



IS : 694
CML-7300109204



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PERFECTLY DEFINED



AN ISO 9001:2008/14001:2004 COMPANY

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2022

OUR PRESENCE IN INDIA



Manufacturing units

Office

Direct Dealers & Distributors



Office

- **Chennai** : No. 36, Govindappa Naicken Street, Parrys, Chennai-600 001.
- **Bangalore** : No.105, Paras mansion, 025, Brigade Rd, Ashok Nagar, Bengaluru, Karnataka-560025.
- **Telangana** : Suryakiran complex, 203, Second Floor, SD Road, Secunderabad, Telangana-500003.
- **Jodhpur** : Panji ka Bera, Pal Rd, opp. Paliwal Hospital, Gayatri Nagar, Jodhpur, Rajasthan-342008.
- **Chhattisgarh** : S P Cold Storage, Near Khamtarai Railway Cross Khamtarai, (C.G) Raipur-492001

Manufacturing units

- **Gujarat** : Survey No. 2450, Ahmedabad-Mehsana Highway, Village - Rajpur, Taluka, Kadi, Gujarat-382715.
- **Delhi** : 179, FIE Patparganj Indl Area, Delhi-110092.
- **Chennai** : 40/3 Inner Ring Road, Manjambakkam, Chennai-600 060.
- **Mumbai** : Shripal Industrial Estate, Bldg. No. 3, Wing-C, Gala No. 17, Near Gyandep School, Waliv, Vasai (E)-Palghar - 401 208.

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PRODUCT RANGE

RESIDENCIAL WIRES



- HEAT RESISTANCE AND FLAME RETARDANT
- FLAME RETARDANT LOW SMOKE
- COMIT CLASS 5
- ORBIT PRIME
- MULTI-CORE FLEXIBLE CABLES

SERVICE WIRES



- WELDING CABLES
- SOLID STRAND WIRE
- ALUMINIUM VIR WIRE
- ALUMINIUM TWIN CORE
- SOLID SINGLE CORE

AGRI & SOLAR CABLES



- 3 CORE SUBMERSIBLE CABLES
- 4 CORE SUBMERSIBLE CABLES
- SOLAR CABLES

COMMUNICATION CABLE



- LAN CABLES
- CCTV CABLES
- TELEPHONE CABLES
- SPEAKER CABLES
- CO-AXIAL CABLES
- FLEXIBLE CORD CABLES

ARMOURED CABLES



- SHIELDED CABLES
- COPPER ARMOURED CONTROL CABLES
- COPPER UNARMOURED CONTROL CABLES
- ALUMINIUM ARMOURED CABLES
- ALUMINIUM UNARMOURED CABLES
- ARMOURED CONTROL CABLES
- UNARMOURED CONTROL CABLES



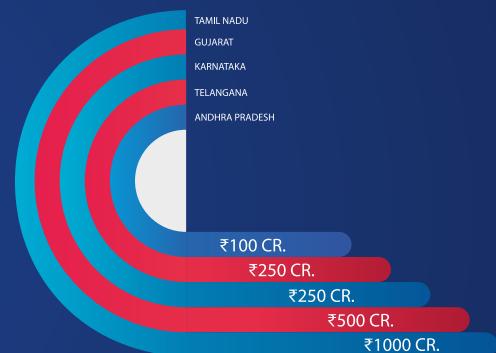
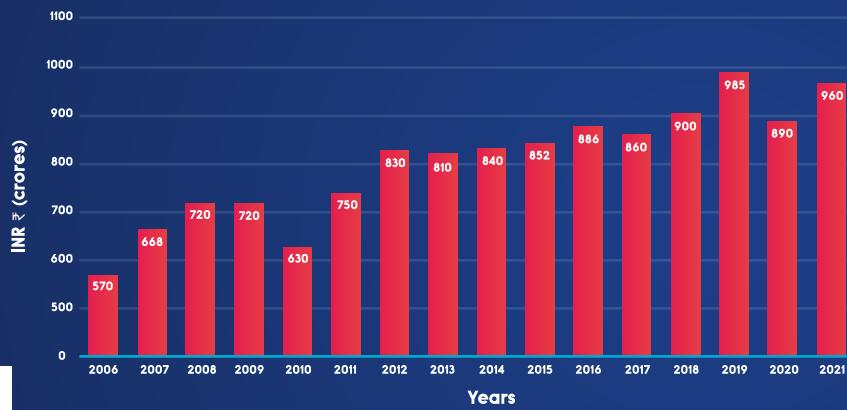
Orbit Group of Companies is a renowned wiring and cabling solution partner, established in **1996**. We have dominated the trade and engineering of wires and cables for over two decades with dynamic and pioneering technology.

Orbit wires and cables are designed and manufactured by the industry's best and are continually evolving to stay ahead of market demands. Our trusted products are designed and fabricated with efficiency and focus on the minutiae to ensure a satisfactory experience for every customer.

Orbit wires and cables are credited to be a **one-stop enterprise** that manufactures and sells a variety of wiring and cabling solutions for diverse applications. As an established enterprise we promise to deliver reliable and standard wiring and cabling solutions for your specific needs at a competitive price.

MISSION, VISION AND VALUES

One of the core purposes of **Orbit Wires India Pvt. Ltd.** is to build a long term relationship with people and organizations across the globe. **Orbit Wires** Company has proactively worked towards creating brand credibility and recognition by maintaining the industry standards of our products. We strive to be an innocuous company with safety as our precedence and aim to ultimately have zero accidents. We aspire to be the best cable manufacturer in the country and establish our brand identity through quality product delivery and commitment towards customer value.



QUALITY CERTIFICATIONS



CENTRAL ELECTRICAL TESTING LABORATORY			
DEPARTMENT OF INDUSTRIES AND COMMERCE			
GOVERNMENT OF TAMILNADU			
KARUR ROAD NO. 100, TRICHY DISTRICT, TAMILNADU			
TELEPHONE 0434-27860522			
			
TEST REPORT			
TEST REPORT No.	TOTAL NO. OF PAGES	PAGE	
00125 - 1005 - 2013 - 2014	1	of 1	
CUSTOMER DETAILS		SAMPLE DETAILS	
OPRIK NIKKI INDIA PVT LTD Survey No. 240, Abnoshwar - Mohanpur Highways, District - Maharashtra, Gogabai, 402115		Item No:	PVC Insulated Lead sheathed Multicore Cable
Ref No & Date	145-E-1228.2015	Condition when arrived:	Physical
Code No.	—	Brand:	(Customer)
Art.	—	Type & No. of core:	Single Core
Date of Testing	13.08.2013	Voltage Grade:	1100 V
Period of Testing	18.08.2013 to 14.09.2013	Insulation class:	Normal class
		maximum area of the conductor:	1.5 mm ²
		Conductor Material:	Copper
		Shield/Strand:	Almond
		Colour of the core:	Yellow
		Quantity:	25 mtrs.
REFERENCE: IS: 104 - 1990 Specification for PVC Insulated Cables for working voltages upto and including 1100 Volts. (With 7 Amendments)			
TEST CHARACTERISTICS - ACCEPTANCE TEST			
Except FRL 8 test			
<p>Number of Samples required: as per sampling procedure: 25 meters.</p> <p>GENERAL REMARKS: The Sample as far as it has been examined and tested, the results are tested against each other.</p> <p>NOTE: - The conductor class and type of insulation are test given. Hence measured values are furnished for (Insulation thickness test) Class: 15.2 (d) and test for thickness of insulation and sheath [Class: 15.2 (e)]</p>			
 TESTING AUTHORITY <i>Mr. Balaji & Venkateswaran (T & E) Mr. Subramanian (P & M) Mr. S. R. Venkateswaran (P & M)</i> REMARKS: 1. This test report is issued on the basis of procedures standard for testing electrical insulating materials and cables. 2. This test report is issued for the purpose of control test in full without the written permission of the laboratory. 3. In case of dispute, the final decision will be taken by the Director of the Laboratory. 4. It is the responsibility of the customer to keep this report, if he has to retain "other" one month from the date of receipt of this report. 5. All test reports issued by CECIL are the legal documents of the laboratory. 6. Test Report No. 1005 shall be used for all other tests. 7. The test report number must be mentioned during the test. 8. The test report number must be mentioned during the examination according to the complaint procedure of this laboratory.			

 <p>GOVERNMENT OF TAMIL NADU PUBLIC WORKS DEPARTMENT</p> <p>CERTIFICATE OF PRODUCT APPROVAL</p> <p>REFERENCE NO: PWD / RCIA/31 ASC-178 / 2021-9 / dated 26.03.2021</p> <p>The Assessment Committee constituted by the Government of Tamil Nadu vide O.O. Ms. No. 106 / Heading / dated 06.03.1975, in its 54th meeting held on 20th September 2018, has issued product approval for the product "OFCB® Insulated cables for working voltages and including 1KV and have included Product Approval Certificate in Approval No 178/54 ASC / TAWRS / dated 17.10.2018. Now, the Chairman of the Assessment Committee & Engineer-in-Chief (Buildings), Public Works Department after examining various aspects has accorded approval for the Renewal of this product.</p> <p>Products / Product Range</p> <p>"OFCB® Polyvinyl Chloride Insulated Unsheathed and Sheathed Cables / cords with Solid and Flexible Conductor for rated voltages up to and including 1500 V.</p> <p>Manufacturer / Company</p> <p>M/S. ORBIT WIRES INDIA PVT LTD</p> <p>Location of Manufacturing Unit</p> <p>Bureau No. 2488, Ahmedabad - Mehsana Highway, Taluka - Kadi, District - Mehsana, Gujarat - 382716</p> <p>References</p> <p>RCS License Number CM/L-08313687.</p> <p>Standards/ Specifications</p> <p>IS 8942010.</p> <p>Limitations:</p> <ul style="list-style-type: none"> 1. Renewal is subject to validity and scope of RCS License for the product and compliance to the specification(s) mentioned. 2. Quality should be maintained conforming to the latest Test Rules and the time of renewal of the relevant RCS Standard. 3. Any change of materials, manufacturing process, quality control routines that may affect the validity of this certificate should be notified to the Assessment Committee, PWD, Government of Tamil Nadu, failing which, TRPWD reserves the right to cancel the approval. 4. The certificate is valid from 26.03.2021 up to and inclusive of 12.03.2024 for a period of three years. <p style="text-align: center;">24.03.2021</p> <p style="text-align: center;">COUNCIL FOR ASSESSMENT COMMITTEE GOVERNMENT OF TAMIL NADU</p> <p style="text-align: right;">Member Secretary, Assessment Committee & Superintending Engineer, PWD Pondicherry and Karaikal (including Puducherry) Chennai, Chennai - 600 005.</p>
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QUALITY CERTIFICATION



Certificate of Registration

This is to certify that
The Quality Management System of

M/S ORBIT WIRES INDIA PVT LTD

SURVEY NO. 2416 AHMEDABAD - MEHOBANA HIGHWAY, NEAR SODA TERRACE LIMITED,
VILLAGE - RAJPUK, TALUKA - KADE, DISTRICT - MEHOBANA, GUJARAT - 382203

*has been assessed and found to be in compliance
with the requirements of the standard*

ISO 9001:2015

for the following scope :

Manufacturing and Supply of LT XLPE / Aerial Bunched / PVC
Unarmoured / Armoured Power & Control Cable.

CERTIFICATE NO. : 19ZMAJ02249G

ISSUED DATE : 15/07/2023	1ST SURVEILLANCE : 14/07/2023
EXPIRY DATE : 14/07/2024	2ND SURVEILLANCE : 14/07/2024



Authorised Signatory

INTERNATIONAL QUALITY CERTIFICATION SERVICES LTD.
272 Bath Street, Glasgow, G2 4LR, UK.
The certificate is issued based on the results of the audit conducted through surveillance and renewal audits.
Any change in the quality management system can be verified at any time during the validity period of the certificate.
The responsibility lies with a Person Quality certifier.

 ISO 9001

ENVIRONMENTAL MANAGEMENT SYSTEM

Certificate of Registration

This is to Certify That The Environmental Management System of

ORBIT WIRES INDIA PVT. LTD.

SURVEY NO. 2450, AIHMEDABAD - MEHSANA HIGHWAY, NEAR SCODA TUBES LIMITED,
VILLAGE - RAJPUR, TALUKA - KADI, DISTRICT - MEHSANA,
GUJARAT - 382715

has been assessed and found to conform to the requirements of

ISO 14001:2015

for the following scope :

MANUFACTURING OF LT XLPE / PVC INSULATED ARMoured /
UNARMoured POWER CABLE & CONTROL CABLE & AB CABLE

Certificate No	Effective Date	Expiry Date	Issue Date
I9DEFP16	29/06/2021	28/06/2024	29/06/2021
Initial Registration Date	28/06/2021	29/05/2023	3rd Survey Due
Date of Expiry*	28/06/2024	29/05/2022	3rd Survey Due : 29/05/2023
1st Survey Due			

Gaurav
DIRECTOR
ROHS Certification Pvt. Ltd.

IAF
eiacl
035-CB-EMS

CONSTRUCTION OF LT CABLES

XLPE INSULATED ALUMINIUM ARMOURED CABLES



Application

Power cables for medium voltage (upto 33KV) are used in – outdoor cable ducts, cable trays, conduits or underground locations under mechanical stresses in power and switching stations, local distribution systems and industrial plants

Standards.	BS 6622 & IEC 60502-2
Operating temperature	90°C
Short circuit temperature	250°C
Working Voltage	600 / 1000 Volts
Cable Range manufactured Sizes	50 Sq.mm to 1000 Sq.mm in Single Core Cables 25 Sq.mm to 400 Sq.mm in Multi Cores Cables

Test Voltage

Rated Voltage	Test Voltage (for 5 min.)
Uo KV	RMS
3.8	11
6.35	15
8.7	22
12.7	30
19	45

CONSTRUCTION

Conductor	Aluminium Stranded compacted circular conductor conform to BS 6360 and IEC 60228, class 2
Conductor Screening	Semi-Conducting layer over conductor
Insulation	Cross linked Polyethylene to (XLPE)
Insulation Screening	Semi-Conducting layer over insulation, in combination with Copper tape.
Core colour	Single Core – Natural Multi Core – Numbered or colour polyester tapes applied over Copper tapes
Bedding	Extruded PVC
Armour	Single Core - Non-magnetic (Aluminium) wire / Flat wire Multi core - Galvanised steel wire / Flat wire / Tape
Outer Sheath	Extruded PVC / Special PVC compound such as Flame Retardant (FR), Flame Retardant Low Smoke (FRLS), Low Smoke Zero Halogen (LSOH) can be used for outer sheath to suit a variety of environment and fire risk conditions. Flammability test confirms to IEC 332. For installation where fire and associated problems such as emission of smoke and toxic fumes offer a serious potential threat, special LSF (Low smoke & fumes) compound can be provided. LSF compound is Halogen free (Flourine, Chlorine, Bromine) when tested as per BS 6425 (Pt 1) & IEC 60754 (Pt 1). The acid gas evolved during combustion is less than 0.5% by weight of material.

PVC INSULATED COPPER ARMOURED CABLES



ORBIT

- Application**
- Indoors or Outdoors in cable ducts, cable trays, conduits or underground locations under mechanical stresses in power and switching stations.
 - Local distribution systems, Industrial and Commercial units for basic power & lighting purpose.

Standards	BS 5467, IEC 60502-1& VDE 0276
Operating Temperature	90° C
Short Circuit Temp.	250° C
Working Voltage	600 / 1000 Volts
Test Voltage	3.5 KV r m s for 5 minutes

CONSTRUCTION

Conductor Aluminium / Annealed plain copper solid* / stranded conductor conform to BS 6360 and IEC 60228 Class 2 (Circular / Sector shaped)

Insulation PVC

Core Colour

Single core	Red or Black
2 Core	Red , Black
3 Core	Red , Yellow , Blue
4 Core	Red , Yellow, Blue, Black
5 Core	Red , Yellow, Blue, Black & Yellow - Green
6 Core & above	Black color with number printing

Assembly Insulated conductors are laid up together, if necessary interstices may be filled with fillers.

Fillers Non-hygroscopic Poly propylene fillers are included between laid up cores wherever required.

A separator tape of non-hygroscopic poly propylene material is applied over laid up core wherever necessary.

Bedding Extruded PVC compatible with operating temperature

Armour For Single Core - Aluminium round wire / flat wire. For Multicore - Galvanised Steel round wire / flat wire / tape.

Outer Sheath Extruded PVC / Special PVC compound such as Flame Retardant (FR), Flame Retardant Low Smoke (FRLS), Low Smoke Zero Halogen (LSOH) can be used for outer sheath to suit a variety of environment and fire risk conditions. Flammability test confirms to IEC 332 & Swidish chimeny. For installation where fire and associated problems such as emission of smoke and toxic fumes offer a serious potential threat, special LSF (Low smoke & fumes) compound can be provided. LSF compound is Halogen free (Flourine, Chlorine, Bromine) when tested as per BS 6425 (Pt 1) & IEC 60754 (Pt 1). The acid gas evolved during combustion is less than 0.5% by weight of the material.

Minimum Bending radius 12 times the cable diameter

Admissible Pulling Force Aluminium - 30N/mm² Copper - 50N/mm²

CONSTRUCTION WITH SPECIAL FEATURES

XLPE insulated heavy duty cables were introduced worldwide in mid sixties. These cables have overcome the limitations of PVC Insulated Cables such as thermal degradation, poor moisture resistance and thermoplastic nature.

The advantages of XLPE Insulated cables in comparison to PVC insulated cable are as under:

APPLICATION :

The Cables are suitable for use on AC single phase or three phase 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.

A. Commercial Advantages:

1. Lower installation charges as the diameter of the cable is comparatively lesser with a smaller bending radius, requiring less space requirement for laying cables.
2. One size lower cable can be used as compared to PVC insulated cable.
3. Lower laying cost because of the comparatively smaller diameter of cable and higher weight.

B. Technical Advantages:

1. Higher resistance to moisture.
2. Better resistance to surge currents.
3. Higher insulation resistance 1000 times more than PVC cables.
4. Thermosetting in nature.
5. Longer service life.
6. Better resistance to chemicals.
7. Low dielectric losses.
8. Comparatively higher cable operation temperature 90°C and short circuit temperature 25°C.
9. Higher current rating, higher short circuit rating approx. 1.2 times that of PVC.

Minimum Bending Radius For HT Cables / LV Cables / Single Core Unsheathed.

HT Cables:	Single Core : 20 x D	Multicore : 15 x D
LV Cables:	Single Core : 15 x D	Multicore : 12 x D
Single Core Unsheathed:	Single Core : 8 x D	(Where D = Diameter of cable in mm)

Safe Pulling Force With Stockings

- a) For Unarmoured Cable : $P = 5 D^2$ (Where P = Pulling force)
- b) For Armoured Cable : $P = 9 D^2$ (Where D = Diameter of cable in mm)

Safe Pulling Force When Pulled With Pulling Eye

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

HIGHER ELECTRICAL STRENGTH RETENTION

HIGHER SHORT CIRCUIT RATING

BETTER ELECTRICAL, MECHANICAL & THERMAL PROPERTIES

EASY JOINTING & TERMINATION

Selection of Cables

Power Cables are generally selected considering the application. However following factors are important for selection of suitable cable construction required to transport electrical energy from one end to the other.

- 1) Load to be carried.
- 2) Fault level.
- 3) Maximum operating voltage.
- 4) Route length and voltage drop.
- 5) Possible overloading duration & magnitude.
- 6) Flame retardant properties.
- 7) Mode of installation considering installation environment such as ambient & ground temperature as well as chemical & physical properties of soil, Grouping factors, arrangement of Cables during installation.

All sizes of ORBIT XLPE cables are designed for standard operating conditions in India. The standards adopted are after duly considering the geographical / Climactical conditions and general applications of power of utilities, distribution and generation purposes.

The cables are manufactured conforming to Indian & International cables specification for XLPE Insulated cables. Customer specific requirements can also be met.

Basic assumptions

The current rating given as per before mentioned following assumptions

- a) Ambient air temperature: 40°C
- b) Thermal resistivity of soil: 1.5k. m/w
- c) Maximum Conductor temperature: 90°C
- d) Ground temperature: 30°C
- e) Depth of laying (measured to : 750mm)

TECHNICAL DATA



TABLE – 1 “ORBIT” COMPARATIVE CURRENT RATINGS OF 650/1100 VOLTS MULTICORE HEAVY DUTY PVC INSULATED CABLES & XLPE INSULATED CABLES. (3, 3.5 & 4 Core Unarmoured / Armoured PVC Sheathed Cables with Aluminium Conductor.)

Normal Size of Cable	3, 3.5 & 4 Core PVC Insulated & Sheathed Cables			3, 3.5 & 4 Core XLPE Insulated & Sheathed Cables		
	In Ground	In Air	Approx Voltage Drop	In Ground	In Air	Approx Voltage Drop
Sq. mm	Amp	Amp	Mv / amp / mtr	Amp	Amp	Mv / amp / mtr
16	61	52	3.96	74	69	4.24
25	78	70	2.49	95	93	2.67
35	94	85	1.80	114	114	1.94
50	111	104	1.34	134	138	1.43
70	136	131	0.93	164	175	0.99
95	163	162	0.68	197	216	0.72
120	185	186	0.54	223	249	0.58
150	206	212	0.45	249	284	0.48
185	234	245	0.36	282	329	0.39
240	271	291	0.29	327	392	0.31
300	305	335	0.25	369	452	0.26
400	348	390	0.21	420	526	0.21

TABLE – 2 “ORBIT” CONDUCTOR TECHNICAL INFORMATION FOR SINGLE CORE AND MULTICORE CABLES COPPER & ALUMINIUM CONDUCTORS.

Nominal Size of Conductor	Minimum no. of wires				Max D.C. Resistance at 20°C	
	Non Compacted		Compacted Round / Shaped		Plain Copper	Aluminium
Sq.mm	CU	ALU	CU	ALU	0hm/Km	0hm/Km
1.5*	3	3	-	-	12.10	18.1
2.5*	3	3	-	-	7.41	12.1
4*	7	3	-	-	4.61	7.41
6*	7	3	-	-	3.08	4.61
10*	7	7	6	-	1.83	3.08
16	7	7	6	6	1.15	1.91
25	7	7	6	6	0.727	1.20
35	7	7	6	6	0.524	0.868
50	19	19	6	6	0.387	0.641
70	19	19	12	12	0.268	0.443
95	19	19	15	15	0.193	0.32
120	37	37	18	15	0.153	0.253
150	37	37	18	15	0.124	0.206
185	37	37	30	30	0.0991	0.164
240	61	37	34	30	0.0754	0.125
300	61	61	34	30	0.0601	0.100
400	61	61	53	53	0.047	0.0778
500	61	61	53	53	0.0366	0.0605
630	91	91	53	53	0.0283	0.0469

TECHNICAL DATA



TABLE – 3 “ORBIT” SIGLE CORE COPPER CONDUCTOR, XLPE INSULATED,
UNARMOURED & ARMOURED CABLES

Nominal Size of Conductor	Form Conductor Circular	Nominal Thickness of XLPE Insulation For U/A	Minimum Thickness of PVC Inner Sheath	Unarmoured Cable			Nominal Thickness Of XLPE Insulation For Armoured Cable	Formed wire / Strip Armoured Cable				Current Rating.*		*Normal Delivery Length
				Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable		Nominal Dimension of Aluminium Flat Strip	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground	In Air	
Sq.mm	mm	mm	mm	mm	mm	Kgs./Km	mm	mm	mm	Kgs./Km	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	-	-	-	-	89	84	1000
25	Stranded	0.90	-NA-	1.80	12	155	1.20	-	-	-	-	115	112	1000
35	Stranded	0.90	-NA-	1.80	13	180	1.20	-	-	-	-	137	137	1000
50	Stranded	1	-NA-	1.80	14	240	1.30	-	-	-	-	161	165	1000
70	Stranded	1.10	-NA-	1.80	15.5	310	1.40	-	-	-	-	198	209	1000
95	Stranded	1.10	-NA-	1.80	17.50	385	1.40	4 x 0.80	1.40	18.60	494	243	264	1000
120	Stranded	1.20	-NA-	1.80	19.5	470	1.50	4 x 0.80	1.40	20.40	589	276	308	1000
150	Stranded	1.40	-NA-	2	21.50	600	1.70	4 x 0.80	1.40	22.50	694	308	350	1000
185	Stranded	1.60	-NA-	2	23.50	710	1.90	4 x 0.80	1.40	24.50	827	349	406	1000
240	Stranded	1.70	-NA-	2	26	900	2	4 x 0.80	1.40	26.60	1026	404	480	1000
300	Stranded	1.80	-NA-	2	28.50	1158	2.10	4 x 0.80	1.56	29.60	1235	454	551	1000
400	Stranded	2	-NA-	2.20	31.5	1385	2.40	4 x 0.80	1.56	33.00	1548.5	518	647	500
500	Stranded	2.20	-NA-	2.20	35.5	1650	2.60	4 x 0.80	1.56	36.70	1909.5	588	751	500
630	Stranded	2.40	-NA	2.20	39.5	2100	2.80	4 x 0.80	1.72	40.50	2413	663	868	500

TABLE – 4 “ORBIT” SINGLE CORE COPPER CONDUCTOR, XLPE INSULATED,
UNARMOURED & ARMOURED CABLES

Nominal Size of Conductor	Form Conductor Circular	Nominal Thickness of XLPE Insulation For U/A	Minimum Thickness of PVC Inner Sheath	Unarmoured Cable			Nominal Thickness Of XLPE Insulation For Armoured Cable	Formed wire / Strip Armoured Cable				Current Rating.*		*Normal Delivery Length
				Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable		Nominal Dimension of Aluminium Flat Strip	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground	In Air	
Sq.mm	mm	mm	mm	mm	mm	Kgs./Km	mm	mm	mm	Kgs./Km	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	-	-	-	-	90	83	1000
16	Stranded	0.70	-NA-	1.80	10	209	1	-	-	-	-	115	108	1000
25	Stranded	0.90	-NA-	1.80	12	309	1.20	-	-	-	-	148	144	1000
35	Stranded	0.90	-NA-	1.80	13	399	1.20	-	-	-	-	177	176	1000
50	Stranded	1	-NA-	1.80	14	513	1.30	-	-	-	-	208	212	1000
70	Stranded	1.10	-NA-	1.80	16	712	1.40	-	-	-	-	255	269	1000
95	Stranded	1.10	-NA-	1.80	17.50	940	1.40	4 x 0.80	1.40	18.60	1036	312	340	1000
120	Stranded	1.20	-NA-	1.80	19	1168	1.50	4 x 0.80	1.40	20.40	1264	355	396	1000
150	Stranded	1.40	-NA-	2	21.50	1444	1.70	4 x 0.80	1.40	22.20	1530	396	450	1000
185	Stranded	1.60	-NA-	2	23.50	1786	1.90	4 x 0.80	1.40	24.40	1890	447	519	1000
240	Stranded	1.70	-NA-	2	26	2299	2	4 x 0.80	1.40	26.60	2404	515	613	1000
300	Stranded	1.80	-NA-	2	28.50	2840.5	2.10	4 x 0.80	1.56	29.60	2974	576	700	500
400	Stranded	2	-NA-	2.20	33	3629	2.40	4 x 0.80	1.56	33.20	3762	651	813	500
500	Stranded	2.20	-NA-	2.20	36	4598	2.60	4 x 0.80	1.56	36.70	4770	727	930	500
630	Stranded	2.40	-NA	2.20	40	5880	2.80	4 x 0.80	1.72	41.20	6070	806	1056	500

TECHNICAL DATA



TABLE – 5 “ORBIT” TWO CORE ALUMINIUM CONDUCTOR, XLPE INSULATED,
UNARMOURED & ARMOURED CABLES

Nominal Size of Conductor	Form Conductor Circular	Nominal Thickness of XLPE Insulation For U/A	Minimum Thickness of PVC Inner Sheath	Unarmoured Cable			Formed wire / Strip Armoured Cable				Current Rating.*		*Normal Delivery Length
				Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Aluminium Flat Strip	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground	In Air	
Sq.mm	mm	mm	mm	mm	mm	Kgs./Km	mm	mm	mm	Kgs./Km	Amps.	Amps.	Mtrs.
4	Solid	0.70	0.30	1.80	12.50	140	-NA-	-NA-	-NA-	-NA-	42	38	1000
4	Stranded	0.70	0.30	1.80	13	150	-NA-	-NA-	-NA-	-NA-	42	38	1000
6	Solid	0.70	0.30	1.80	13.50	170	-NA-	-NA-	-NA-	-NA-	55	50	1000
6	Stranded	0.70	0.30	1.80	14	180	-NA-	-NA-	-NA-	-NA-	55	50	1000
10	Solid	0.70	0.30	1.80	15	205	-NA-	-NA-	-NA-	-NA-	68	64	1000
10	Stranded	0.70	0.30	1.80	16	225	-NA-	-NA-	-NA-	-NA-	68	64	1000
16	Stranded	0.70	0.30	1.80	14	225	-NA-	-NA-	-NA-	-NA-	89	83	1000
25	Stranded	0.90	0.30	2	17	330	4 x 0.80	1.40	18.50	509.13	114	109	1000
35	Stranded	0.90	0.30	2	19	410	4 x 0.80	1.40	20	605.51	136	133	1000
50	Stranded	1	0.30	2	21	510	4 x 0.80	1.40	22.50	753.28	161	162	1000
70	Stranded	1.10	0.30	2	23	675	4 x 0.80	1.56	22.50	989	197	204	1000
95	Stranded	1.10	0.40	2.20	26.50	893	4 x 0.80	1.56	28	1204.30	235	251	1000
120	Stranded	1.20	0.40	2.20	28.50	1050	4 x 0.80	1.56	30.50	1408.20	266	287	500
150	Stranded	1.40	0.40	2.20	32	1215	4 x 0.80	1.72	31.79	1690.20	296	328	500
185	Stranded	1.60	0.50	2.40	35.50	1510	4 x 0.80	1.72	34.95	2004.00	335	379	500
240	Stranded	1.70	0.50	2.60	39.50	1900	4 x 0.80	1.88	38.69	2480.00	385	448	500
300	Stranded	1.80	0.60	2.80	43.50	2360	4 x 0.80	2.04	42.53	2964.00	432	513	500
400	Stranded	2	0.60	3	49	3100	4 x 0.80	2.36	48.24	3676.00	487	593	500
500	Stranded	2.20	0.70	3.40	55.50	4000	4 x 0.80	2.52	56.50	4599.00	548	683	500
630	Stranded	2.40	0.70	3.60	61.50	4997	4 x 0.80	2.68	62.50	5662.00	612	784	500

TABLE-6 “ORBIT” TWO CORE COPPER CONDUCTOR, XLPE INSULATED,
UNARMOURED & ARMOURED CABLES

Nominal Size of Conductor	Form Conductor Circular	Nominal Thickness of XLPE Insulation For U/A	Minimum Thickness of PVC Inner Sheath	Unarmoured Cable			Formed wire / Strip Armoured Cable				Current Rating.*		*Normal Delivery Length
				Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of GI Flat Strip	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground	In Air	
Sq.mm	mm	mm	mm	mm	mm	Kgs./Km	mm	mm	mm	Kgs./Km	Amps.	Amps.	Mtrs.
4	Solid	0.70	0.30	1.80	12.50	165	-NA-	-NA-	-NA-	-NA-	54	48	1000
4	Stranded	0.70	0.30	1.80	13	175	-NA-	-NA-	-NA-	-NA-	54	48	1000
6	Solid	0.70	0.30	1.80	13.50	210	-NA-	-NA-	-NA-	-NA-	67	61	1000
6	Stranded	0.70	0.30	1.80	14	225	-NA-	-NA-	-NA-	-NA-	67	61	1000
10	Stranded	0.70	0.30	1.80	16	300	-NA-	-NA-	-NA-	-NA-	89	83	1000
16	Stranded	0.70	0.30	1.80	14	422	-NA-	-NA-	-NA-	-NA-	115	108	1000
25	Stranded	0.90	0.30	2	17	636	4 x 0.80	1.40	18.50	804.40	147	140	1000
35	Stranded	0.90	0.30	2	19	817	4 x 0.80	1.40	20	1019.70	176	172	1000
50	Stranded	1	0.30	2	21	1054	4 x 0.80	1.40	22.50	1311.00	208	208	1000
70	Stranded	1.10	0.30	2	23	1453	4 x 0.80	1.56	25.50	1757.00	253	262	1000
95	Stranded	1.10	0.40	2.20	26.50	1966	4 x 0.80	1.56	28	2289.00	302	322	500
120	Stranded	1.20	0.40	2.20	28.50	2413	4 x 0.80	1.56	30.50	2755.00	340	368	500
150	Stranded	1.40	0.40	2.20	32	2935	4 x 0.80	1.72	31.80	3353.00	379	419	500
185	Stranded	1.60	0.50	2.40	35.50	3676	4 x 0.80	1.72	37	4094.00	425	482	500
240	Stranded	1.70	0.50	2.60	39.50	4750	4 x 0.80	1.88	38.70	5225.00	486	566	500
300	Stranded	1.80	0.60	2.80	43.50	5918	4 x 0.80	2.04	42.50	6412.00	541	644	500
400	Stranded	2	0.60	3	49	7495	4 x 0.80	2.36	48.20	8075.00	602	734	500

TECHNICAL DATA



**TABLE-7 “ORBIT” THREE CORE ALUMINIUM CONDUCTOR, XLPE INSULATED,
UNARMOURED & ARMOURED CABLES**

Nominal Size of Conductor	Form of Conductor Circular shaped	Nominal Thickness of XLPE Insulation	Minimum Thickness of PVC Inner Sheath	Unarmoured Cable			Formed wire / Strip Armoured Cable				Current Rating.*		*Normal Delivery Length
				Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of GI Flat Strip	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground	In Air	
Sq.mm	mm	mm	mm	mm	mm	Kgs./Km	mm	mm	mm	Kgs./Km	Amps.	Amps.	Mtrs.
4	Solid	0.70	0.30	1.80	13	140	-NA-	-NA-	-NA-	-NA-	35	32	1000
4	Stranded	0.70	0.30	1.80	13.50	160	-NA-	-NA-	-NA-	-NA-	35	32	1000
6	Solid	0.70	0.30	1.80	14.50	170	-NA-	-NA-	-NA-	-NA-	46	42	1000
6	Stranded	0.70	0.30	1.80	15	190	-NA-	-NA-	-NA-	-NA-	46	42	1000
10	Solid	0.70	0.30	1.80	15.50	220	-NA-	-NA-	-NA-	-NA-	57	54	1000
10	Stranded	0.70	0.30	1.80	17	230	-NA-	-NA-	-NA-	-NA-	57	54	1000
16	Stranded	0.70	0.30	1.80	16.20	304	4 x 0.80	1.24	16.80	487.60	74	69	1000
25	Stranded	0.90	0.30	2	19.50	446	4 x 0.80	1.40	20.10	670.70	95	93	1000
35	Stranded	0.90	0.30	2	21.50	551	4 x 0.80	1.40	22	798.00	114	114	1000
50	Stranded	1	0.30	2	24.50	693	4 x 0.80	1.40	24.80	960.00	134	138	1000
70	Stranded	1.10	0.40	2.20	28	950	4 x 0.80	1.56	28.50	1282	164	175	500
95	Stranded	1.10	0.40	2.20	30.80	1206	4 x 0.80	1.56	31.30	1577	197	216	500
120	Stranded	1.20	0.40	2.20	33.80	1463	4 x 0.80	1.56	34.30	1871	223	249	500
150	Stranded	1.40	0.50	2.40	37.90	1814	4 x 0.80	1.72	38.30	2100	249	284	500
185	Stranded	1.60	0.50	2.60	42	2242	4 x 0.80	1.88	42.30	2500	282	329	500
240	Stranded	1.70	0.60	2.80	46.90	2869	4 x 0.80	2.04	47.20	3382	327	392	500
300	Stranded	1.80	0.60	3	51.50	3505	4 x 0.80	2.20	51.80	4066	369	452	500
400	Stranded	2	0.70	3.20	58.60	4427	4 x 0.80	2.52	58.50	5101	420	526	500
500	Stranded	2.20	0.70	3.60	66	5681	4 x 0.80	2.68	65	6365	478	612	250
630	Stranded	2.40	0.70	3.80	72	7125	4 x 0.80	2.84	73	7894	542	712	250

**TABLE-8 “ORBIT” THREE CORE COPPER CONDUCTOR, XLPE INSULATED,
UNARMOURED & ARMOURED CABLES**

Nominal Size of Conductor	Form of Conductor Circular shaped	Nominal Thickness of XLPE Insulation	Minimum Thickness of PVC Inner Sheath	Unarmoured Cable			Formed wire / Strip Armoured Cable				Current Rating.*		*Normal Delivery Length
				Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of GI Flat Strip	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground	In Air	
Sq.mm	mm	mm	mm	mm	mm	Kgs./Km	mm	mm	mm	Kgs./Km	Amps.	Amps.	Mtrs.
4	Solid	0.70	0.30	1.80	13.00	210	-NA-	-NA-	-NA-	-NA-	45	41	1000
4	Stranded	0.70	0.30	1.80	13.50	232	-NA-	-NA-	-NA-	-NA-	45	41	1000
6	Solid	0.70	0.30	1.80	14.00	280	-NA-	-NA-	-NA-	-NA-	56	52	1000
6	Stranded	0.70	0.30	1.80	15.00	299	-NA-	-NA-	-NA-	-NA-	56	52	1000
10	Stranded	0.70	0.30	1.80	16.50	415	-NA-	-NA-	-NA-	-NA-	74	70	1000
16	Stranded	0.70	0.30	1.80	16.20	425	4 x 0.80	1.24	16.80	772.30	95	89	1000
25	Stranded	0.90	0.30	2	19.50	874	4 x 0.80	1.40	20.10	1102	122	119	1000
35	Stranded	0.90	0.30	2	21.50	1150	4 x 0.80	1.40	22	1396	146	147	1000
50	Stranded	1	0.30	2	24.50	1501	4 x 0.80	1.40	24.80	1767	173	179	1000
70	Stranded	1.10	0.40	2.20	28.00	2118	4 x 0.80	1.56	28.50	2441	212	226	500
95	Stranded	1.10	0.40	2.20	30.80	2821	4 x 0.80	1.56	31.30	3182	254	279	500
120	Stranded	1.20	0.40	2.20	33.80	3496	4 x 0.80	1.56	34.30	3895	287	320	500
150	Stranded	1.40	0.50	2.40	37.90	4322	4 x 0.80	1.72	38.30	4759	321	365	500
185	Stranded	1.60	0.50	2.60	42	5377	4 x 0.80	1.88	42.30	5852	362	422	500
240	Stranded	1.70	0.60	2.80	46.90	6992	4 x 0.80	2.04	47.20	7505	418	500	500
300	Stranded	1.80	0.60	3	51.50	8683	4 x 0.80	2.20	51.80	9243	469	574	500
400	Stranded	2	0.70	3.20	58.60	11029	4 x 0.80	2.52	58.50	11704	528	662	250

TECHNICAL DATA



TABLE-9 “ORBIT” THREE AND HALF CORE ALUMINIUM CONDUCTOR, XLPE INSULATED, UNARMOURED & ARMOURED CABLES

Nominal Size of Conductor	Form of Conductor Circular shaped	Nominal Thickness of XLPE Insulation Main / Neutral	Minimum Thickness of PVC Inner Sheath	Unarmoured Cable			Formed wire / Strip Armoured Cable				Current Rating.*		*Normal Delivery Length
				Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of GI Flat Strip	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground	In Air	
Sq.mm	mm	mm mm	mm	mm	mm	Kgs./Km	mm	mm	mm	Kgs./Km	Amps.	Amps.	Mtrs.
25/16	Stranded	0.90 0.70	0.30	2	21.30	525	4 x 0.80	1.40	21.90	733	95	93	1000
35/16	Stranded	0.90 0.70	0.30	2	23.60	625	4 x 0.80	1.40	24.20	886	114	114	1000
50/25	Stranded	1 0.90	0.30	2	26.80	800	4 x 0.80	1.40	27.40	1113	134	138	1000
70/35	Stranded	1.10 0.90	0.40	2.20	31	1100	4 x 0.80	1.56	31.50	1451	164	175	500
95/50	Stranded	1.10 1	0.40	2.20	34.30	1400	4 x 0.80	1.56	34.80	1796	197	216	500
120/70	Stranded	1.20 1.10	0.40	2.20	37.50	1650	4 x 0.80	1.72	38.50	2199	223	249	500
150/70	Stranded	1.40 1.10	0.50	2.40	41	2000	4 x 0.80	1.72	42	2579	249	284	500
185/95	Stranded	1.60 1.10	0.50	2.60	46.50	2550	4 x 0.80	1.88	47.20	3156	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	3913	327	392	500
300/150	Stranded	1.80 1.40	0.60	3	56	4000	4 x 0.80	2.20	57	4693	369	452	500
400/185	Stranded	2 1.60	0.70	3.40	64	5177	4 x 0.80	2.52	65	5890	420	526	500
500/240	Stranded	2.20 1.70	0.70	3.60	72.50	6500	4 x 0.80	2.68	73.50	7400	478	612	250

TABLE-10 “ORBIT” THREE AND HALF CORE ALUMINIUM CONDUCTOR, XLPE INSULATED, UNARMOURED & ARMOURED CABLES

Nominal Size of Conductor	Form of Conductor Circular shaped	Nominal Thickness of XLPE Insulation Main / Neutral	Minimum Thickness of PVC Inner Sheath	Unarmoured Cable			Formed wire / Strip Armoured Cable				Current Rating.*		*Normal Delivery Length
				Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of GI Flat Strip	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground	In Air	
Sq.mm	mm	mm mm	mm	mm	mm	Kgs./Km	mm	mm	mm	Kgs./Km	Amps.	Amps.	Mtrs.
25/16	Stranded	0.90 0.70	0.30	2	21.30	1035	4x0.80	1.40	21.90	1272	122	119	1000
35/16	Stranded	0.90 0.70	0.30	2	23.60	1311	4x0.80	1.40	24.20	1586	146	147	1000
50/25	Stranded	1 0.90	0.30	2	26.80	1748	4x0.80	1.40	27.40	2061	173	179	1000
70/35	Stranded	1.10 0.90	0.40	2.20	31	2460	4x0.80	1.56	31.50	2831	212	226	500
95/50	Stranded	1.10 1	0.40	2.20	34.30	3287	4x0.80	1.56	34.80	3686	254	279	500
120/70	Stranded	1.20 1.10	0.40	2.20	37.60	4142	4x0.80	1.72	38.50	4617	287	320	500
150/70	Stranded	1.40 1.10	0.50	2.40	41	4987	4x0.80	1.72	42.70	5481	321	365	500
185/95	Stranded	1.60 1.10	0.50	2.60	46.50	6279	4x0.80	1.88	47.20	6830	362	422	500
240/120	Stranded	1.70 1.20	0.60	2.80	52.50	8122	4x0.80	2.04	52.70	8711	418	500	500
300/150	Stranded	1.80 1.40	0.60	3	56	10079	4x0.80	2.20	57.90	10716	469	574	500
400/185	Stranded	2 1.60	0.70	3.40	64	12834	4x0.80	2.52	65.50	13556	528	662	250

TECHNICAL DATA



TABLE-11 “ORBIT” FOUR CORE ALIMINIUM CONDUCTOR, XLPE INSULATED, UNARMOURED & ARMOURED CABLES

Nominal Size of Conductor	Form of Conductor Circular shaped	Nominal Thickness of XLPE Insulation	Minimum Thickness of PVC Inner Sheath	Unarmoured Cable			Formed wire / Strip Armoured Cable				Current Rating.*		*Normal Delivery Length
				Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of GI Flat Strip	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground	In Air	
Sq.mm	mm	mm	mm	mm	mm	Kgs./Km	mm	mm	mm	Kgs./Km	Amps.	Amps.	Mtrs.
4	Solid	0.70	0.30	1.80	13.50	160	-NA-	-NA-	-NA-	-NA-	35	32	1000
4	Stranded	0.70	0.30	1.80	14.20	180	-NA-	-NA-	-NA-	-NA-	35	32	1000
6	Solid	0.70	0.30	1.80	14.70	200	-NA-	-NA-	-NA-	-NA-	46	42	1000
6	Stranded	0.70	0.30	1.80	15.50	215	-NA-	-NA-	-NA-	-NA-	46	42	1000
10	Solid	0.70	0.30	1.80	16.60	250	-NA-	-NA-	-NA-	-NA-	57	54	1000
10	Stranded	0.70	0.30	1.80	17.50	260	-NA	-NA-	-NA-	-NA-	57	54	1000
16	Stranded	0.70	0.30	1.80	17.80	350	4x0.80	1.40	20	608	74	69	1000
25	Stranded	0.90	0.30	2	21	550	4x0.80	1.40	23	828.50	95	93	500
35	Stranded	0.90	0.30	2	23.50	680	4x0.80	1.40	25	997	114	114	500
50	Stranded	1	0.30	2	26	875	4x0.80	1.56	28	1235	134	138	500
70	Stranded	1.10	0.40	2.20	30.50	1200	4x0.80	1.56	32	1615	164	175	500
95	Stranded	1.10	0.40	2.20	33.50	1530	4x0.80	1.56	35	2014	197	216	500
120	Stranded	1.20	0.50	2.40	37.50	1850	4x0.80	1.72	39	2403	223	249	500
150	Stranded	1.40	0.50	2.60	42	2280	4x0.80	1.88	43	2888	249	284	500
185	Stranded	1.60	0.50	2.80	46.50	2800	4x0.80	2.04	48	3505	282	329	500
240	Stranded	1.70	0.60	3	52.50	3700	4x0.80	2.20	54	4389	327	392	500
300	Stranded	1.80	0.70	3.20	58	4600	4x0.80	2.36	59.50	5291	369	452	500
400	Stranded	2	0.70	3.60	65.50	6000	4x0.80	2.68	66.50	6583	420	526	500

TABLE-12 “ORBIT” FOUR CORE COPPER CONDUCTOR, XLPE INSULATED, UNARMOURED & ARMOURED CABLES

Nominal Size of Conductor	Form of Conductor Circular shaped	Nominal Thickness of XLPE Insulation	Minimum Thickness of PVC Inner Sheath	Unarmoured Cable			Formed wire / Strip Armoured Cable				Current Rating.*		*Normal Delivery Length
				Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of GI Flat Strip	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground	In Air	
Sq.mm	mm	mm	mm	mm	mm	Kgs./Km	mm	mm	mm	Kgs./Km	Amps.	Amps.	Mtrs.
4	Solid	0.70	0.30	1.80	13.50	260	-NA-	-NA-	-NA-	-NA-	45	41	1000
4	Stranded	0.70	0.30	1.80	14.20	280	-NA-	-NA-	-NA-	-NA-	45	41	1000
6	Solid	0.70	0.30	1.80	14.70	350	-NA-	-NA-	-NA-	-NA-	56	52	1000
6	Stranded	0.70	0.30	1.80	15.50	365	-NA-	-NA-	-NA-	-NA-	56	52	1000
10	Stranded	0.70	0.30	1.80	17.80	510	-NA-	-NA-	-NA-	-NA-	74	70	1000
16	Stranded	0.70	0.30	1.80	17.50	741	4x0.80	1.40	20	969	95	89	1000
25	Stranded	0.90	0.30	2	21	1140	4x0.80	1.40	23	1406	122	119	500
35	Stranded	0.90	0.30	2	23.50	1491	4x0.80	1.40	25	1786	146	147	500
50	Stranded	1	0.30	2	26	1957	4x0.80	1.56	28	2308	173	179	500
70	Stranded	1.10	0.40	2.20	30.50	2774	4x0.80	1.56	32	3154	212	226	500
95	Stranded	1.10	0.40	2.20	33.50	3714	4x0.80	1.56	35	4161	254	279	500
120	Stranded	1.20	0.50	2.40	37.50	4645	4x0.80	1.72	39	5101	287	320	500
150	Stranded	1.40	0.50	2.60	42	5719	4x0.80	1.88	43.50	6232	321	365	500
185	Stranded	1.60	0.50	2.80	46.50	7125	4x0.80	2.04	48	7676	362	422	500
240	Stranded	1.70	0.60	3	52.50	9253	4x0.80	2.20	54	9880	418	500	500
300	Stranded	1.80	0.70	3.20	58	11524	4x0.80	2.36	59.50	12198	469	574	500

TECHNICAL DATA



TABLE-13 "ORBIT" 650/1100 VOLTS MULTICORE CONTROL CABLE WITH SOLID COPPER CONDUCTOR OF SIZE I .5 SQ.MM XLPE INSULATED UNARMOURED & ARMOURED CABLES

Number of Cores	Nominal Thickness of XLPE Insulation	Minimum Thickness OF PVC Inner Sheath	Unarmoured Cable			Formed wire / Strip Armoured Cable				Current Rating.*		*Normal Delivery Length
			Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of GI Flat Strip	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground	In Air	
Sq.mm	mm	mm	mm	mm	Kgs./Km	mm	mm	mm	Kgs./Km	Amps.	Amps.	Mtrs.
2	0.70	0.30	1.80	10	140	-NA-	-NA-	-NA-	-NA-	31	27	1000
3	0.70	0.30	1.80	10.50	160	-NA-	-NA-	-NA-	-NA-	26	23	1000
4	0.70	0.30	1.80	11.50	171	-NA-	-NA-	-NA-	-NA-	26	23	1000
5	0.70	0.30	1.80	12.10	195	-NA-	-NA-	-NA-	-NA-	26	23	1000
6	0.70	0.30	1.80	12.90	222	-NA-	-NA-	-NA-	-NA-	23	20	1000
7	0.70	0.30	1.80	12.90	239	-NA-	-NA-	-NA-	-NA-	20	18	1000
8	0.70	0.30	1.80	14	275	-NA-	-NA-	-NA-	-NA-	17	15	1000
9	0.70	0.30	1.80	15	308	-NA-	-NA-	-NA-	-NA-	17	15	1000
10	0.70	0.30	1.80	15.70	327	-NA-	-NA-	-NA-	-NA-	17	15	1000
12	0.70	0.30	1.80	16.10	365	-NA-	-NA-	-NA-	-NA-	16	14	1000
14	0.70	0.30	1.80	16.80	413	-NA-	-NA-	-NA-	-NA-	16	14	1000
16	0.70	0.30	1.80	17.70	460	4x0.80	1.40	18.50	651	14	12	1000
19	0.70	0.30	1.80	18.50	513	4x0.80	1.40	19.30	736	14	12	1000
21	0.70	0.30	2	19.80	560	4X0.80	1.40	20.20	788	12	11	500
24	0.70	0.30	2	21.70	627	4x0.80	1.40	22.10	874	12	11	500
27	0.70	0.30	2	22.10	684	4x0.80	1.40	22.50	950	11	9	500
30	0.70	0.30	2	22.80	741	4x0.80	1.40	23.20	1016	11	9	500
33	0.70	0.30	2	23.70	807	4x0.80	1.40	24.10	1102	11	9	500
37	0.70	0.30	2	24.50	874	4x0.80	1.40	24.90	1168	11	9	500
44	0.70	0.30	2	27.30	1026	4x0.80	1.40	27.70	1358	9	8	500
52	0.70	0.30	2	28.40	1178	4x0.80	1.56	29.20	1548	9	8	500
61	0.70	0.40	2.20	30.70	1387	4x0.80	1.56	31.10	1757	9	8	500

TABLE-14 "ORBIT" 650/1100 VOLTS MULTICORE CONTROL WITH SOLID COPPER CONDUCTOR OF SIZE 2.5 SQ.MM XLPE INSULATED UNARMOURED & ARMOURED CABLES

Number of Cores	Nominal Thickness of XLPE Insulation	Minimum Thickness OF PVC Inner Sheath	Unarmoured Cable			Formed wire / Strip Armoured Cable				Current Rating.*		*Normal Delivery Length
			Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of GI Flat Strip	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground	In Air	
Sq.mm	mm	mm	mm	mm	Kgs./Km	mm	mm	mm	Kgs./Km	Amps.	Amps.	Mtrs.
2	0.70	0.30	1.80	10.90	173	-NA-	-NA-	-NA-	-NA-	41	36	1000
3	0.70	0.30	1.80	11.40	202	-NA-	-NA-	-NA-	-NA-	34	30	1000
4	0.70	0.30	1.80	12.20	218	-NA-	-NA-	-NA-	-NA-	34	30	1000
5	0.70	0.30	1.80	13.10	254	-NA-	-NA-	-NA-	-NA-	34	30	1000
6	0.70	0.30	1.80	14	291	-NA-	-NA-	-NA-	-NA-	31	27	1000
7	0.70	0.30	1.80	14	313	-NA-	-NA-	-NA-	-NA-	27	23	1000
8	0.70	0.30	1.80	16	342	-NA-	-NA-	-NA-	-NA-	23	20	1000
9	0.70	0.30	1.80	16.50	385	-NA-	-NA-	-NA-	-NA-	23	20	1000
10	0.70	0.30	1.80	17.20	427	4x0.80	1.24	17.80	624	23	20	1000
12	0.70	0.30	1.80	17.70	484	4x0.80	1.40	18.50	694	20	18	1000
14	0.70	0.30	1.80	18.50	551	4x0.80	1.40	19.30	780	20	18	1000
16	0.70	0.30	2	19.80	636	4x0.80	1.40	20.20	867	18	16	1000
19	0.70	0.30	2	20.80	722	4x0.80	1.40	21.20	960	18	16	1000
21	0.70	0.30	2	21.80	769	4x0.80	1.40	22.20	1016	16	14	500
24	0.70	0.30	2	24	864	4x0.80	1.40	24.40	1159	16	14	500
27	0.70	0.30	2	24.50	950	4x0.80	1.40	24.90	1235	14	13	500
30	0.70	0.30	2	25.30	1035	4x0.80	1.40	25.70	1349	14	13	500
33	0.70	0.30	2	26.20	1130	4x0.80	1.40	26.60	1437	14	13	500
37	0.70	0.30	2	27.20	1235	4x0.80	1.40	27.60	1567	14	13	500
44	0.70	0.40	2.20	30.90	1501	4x0.80	1.56	31.30	1862	12	11	500
52	0.70	0.40	2.20	32.20	1719	4x0.80	1.56	32.60	2109	12	11	500
61	0.70	0.40	2.20	34.10	1976	4x0.80	1.56	34.50	2375	12	11	500

UNREELING (CABLE PULLING)

For unreeling cable from a drum it should be mounted on cable jack. The drum should be lifted above the ground with clearance of 50-100 mm so that while unreeling the drum flanges should not touch the ground and get damaged. The drum should never be kept flat on its side on the ground and the cable unreeled in coil from the same. This invariably leads kinking and bird-caging.

"Bird-Caging" is a defect caused due to twist of cable during wrong unreeling. It results outer sheath crack or cuts and armour swelling.

Photograph of birdcaging.



The technique of pulling cables is also an important. Sub-standard and haphazard handling can cause damage to the cable which may weaken the cable components, and cause a failure in due course. Care must be taken to select a suitable position for the cable drum jacks in order to ensure that the drum may be raised and rotated with full safety.

The jacks should therefore be placed on a firm support of thick boards.

Care should be taken to exert a steady pull avoiding any jerks. Twisting or kinking of cable is very dangerous as this may cause damage to the small size of cable conductors, insulation and sheath, shifting and knife-edging of the armouring and damage to the serving, etc. Care should be taken to avoid short bends and consequent straining of conductors.

Proper handling of cables is very important both for safety as well as long life of the installation.

The most common causes of cable failure are due to mishandling of the product at installation stage.

This can be prevented by unwinding the cable by loading the drum on jacks & pulling in the proper direction with stocking or pulling eye.

For pulling longer lengths and higher diameter of cables Pulling Eyes can be used....

In case of smaller lengths, pulling is carried out by manual labour and when the length is longer by means of winches or other mechanical means.

While pulling with a rope, care is necessary to avoid bending of the cable a close watch should be maintained to ensure the cable runs freely over the cable rollers and passes smoothly without rubbing against any surface.

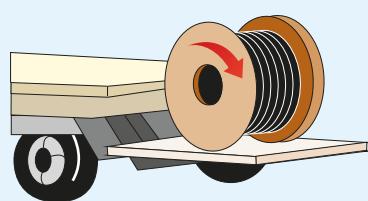
Great care is taken in the manufacturing of cable to ensure quality at every stage.

Handling of cable at site is the next important factor to ensure that by mishandling the cable, the outer sheath and insulation shall not damaged.

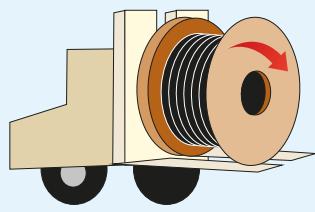
The handling is generally carried out by unskilled or semi-skilled men, strict supervision should be maintained so that the cables, which can be very easily damaged, is handled with great care.

DO

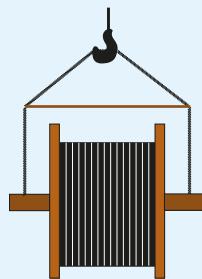
When offloading reels from a truck, lower reels carefully using a hydraulic gate, hoist or forklift truck.



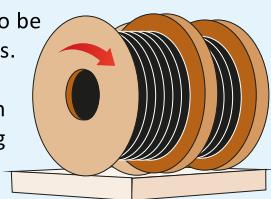
If a forklift is used for handling and shifting the cable drum, the forks shall approach the reel from the flange side. The forks shall be positioned such that the reel is lifted with both reel flanges.



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 just above the reel flanges.



It is always safer to use a strong and well-drained surface for storing drums. If possible, the drums should be raised from the ground by the insertion of wooden planks, etc, below and on both sides of the drums: some check pieces should be placed so as not to allow the drums to be rolled and easily. Cable drums should also be stored away from the direct sun and rains. Reason: Direct sunrays can cause deterioration due to UV rays and rain can cause damage to wooden drum, resulting drum collapse after a few months.



DON'T

Never drop reels. If reels must be rolled, roll in opposite direction of the cable wraps to keep cable from loosening on the reel.



Do not allow the lift forks to contact the cable. Care must be taken by the forklift operator not to make sudden turns or stops.



This may lead to the bending of the reel flanges and mashing the cable.

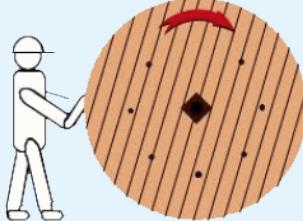


Multiple reels stacked on top of each other (Pancake Storage) is not recommended for cable drums. The weight of the stack can total thousands of kgs. creating an enormous load on the bottom reel. Also, damage to the reel and/or cable will likely occur when the reel is flipped for transit. A concentration of stress on the reel flange may cause it to break and subsequently damage the cable.

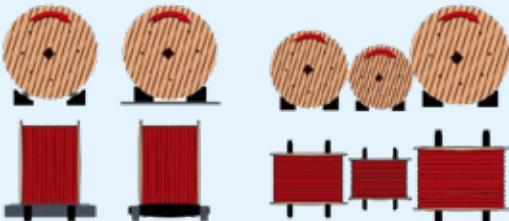


DO

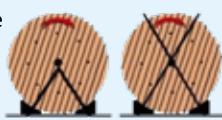
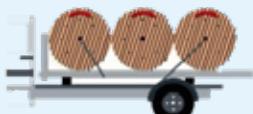
Always use proper stoppers to prevent the drum from rolling.



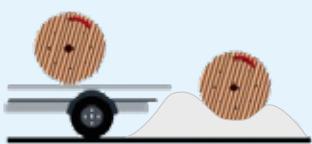
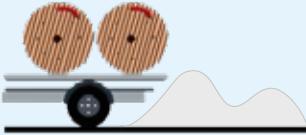
Ensure stoppers for every drum, to prevent mishaps during storage. Place the wedges by the flanges/full width of the drum



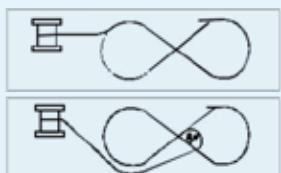
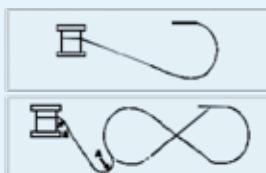
During transportation, fasten drums to the base through the central hole.



Use a winch, forklift or makeshift ramp

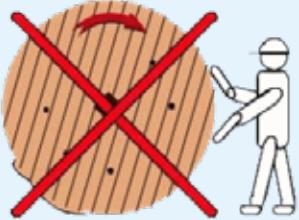


ON THE GROUND CABLE CAN BE FLAKED IN A FIGURE OF EIGHT FORMATION



DON'T

When rolling in the direction of the arrow, never roll for more than 5 meters, Otherwise the cable may become unfit for use.



Allow the drums to roll at any cost. Stack the drums on non-triangular / non-square wedges.



fasten without taking adequate care. Always use support, and tie the drum from both the front and rear.



Allow one drum to strike another



DON'T ATTEMPT COILING OF CABLE ON THE GROUND



OUR MACHINERY PARTNERS



NIEHOFF MACHINES and systems for drawing, annealing, galvanic coating, stranding, and braiding of wires. The individual machines or entire systems multi-wire drawing systems braiding, stranding, electronically controlled wire rod drawing machines and double-twist bunching machines.

Our German Partner



Supermac High Speed insulating line for House Wiring/Auto Cable/Control Cable is a dedicated line as per the Customer's requirement. It has flexibility, over in managing a wide range of products. The lines are available in Single/Dual/Triple Extrusion System for providing skin/single line/dual line through Piggy back mobile Extruder.

Our Indian Partner





Skip Strander



Core Laying-up Machine



Drum Twister



Armouring Machine

SARVAVS with time has earned the reputation of being the most innovative and out of the box thinkers in the market. They are the technological leader in cable machinery manufacturing and consultancy in India and have been working towards the goal of complete customer satisfaction ever since the day it started. They have manufacturing units that are equipped with the most sophisticated and modern machinery and equipments, which are complemented by a highly qualified & experienced team of professionals who are always striving hard to improve on the already attained success. A dedicated quality assurance team ensures strict guideline adherence from the raw material stage to the final commissioning of machines. All this has made SARVAVS reach heights that no company has till date attained. Sarvav has been manufacturing and supplying machines to various countries across the globe particularly in India, UAE, Bangladesh, Nepal, Iran, Africa, Europe and Australia.





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