.6	2420
20	0.6	1.5	31.3	1.6	2.0	38.5	2900
30	0.6	1.7	38.0	2.0	2.1	46.2	4300
50	0.6	2.0	48.5	2.5	2.4	58.3	6140

For cables of sizes or pairs not listed above the product data available on request
Dimensions and weights are representative figures and may very

SOLAR DC CABLES

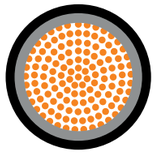
SOLAR DC CABLE

TYPE 2 (IS:694 & IS:1554 PART 1 GUIDELINES)

Single Core, HR 105°C PVC Insulation, UV Stabilized HR 105°C PVC Sheath 105°C (1.5 KV DC / 1.0 KV AC)

APPLICATION : These cables are designed for connecting photovoltaic power supply system, These cables can be used indoor & outdoor for flexible and fixed installations with high mechanical strength in extreme weather conditions.

Construction	
Conductor	Flexible Plain Annealed Bare Copper / Flexible Annealed Tinned Copper
Insulation	HR105°C PVC
Outer sheath	at least 1 UV Stabilized HR105°CPVC
Colour code	Red / Black / As per requirement.



Characteristics	Type 2
Voltage Rating (Uo/U) : AC: 600/1000 V. DC: 900/1800 V. Temperature Rating - Fixed : -40°C to +105°C Minimum Bending Radius : 4 X Overall Diameter 5 X Overall Diameter Maximum Voltage (Umax) : 1.8 KV DC (conductor/conductor, non earthed system, circuit not under load)	TYPE 2 : DC Solar cable are single core copper cables each for +ve and -ve, They are insulated with HR 105° C PVC compound and sheathed with UV Stabilized HR 105°C PVC Compound (Generally confirming to IS:694 and IS:1554 Part 1 Guidelines)

SOLAR DC CABLES FROM PV MODULE TO ARRAY JUNCTION BOX (AS PER IS 694 & IS 1554 PART I GUIDELINES)

Single Core Size in Sq.mm	Max. Conductor Diameter in mm	HR 105°C PVC Insulation Thickness-Nominal in mm	UV HR 105°C PVC Sheathing Thickness-Nominal in mm	Overall Dia. Nominal in mm Approx.
1.5	0.26	0.6	0.9	4.5
2.5	0.26	0.7	0.9	5.2
4	0.31	0.8	0.9	6.0
6	0.31	0.8	0.9	6.5
10	0.41	1.0	0.9	8.0
16	0.41	1.0	0.9	9.0
25	0.41	1.2	1.0	10.5
35	0.41	1.2	1.1	12.0
50	0.41	1.4	1.3	14.0
70	0.51	1.4	1.4	16.0
95	0.51	1.6	1.5	18.5
120	0.51	1.6	1.6	20.0
150	0.51	1.8	1.8	23.0
185	0.51	2.0	1.9	25.0
240	0.51	2.2	2.2	28.0

SOLAR DC CABLES FROM JUNCTION BOX TO INVERTER AS PER IS 694 & IS 1554 PART I GUIDELINES

Single Core Size in	Bare Copper Maximum Resistance @20°C	Current Carrying Capacity of DC Solar Cable with HR 105°C PVC Insulation and UV Stabilised HR 105°C PVC Sheathing at 40°C		
		Single Cable in Air	Single Cable on Surface	2 Adjacent Cables on Surface
Sq.mm	Ohms-?/Km	in Amps-A	in Amps-A	in Amps-A
1.5	13.3	28	26	22
2.5	7.98	38	36	31
4	4.95	50	48	40
6	3.30	62	60	50
10	1.910	87	82	71
16	1.210	115	110	95
25	0.780	150	143	120
35	0.554	191	182	153
50	0.386	253	240	202
70	0.272	374	355	299
95	0.206	451	429	361
120	0.161	530	504	424
150	0.129	618	587	494
185	0.106	721	685	577
240	0.0801	869	825	695

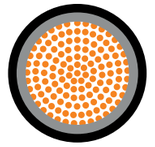
SOLAR DC CABLE

TYPE 3 (IS:7098 PART 1 GUIDELINES)

Single Core, XLPE Insulation, UV Stabilized ST-2 PVC Sheath 90°C (1.5 KV DC / 1.0 KV AC)

APPLICATION : These cables are designed for connecting photovoltaic power supply system, These cables can be used indoor & outdoor for flexible and fixed installations with high mechanical strength in extreme weather conditions.

Construction	
Conductor *Copper*	Flexible Plain Annealed Bare Copper / Flexible Annealed Tinned Copper
Insulation	XLPE
Outer sheath	UV Stabilized ST-2 PVC
Colour code	Red / Black / As per requirement.



Characteristics	Type 2
Voltage Rating (Uo/U) : AC: 600/1000 V. DC: 900/1800 V. Temperature Rating - Fixed : -30°c to 90°c Minimum Bending Radius : 4 X Overall Diameter 5 X Overall Diameter Maximum Voltage (Umax) : 1.8 KV DC (conductor/conductor, non earthed system, circuit not under load)	TYPE 2 : DC Solar cable are single core copper cables each for +ve and -ve, They are insulated with XLPE compound and sheathed with UV Stabilized PVC ST2 Compound(generally confirming to IS:7098 Part 1 Guidelines)

SOLAR DC CABLES FROM PV MODULE TO ARRAY JUNCTION BOX (AS PER IS:7098 PART I GUIDELINE)

Single Core Size in Sq.mm	Max. Conductor Diameter in mm	HR 105°C PVC Insulation Thickness-Nominal in mm	UV HR 105°C PVC Sheathing Thickness-Nominal in mm	Overall Dia. Nominal in mm Approx.
1.5	0.26	0.7	0.9	5.0
2.5	0.26	0.7	0.9	5.5
4	0.31	0.7	0.9	6.0
6	0.31	0.7	0.9	6.5
10	0.41	0.7	0.9	7.0
16	0.41	0.7	0.9	8.5
25	0.41	0.9	1.0	10.0
35	0.41	0.9	1.1	11.5
50	0.41	1.0	1.2	13.0
70	0.51	1.1	1.3	15.5
95	0.51	1.1	1.5	17.5
120	0.51	1.2	1.6	19.5
150	0.51	1.4	1.7	21.5
185	0.51	1.6	1.9	24.0
240	0.51	1.7	2.1	27.0

SOLAR DC CABLES FROM JUNCTION BOX TO INVERTER (AS PER IS:7098 PART I GUIDELINE)

Single Core Size in	Bare Copper Maximum Resistance @20°C	Current Carrying Capacity of DC Solar Cable with HR 105°C PVC Insulation and UV Stabilised HR 105°C PVC Sheathing at 40°C		
		Single Cable in Air	Single Cable on Surface	2 Adjacent Cables on Surface
Sq.mm	Ohms-?/Km	in Amps-A	in Amps-A	in Amps-A
1.5	13.3	25	24	20
2.5	7.98	35	33	28
4	4.95	45	43	36
6	3.30	58	55	46
10	1.910	80	76	64
16	1.210	106	101	85
25	0.780	135	128	108
35	0.554	173	164	138
50	0.386	226	215	181
70	0.272	336	319	269
95	0.206	406	386	325
120	0.161	476	452	381
150	0.129	555	527	444
185	0.106	649	616	519
240	0.0801	781	742	625

RUBBER CABLES

ELASTOMETRIC RUBBER CABLES

Elastomer (rubber) is an insulating material with high electric strength having a decent property of flexibility, elastomeric cables are suitable for application for reeling and unreeling application in mining, heater leads, elevators cranes and other high dielectric and flexible application.

APPLICATION : Trailing, Land Line, Wind Mill, Thin Wall Cables, Motor Lead Wire, Panel Wiring, Battery Cable

Construction

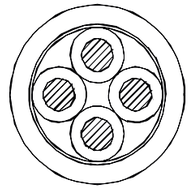
Cable Standard : IS:9968 (P-I) / 1988

Conductor : Annealed tinned / annealed plain copper conductor As per IS:8130/1984. Separator tape (optional) over the conductor.

Insulation : Insulation for General service Type IE-1 as per : IS 6380.

Binder Tape : It is provided over laid up cores as per relevant tables

Sheathing : General service purpose sheath Type SE-1 as per IS:6380.



Characteristics

Bending Radius	: 10 X Cable Diameter
Rated Voltage	: 1100 Volts
Test Voltage	: 3 KV (ac)
Range Of Temperature	: (-20 °C to 60 °C)

Features

- Excellent Electrical Properties
- Long Services Life
- Light Weight
- Flexibility

Nominal Cross-Sectional Area of Conductor	Nominal Thickness of Insulation (ti)	Nominal Thickness of Sheath (ts)				Approx Outer Diameter			
		Single Core	Twin Core	Three Core	Four Core	Single Core	Twin Core	Three Core	Four Core
sq.mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1	1	1.00	1.00	1.00	1.10	5.25	8.50	9.00	10.00
1.5	1	1.00	1.00	1.10	1.10	5.50	9.00	9.80	10.70
2.5	1	1.00	1.10	1.10	1.10	6.00	10.10	10.75	11.80
4	1	1.00	1.20	1.20	1.20	6.50	11.40	12.10	13.30
6	1	1.6	2	2.1	2.5	8.30	14.10	15.10	17.25
10	1.2	1.8	2.4	2.5	2.7	10.00	17.50	18.70	20.75
16	1.2	1.9	2.5	2.7	2.9	11.20	19.90	21.50	23.80
25	1.4	2	3.2	3.3	3.4	13.00	25.50	26.20	28.80
35	1.4	2.2	3.3	3.4	3.5	14.65	27.10	29.00	31.80
50	1.6	2.4	3.5	3.6	3.7	17.00	31.25	33.40	36.75
70	1.6	2.6	3.6	3.7	3.9	19.00	34.65	37.00	41.00
95	1.8	2.8	3.8	4	4.1	21.50	39.55	42.50	46.85
120	1.8	3	4	4.1	4.3	23.50	42.85	45.85	50.80
150	2	3.2	4.2	4.3	4.5	25.80	47.20	50.50	56.00
185	2.2	3.4	4.3	4.5	4.8	28.50	52.00	55.80	62.00
240	2.4	3.5	4.6	4.8	5.1	31.25	57.70	62.00	69.00
300	2.6	3.5	4.9	5.1	5 4	34 00	63 85	68 60	76 20

WELDING CABLES

WELDING CABLES

Designed for the secondary (high current) connection to automatic or hand - held metal arc welding electrodes. It is suitable for flexible use under rugged conditions, on assembly lines & conveyor systems, in machine tool and automatically operated line & spot welding machines.

APPLICATION : Trailing, Land Line, Wind Mill, Thin Wall Cables, Motor Lead Wire, Panel Wiring, Battery Cable

Construction

Cable Standard : IS:9857:1990

Conductor : High Conductivity, Bare Annealed Copper Flexible Conductor, EC Grade Class-5.as Per IS:8130/1984.

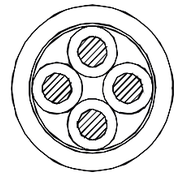
Separator : Polyester Tape

Covering

1. The general service 60°c normal duty elastometric compound shall be type se-1 conforming to the is:6380/1984.
2. The heat resisting and flame retardent (hofr) 90°c Normal duty elastometric compound shall be type se-3 Conforming to the is:6380/1984.

Colour : Orange/Black.

Standard Packing : 500/1000 Meter.



Technical Data

Fixed Installation	: -20°C to max.+90°C
Nominal Voltage	: 600 V
Spark Test	: 3.5 KV (AC)
Min. Bending Radius	: 6 X Cable Diameter

Voltage Drop

When total cable lengths in excess of 15mtr., are involved, it may be necessary to use cables of larger cross section to ensure that the voltage drop is not excessive & welding currents are maintained at adequate levels.

Current Rating

The maximum current ratings of flexible welding cables for different duly cycles are based on an ambient air temperature of 30° C and a maximum conductor temperature of 90° C. The percentage duly cycles for various processes and applications are as follows:

Automobile Welding	: up to 100%
Semi Automatic Welding	: 30% to 85%
Manual Welding	: 30% to 60%
Very intermittent or Occasional Welding	: up to 20%

The General Service 60°C Normal Duty Elastomeric Cable

Cable Size	Conductor No of Strand	Nominal Insulation Thickness	Approx Overall Cable Dia	Max. Conductor Resistance at 20°C	Maximum duty Cycle Current Rating of Welding Application				
					100%	85%	60%	30%	20%
Sq.mm	Nos	mm	mm	Ω/km.	amp	amp	amp	amp	amp
16.0	126	2.00	9.0	1.21	94	102	121	172	210
25.0	196	2.00	10.30	0.780	125	136	161	228	279
35.0	276	2.00	11.50	0.554	156	169	201	285	349
50.0	396	2.20	13.40	0.386	197	214	254	360	440
70.0	551	2.40	15.40	0.272	248	269	320	453	555
95.0	760	2.60	17.60	0.206	299	342	386	546	669

Rating factors for variation in ambient temperature						
Ambient Temperature °C	25°	30°	35°	35°	40°	50°
Rating Factor	1.08	1.00	0.91	0.82	0.71	0.58

Ambient air temperature = 30°c
Maximum Conductor Temperature = 60°C

The Heat Resisting and Flame Retardant (HOFR) 90°C Normal Duty Elastometric Cable

Cable Size	Conductor No of Strand	Nominal Insulation Thickness	Approx Overall Cable Dia	Max. Conductor Resistance at 20°C	Maximum duty Cycle Current Rating of Welding Application			
					100%	85%	60%	30%
Sq.mm	Nos	mm	mm	Ω/km.	amp	amp	amp	amp
16.0	126	2.00	9.0	1.21	135	146	174	246
25.0	196	2.00	10.30	0.780	177	192	228	343
35.0	276	2.00	11.50	0.554	221	240	285	403
50.0	396	2.20	13.40	0.386	279	303	360	509
70.0	551	2.40	15.40	0.272	352	382	454	643
95.0	760	2.60	17.60	0.206	424	460	547	774

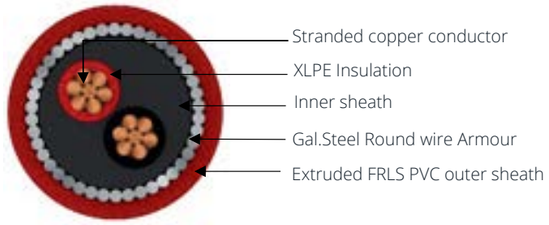
Rating factors for variation in ambient temperature						
Ambient Temperature °C	25°	30°	35°	35°	40°	50°
Rating Factor	1.04	1.00	0.96	0.91	0.87	0.82

Ambient air temperature = 30°c
Maximum Conductor Temperature = 90°C

FIRE ALARM CABLES

FIRE ALARM CABLE





APPLICATION :
ADCAB Fire alarm cable stranded copper conductor, XLPE insulated, cores laid up, PVC Inner sheathed, GI wire armoured & FRLS PVC outer sheath twin cable is used for powering firefighting equipment's in hospital, schools, commercial complex & industries in fire security systems.

VOLTAGE RATING :
600/1100 V

OPERATION TEMPERATURE :
-30°C to 90°C

CONSTRUCTION :
- Stranded Class 2 Copper conductor as per EN 60228
- Insulated with XLPE type GP8 as per BS 7655-1.3
- Extruded inner sheath with PVC as per BS 5467
- Armoured with Galvanised Steel Round wire as per BS 5467
- Sheathed with Extruded FRLS PVC as per BS 5467

NOTE :
Black with red strip colour also available on request.

BENDING RADIANCE :
12 x Overall Diameter

APPROVAL :

STANDARD AND REFERENCES :
BS 5467
EN 60228
BS 7655-1.3
IEC 60332-1-2

COMPLIANCE :
Conductor resistance - EN 60228
Insulation resistance constant - BS 7655-1.3

CONDUCTOR TEMPERATURE AT SHORT CIRCUIT :
Max.: 250°C

CORE IDENTIFICATION :
Two core - Red & Black
Four core - Blue, Brown, Black & Red

OUTER SHEATH COLOUR :
Red



HANDLING, STORAGE & LAYING

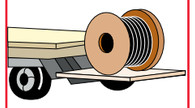
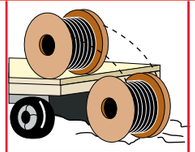
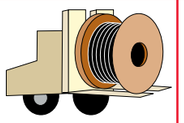
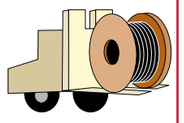
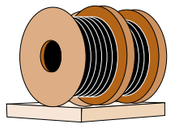
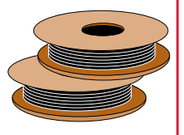
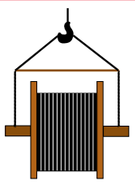
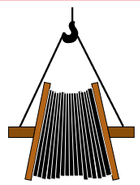
A. CABLE INSPECTION :

Inspect every cable reel for damage before accepting the shipment. Be particularly alert for cable damage if:

1. A reel is lying flat on its side.
2. Several reels are stacked.
3. Other freight is stacked on a reel.
4. Nails have been driven into reel flanges to secure shipping blocks.
5. A reel flange is damaged.
6. A cable covering is removed, stained or damaged.
7. A cable end seal is removed or damaged. A reel has been dropped (hidden damage likely).

B. CABLE HANDLING & STORAGE :

Damage to cables can occur due to the incorrect handling to which the drums and cables may be subjected causing breakdown of the drum flanges and in exceptional cases, movement of the drum barrel takes place. Once this breakdown of the drum occurs, the cable is immediately exposed to damage. Cables damaged during handling & storage can cause service failures when the subject cable is put to use. Thus the following is a list of Do's and Don'ts that should be followed while handling and storing the cables before it is put to use.

Do's		Don'ts	
	reels carefully using a hydraulic gate, hoist or forklift truck		opposite direction of the cable wraps to keep cable from loosening on the reel.
	If a fork lift is used, approach the reel from the flange side. Position the forks such that the reel is lifted by both reel flanges. Also Consideration should be given to, Traffic patterns during off-loading & damage dur ing the time in storage		Do not allow the lift forks to contact the cable. Care must be taken by the fork lift operator not to make sudden turns or stops.
	Cable reels should be stored on hard sur faces resting on the flanges edge (flanges vertical). Align reels flange to flange and, if possible, arrange so that first in is first out.		Multiple reels stacked on top of each other ("Pancake" storage) is not recommended for cable drums. The weight of the stack can total thousands of kgs. creating an enormous load on thebottomreel.Also, damageto thereeland/ or cable will likely occur when the reel is flipped for transit. A concentration of stress on the reel flange may cause it to break and subsequently damage the cable.
	When using a hoist, install a mandrel through the reel arbor holes and attach a sling. Use a spreader bar approximately 6 inches longer than the overall reel width placed between the sling ends ust above the reel flanges.		This may lead to the bending of the reel flanges and mashing the cable

C. PRE- INSTALLATION :

Following shall be checked prior to installation.

1. The cable selected is proper for designed application.
2. The cable has not been damaged in transit or storage.

Review all applicable state and national codes to verify that the cable chosen is appropriate for the ob. Also consult your local electricity authority. Next, you must identify any existing cable damage and prevent any further damaged from occurring. This is done through proper cable inspection, handling and storage.

D. INSTALLATION & LAYING :

Mechanical stresses during installation are generally more severe than those encountered while in service. Thus care should be taken as regards to the following while installation and laying of cables.

1. Polycab recommend the laying and installation of cables as per IS: 1255/84.
2. Care shall be taken during laying to avoid sharp bending, and twisting.
3. Cable shall be unwound from the drum by lifting the drum on the center.
4. Shaft supported both ends with suitable racks/stands.
5. Under no circumstance the cable winding shall be lifted off a coil or drum lying flat at the flanges. This would cause serious twist and damages.
6. Suitable protection shall be provided to the cables against mechanical damages, it includes covers, pipes etc.

E. RECOMMENDED MINIMUM BENDING RADIUS FOR HEAVY DUTY CABLES :

Single Core : 20 x D
Multicore 15 x D
Where D= Diameter of cable in mm

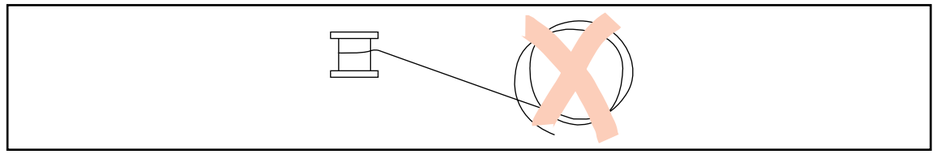
F. RECOMMENDED SAFE PULLING FORCE WITH STOCKINGS :

a) For Unarmoured Cable P = 5 D2
b) For Armoured Cable P = 9 D2
Where P = Pulling Force
Where D = Diameter of cable in mm

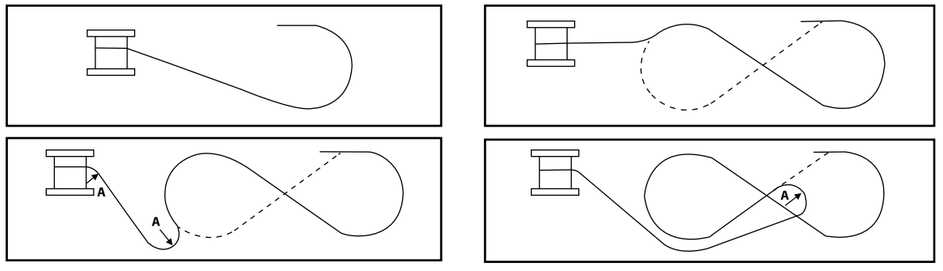
G. RECOMMENDED SAFE PULLING FORCE WHEN PULLED WITH PULLING EYE :

a) For Aluminium Conductor : 30N/mm
b) For Copper Conductor : 50 N/mm2

DO NOT ATTEMPT "COILING" OF CABLE ON THE GROUND



ON THE GROUND CABLE CAN BE FLAKED IN A FIGURE OF EIGHT FORMATION



Note: R Minimum Permissible bending radius of cable.

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Email
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Factory
ADCAB, D-2, Sector 12, Heavy Industrial Area, GIDC, Gandhidham (Kutch), Gujarat, India

Phone
+91 2836 253489
Email
info@adcab.in

Godown
ADCAB, Plot no. - 5 Sector - 3 Akshar Industrial Park, Opp. Zydus, Changodar, Ahmedabad, Gujarat - 382213

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