ORGANIC CABLES & ELECTRICALS

Certificate of Compliance

RoHS Directive (2011/65/EU) as Amended (EU) 2015/863 of the European Parliament and of the Council on the restriction of use of certain Hazardous Substances in Electrical and Electronic Equipments

Certificate No.: UQ-15914

Manufacturer

Name	: **ORGANIC CABLES & ELECTRICALS**
Address	: **8/90, UIT RIICO INDUSTRIAL AREA, BHIWADI, ALWAR, RAJASTHAN - 301019, INDIA**
Products	: **CABLES AND WIRES**

This is to state that the above mentioned product is in compliance with RoHS Directive (2011/65/EU) as Amended (EU) 2015/863 of the European Parliament and Commission Decision 2005/618/EC on the restriction of use of certain Hazardous Substances [Lead (Pb): < 1000 ppm , Mercury (Hg): < 100 ppm, Cadmium (Cd): < 100 ppm , Hexavalent Chromium (Cr VI) < 1000 ppm, Polybrominated Biphenyls (PBB): 1000 ppm, Polybrominated Diphenyl Ethers (PBDE): < 1000 ppm , Bis(2-Ethylhexyl) phthalate (DEHP): < 1000 ppm , Benzyl butyl phthalate (BBP): < 1000 ppm , Dibutyl phthalate (DBP): < 1000 ppm , Diisobutyl phthalate (DIBP): < 1000 ppm in Electrical and Electronic Equipments

Statement:

This certificate declares that the product type / model described above complies with the mentioned above European Standard(s).

Remarks:

This certificate of complies is based on the evaluation of a sample of the above mentioned products. It does not imply and assessment of the mass-production of the product. This certificate holder may use this certificate in connection with the test report. The certification body should be informed (revision of technical file) for any modification or alterations made to the aforementioned product type(s), including design and manufacture and /or extension to the existing scope of application.

The certificate is valid for three years if the company applies the technical construction file which has been stored in UKCert office. This certificate includes declaration of manufacturer. Certificate remains property of UKCert (UK Certification and Inspection Ltd.) to whom it must be returned upon request. The certificate validity is conditioned by positive results or surveillance audits.

Validity of this certificate can be verified at www.ukcertifications.org.uk/verify

Date of Certification	21st October 2020
1st Surveillance Audit Due	20th October 2021
2nd Surveillance Audit Due	20th October 2022
Certificate Expiry (subject to the company maintaining its system to the required standard)	20th October 2023

Authorised Signatory

Certificate of Compliance

We hereby declare that the technical file of product complied with the requirement of Directive 2006/95/EEC Low Voltage Directive & 2004/108/EC Electromagnetic Directive

Manufacturer

Name	**: ORGANIC CABLES & ELECTRICALS**
Address	**: 8/90, UIT RIICO INDUSTRIAL AREA, BHIWADI, ALWAR, RAJASTHAN - 301019, INDIA**
Product	**: CABLES AND WIRES**

The manufacturer's technical documentation as required for Directive 2006/95/EEC Low Voltage Directive & 2004/108/EC Electromagnetic Directive . Any significant changes in the design or construction of the product, not agreed upon by us, this declaration will lose its validity.

This certificate is issued under the following conditions:

1. It applies only to the quality system maintained in the manufacture of abovereferenced models and it does not substitute the design or type examination procedures, if requested.
2. The certificate remains valid until the manufacturing conditions or the quality systems are changed.
3. The certificate validity is conditioned by positive results or surveillance audits.

To verify this certificate please visit at www.gaafs.us

Certificate Number: QVA-20-OCAR-1020PA

Date of Certification:	20th Oct. 2020	1st Surveillance Due:	19th Oct. 2021
2nd Surveillance Due:	19th Oct. 2022	Certificate Expiry:	19th Oct. 2023

(Subject to the company maintaining its system to the required standard)

Registered

Authorized Signatory

QVA Certification
MarylandAvenue, SW Washington, D.C. 20202
Validity of this certificate is subject to annual surveillance audits to be done successfully
This certificate is the property of QVA Certification and shall be return immediately on request
QVA Certification is and independent Systems Products and Personal assessment Body
QVA Certification is a accredited by (GAAFS)

BMSCERT

CERTIFICATE OF REGISTRATION

ORGANIC CABLES & ELECTRICALS

ISO 14001:2015

MANUFACTURER AND SUPPLY OF CABLES AND WIRES

Director

Certificate of Registration

ORGANIC CABLES & ELECTRICALS

8/90, UIT RIICO INDUSTRIAL AREA, BHIWADI, ALWAR, RAJASTHAN - 301019, INDIA

has been independently assessed by QRO
and is compliant with the requirement of:

ISO 9001:2015

Quality Management System

For the following scope of activities:

MANUFACTURER AND SUPPLY OF CABLES AND WIRES

Date of Certification: 6th October 2020
2nd Surveillance Audit Due: 5th October 2022
1st Surveillance Audit Due: 5th October 2021
Certificate Expiry 5th October 2023

Certificate Number: 305020100601Q

LT Control& Power Cables

PVC Lead Wires/Hookup Wires

Instrumentation Signal Cables

Thermocouple Extension & Compensating Cables

Fire Survival Cables

High TemperatureCables

DC Solar PhotovoltaicCables

Automotive Wires & Cables

Special Cables

ORGANIC CABLES & ELECTRICALS

ABOUT THE COMPANY

Organic Cables & Electricals is one of the largest manufactures of " ORGANIC " brand electric wires & cables in India. The company has a experience of manufacturing wires and cables for more than 10 years, with the help of advance technology and skillful employers. The company has emerged as a pioneer in the electrical field.

We are one of professionally managed company involved in manufacturing of wide range of wires and cables. We manufacture industrial cables with our sound infrastructure, professional management and required works force to enables to undertake and complete our orders within time limits.

"ORGANIC CABLES" is an ISO-9001:2015,ISO-14001 CE, RoHS certified company, where cables are manufactured as per National & International standards and customer's specifications.

ORGANIC's aim is to manufacture cables of highest quality. A well equipped test lab and modern instruments are constantly upgraded to carry out quality checks & testing on all incoming and finished material. Our company is committed towards its product quality, reliability, safety & excellent customer service.

ORGANIC CABLES & ELECTRICALS is an Indian based company
Which was established by two Technicals person, with its first product as organic compound
The company is involved into manufacturing and trading of wire and cables and
Unrelenting focus on delivering results the right way by operating responsibly, executing with excellence, applying innovative technologies and capturing new opportunities for profitable growth.

Vision, Mission & Quality Policy

Our VISION

We at ORGANIC are a Technology driven Customer focused group of professionals firmly believing in our Company's vision: "Tomorrow's Progress Today"

Our MISSION

To build a strong brand through business ethics, Technological expertise, long terms relationship with our esteemed customers and maintain superior quality product for customers satisfaction

Our QUALITY POLICY

We are dedicated to manufacture best quality products at affordable prices to our customers' entire satisfaction in Power, Control, Telecommunication and Auto sectors through Employees motivation, Continual improvement and Product innovation.

Our ENVIRONMENTAL POLICY

ORGANIC CABLES is a manufacturer of electrical wires & cables and is committed throughout its business to respect the environment. In particular, it is the policy of Industries to comply with the appropriate environment legislation and regulations, monitor performance, and strive for continuous improvement.

Our ENVIRONMENTAL POLICY

In this respect our policy is to:

QUANTIFY and monitor all environmental impacts of the business and set specific objective and targets.

COMPLY with environmental legislation and regulation that to our business and the health and safety of our employees and the community in which we operate.

MINIMISE waste by auditing manufacturing process and seek alternative to landfill disposal wherever possible. In addition, we seek to limit the use of unnecessary packaging. Disposal of waste will be in accordance with local regulation and responsible practice.

DEVELOP an environmental management system and aim for ISO 14001 improvement within the next two years and provide the resources necessary for its effective implementation.

ENCOURAGE suppliers to adopt an environmental philosophy similar to our own.

COMMUNICATE environmental policy to all staff, customers, suppliers and contractors.

IMPROVE energy efficiency by assessing manufacturing processes, factory and office management systems.

The policy will be available to the public via our official website www.organiccables.com

FACILITIES FOR CABLES

MANUFACTURING FACILITIES

- Wire Drawing Machine
- High Speed Bunchers
- PVC/XLPE/LSZH Extruders
- Laying Machine
- Vertical Al Mylar Tapping Machine
- High Speed Metal Braiding Machine
- Armouring Machine
- Tinning Machine
- Lab for Calibration & Electrical Testing
- Laser Printer
- UPS Backup
- High Speed Bunchers

TESTING & CALIBRATION

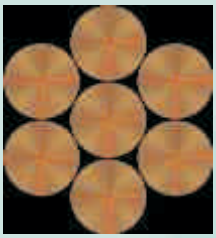
Testing Laboratory

Routine, Acceptance and Type Tests for Cables and Wires as per IS 1554, IS 694, IS 7098, IS 8130, IS 3975, IS 9968, IS 6380, JSS 51034, JSS 51038, MIL 16878, IEC 60332, IEC 754, IEC 60227, IEC 60811, ASTMD 2863, ASTMD 2843, IS 10810, IEC 60502, BSEN 8491.BS:6387 BSEN50200,BSEN 50288-7, BS7846 etc.

LT CONTROL & POWER CABLES

CONDUCTOR

Solid



Stranded

The center component of any cable is the conductor, which carries the signal or power through that cable. For signal & power transmission copper is the most commonly used conductor.

Copper Conductors

Annealed Bare Copper (ABC), Tinned Plated Copper (TPC),

Thermocouple Conductors

Thermocouple grade conductor(TC)

Extension grade conductor(EX)

Compensating grade conductor (C)

Other Conductors

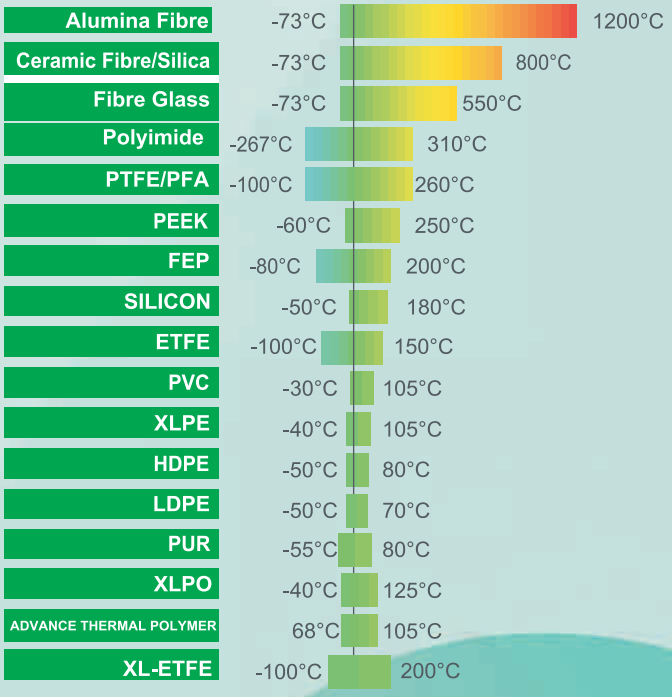
Cadmium Bronze Conductor etc.

INSULATION

Insulation refers to the layer of plastic, polymer or high temperature compound that is applied directly over the conductor. Organic Cables provide variety of insulations along with wide temperature range from -267°C to 1200°C.

Insulation Type

Temperature range for various insulations is listed below:



SCREENING

Screening is applied for magnetic and electrical protection. Generally, two types of Screening are available :

- Aluminum Foil Type : - Screening is done by helically applied aluminum foil along with copper drain wire with 100 % coverage.
- Mesh Braided Type :- Screening is done by Copper wire (Bare Copper, Tinned Copper, Nickel Plated Copper, Silver Plated Copper). It is in mesh braided form with 70 % to 95% coverage area.

INNER SHEATH

PVC, Silicon, Teflon, Polyimide, Fibre Glass, ETFE, HDPE, LDPE, XLPO etc. (as listed in insulation)

MECHANICAL PROTECTION

G.I. Armouring (Round wire / Flat strip as per IS 3975:99)
Wire Braiding as per JSS 51038, BS 50288-7

OUTER SHEATH

PVC, Silicon, Teflon, Polyimide, PUR, ETFE

LT CONTROL & POWER CABLES

Control Cable used for transmission of low voltage signal data that have to control equipment whereas, power cable transfer high array signal from the source to the equipments.

TECHNICAL SPECIFICATION

Construction	: Single Core / Multi Core
Voltage Grade	: Upto 1.1 KV
Conductor	: Electrolytic Grade Bare Copper/Tinned Copper
Conductor Size	: 0.50, 0.75, 1.0, 1.5, 2.5, 4.0, 6.0, 10.0, 16.0, 25.0, 35.0 upto 300 Sq. mm
Conductor Stranding:	Solid or Multi Strand
Core Insulation	: PVC/HR PVC/PE/XLPE/LSZH Polymer/FR PVC/FRLS PVC, XLPO etc.
Core Identification	: Upto 5 cores by Different Colours Above 5 cores by Number Printing
Inner/Outer Sheath	: PVC/HR PVC/PE/LSZH Polymer/FR PVC/FRLS PVC, PUR, XLPO etc.
Armouring	: G.I. Round Wire / Flat Strip Armouring(As per IS 3975 : 99) / Wire Braiding
Standards	: As per IS 694, IS 1554, IS 7098, IEC 60227, IEC 60502-1, IEC 60332

FEATURES

Max. Temperature range up to 125°C

High temperature also available

Flame Retardant & Low smoke availability

Fire Resist option available

Heat resist

Halogen free Low smoke availability

Resist to oil, moisture, chemical, whether etc.

Armoured / Un-Armoured option available

Screened control cable option available

Available with different voltage cable up to 1.1 kv

TECHNICAL SPECIFICATION

Conductor	:Electrolytic Grade Bare Copper, Tinned Copper
Conductor Size	:0.20, 0.5, 1.0, 1.5, 2.5 up to 240 sq. mm
Conductor Stranding:	Solid, Multistrand, Flexible
Voltage Rating	:Up to 1.1 KV
Insulation	:PVC, HR PVC, FR PVC, FRLS PVC, LSZH Polymer, HFFR Polymer
Standards	:IS 694, IS 8130, IS 5831 : 84

FEATURES

* Max. Temp. Up to 90°C
* Good Flexibility
* Excellent Resist to Oil, Moist, Fluids and Chemicals
* Excellent Di-electric Properties

* Excellent Flame Retardant, Low smoke
* Halogen free
* Color as per requirement
* Color lining available(Optional)

INSTRUMENTATION SIGNAL CABLES

Instrumentation Signal Cables minimize external interference during transmitting signals, deliver clear signals, in harsh environments and general manufacturing operations. These cables are specially designed for use in communication and instrumentation systems. These cables are available in Shielded/Un-Shielded Armoured /Un-Armoured options.

TECHNICAL SPECIFICATION

Construction	:	Single / Multi, Pair / Triads
Voltage Grade	:	Up to 1.1 KV
Conductor	:	Electrolytic Grade Bare Copper/Tinned Copper
Conductor Size	:	0.50, 0.75, 1.0, 1.5, 2.5 Sq. mm up to 48 pair
Conductor Stranding	:	Solid or Multi Strand
Core Insulation	:	PVC/HR PVC/PE/XLPE/LSZH Polymer/FR/FRLS PVC, XLPO etc.
Screening Method	:	Individual and Overall (F type)/Overall Shield (G type)
Screening	:	Aluminum Foil with Drain Wire/Mesh Braided
Inner/Outer Sheath	:	PVC/HR PVC/PE/LSZH Polymer/FR PVC/FRLS PVC, PUR, XLPO etc.
Rip Cord	:	For easy removal of sheath
Armouring	:	G.I. Round Wire / Flat Strip
Standards	:	As per BS 5308 Part 1 and Part 2,
:		IS 1554-1 BSEN 50288-7, IS 7098

FEATURES

- Max. Temp. Range up to 125°C
- Flexible & Versatile
- Flame Retardant & Low smoke availability
- High Temperature option also available
- Resist to Oil, Corrosion & Moisture
- High mechanical strength
- Superior low temperature Properties
- Screened/Unscreened
- High Insulation resistance
- Low dielectric Losses
- Armoured/Unarmoured
- Fire resist option available

ELECTRICAL CHARACTERISTICS FOR INSTRUMENTATION CABLES

Conductor Size	Resistance at 20°C	Mutual Capacitance (PE)		Mutual Capacitance (PVC)		L/R Ratio
		Overall Screen	Individual Screen	Pair adjacent core	Between any core or screen	
$(mm)^2$	(Ù/km)	(nF/km)	(nF/km)	(nF/km)	(nF/km)	(mH/Ù)
0.50	36.8	75	115	250	400	25
0.75	25.0	75	115	250	400	25
1.00	18.4	75	115	250	400	25
1.50	12.3	85	120	250	400	40

THERMOCOUPLE CABLES

Thermocouple Cables are used to measure the temperature directly. Extension & Compensating wires are used to extend a thermocouple signal from a sensor to instrument for readings.

TECHNICAL SPECIFICATION

Construction	: Single or Multi pair
Voltage Grade	: Up to 1.1 KV
Conductor	: TC, EX, C(Refer Table No.- 1)
Type of Conductor	: K, T, J, E, N, R, S, B, D, C
Conductor Size	: AWG 12 to AWG 32 upto 48 pair
Conductor Stranding	: Solid or Multi strand
Core Insulation	: PVC, PTFE, FEP, PFA, Silicon, PEEK, Polyimide, Fibre Glass, Ceramic Fibre, XLPO, XL-ETFE etc.
Screening	: Aluminum Foil with drain wire/ Mesh Braided
Inner/Outer Sheath	: PVC, Teflon, Polyimide, Fibre Glass, Ceramic Fibre, PUR, XLPO, XLETFE etc.
Rip Cord	: For easy removal of sheath
Armouring	: G.I. Round Wire/Flat Strip Armouring/Wire Braiding
Color Code	: Refer Table No. 1
Standards	: ANSI MC 96.1, IS 8784, IEC 60584.3

FEATURES

- Available in Thermocouple extension and compensating grades.
- Available with special limit of tolerance as per ANSI MC 96.1/ IEC 60584.3
- Available in all colour codes.
- Complying with IS 8784, IEC 60584 & ANSI 96.1
- Flame retardant
- Fire Resist option available
- Halogen free option available
- Available with Chemical resist, Water resist, Abrasion resist & Heat resist option
- Optional NABL Calibration report

Colour Code & Accuracy of Thermocouple, Extension& Compensating Cables(Table No. 1)

T/CTYPE	CONDUCTOR		CONDUCTOR COMBINATIONS		COLOR CODE		TOLERANCE CLASS AS PER IEC 584.3		CABLE TEMP. RANGE°C
	EXTENSION CABLE	COMPENSATING CABLE	+LEG	-LEG	IEC 5843:1989	ANSI/MC96.1	CLASS 1	CLASS 2	
K	KX		CHROMEL	ALUMEL			±1.5°C or 0.4% of T	±2.5°C or 0.75% of T	0°C TO +1100°C
		KCA	CHROMEL	ALUMEL			±1.5°C	±2.5°C	-25°C TO +200°C
		KCB	IRON	CONSTANTAN			-	±2.5°C	0°C TO +150°C
			COPPER	CONSTANTAN			-	±2.5°C	0°C TO +100°C
T	TX		COPPER	CONSTANTAN			±0.5°C or 0.4% of T	±1.0°C or 0.75% of T	-185°C TO +300°C
J			COPPER	CONSTANTAN			±0.5°C	±1.0°C	-25°C TO +100°C
	JX		IRON	CONSTANTAN			±1.5°C or 0.4% of T	±2.5°C or 0.75% of T	+20°C TO +700°C
			IRON	CONSTANTAN			±1.5°C	±2.5°C	-25°C TO +200°C
N	NX		NICROSIL	NISIL			±1.5°C or 0.4% of T	±2.5°C or 0.75% of T	0°C TO +1100°C
E			NICROSIL	NISIL			±1.5°C	±2.5°C	-25°C TO +200°C
	EX		CHROMEL	CONSTANTAN			±1.5°C or 0.4% of T	±2.5°C or 0.75% of T	0°C TO +800°C
			CHROMEL	CONSTANTAN			±1.5°C	±2.5°C	-25°C TO +200°C
R		RCA	COPPER	COPPER LOW VALUE NICKEL			-	±2.5°C	0°C TO +100°C
SB		SCA BC	COPPER	COPPER LOW VALUE NICKEL			-	±2.5°C	0°C TO +100°C
D		DC	COPPER	COPPER			-		0°C TO +100°C
C		CC	ALLOY 203*	ALLOY 225*			-	±4.5°C	0°C TO +100°C
			ALLOY 405*	ALLOY 426*			-	±4.4°C	0°C TO +100°C

RTD triad cables are used to carry the RTD signals to the control room or field mounted instruments.

TECHNICAL SPECIFICATION

Construction	:	Single / Multi Triads
Voltage Grade	:	Upto 1.1 KV
Conductor	:	Electrolytic Grade Bare Copper/Tinned Copper
Conductor Size	:	0.50, 0.75, 1.0, 1.5 Sq. mm upto 36 triad
Conductor Stranding	:	Solid or Multi Strand
Core Insulation	:	PVC/HR PVC/PE/XLPE/LSZH Polymer/FR/FRLS PVC, XLPO etc.
Screening Method	:	Individual and Overall/Overall Shield
Screening	:	Aluminum Foil with Drain Wire/Mesh
Braided		
Inner/Outer Sheath	:	PVC/HR PVC/PE/LSZH Polymer/FR PVC/FRLS PVC, PUR, XLPO etc.
Rip Cord	:	For easy removal of sheath
Armouring	:	G.I. Round Wire / Flat Strip p
Standards	:	As per BS 5308 Part 1 and Part 2, IS 1554, EN 50288 7, IS 7098, DIN 43760

FIRE SURVIVAL CABLES

Fire Survival Cables are used in the installations where vital circuits are required to continue operation under fire conditions. In all disaster, fire smoke head & toxic fumes are the main obstacles to safe evacuation of a building area.

A major contribution towards overcoming these hazards is the use of fire survival cables & halogen free cables.

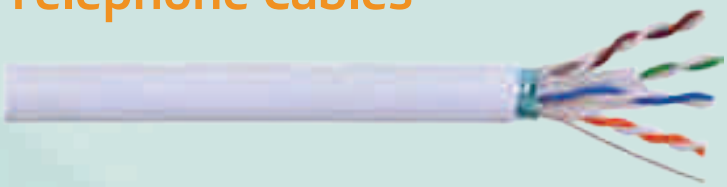
TECHNICAL SPECIFICATION

Conductor	: Electrolytic Grade Bare Copper/Tinned Copper
Fire Resist Heat Barrier	: Mica Heat Barrier Tape
Insulation	: XLPE/SILICON
Screening	: Al-myler/Metal braided
Inner/Outer Sheath	: Halogen Free Low Smoke Polymeric compound
Armouring	: G.I. Round Wire / G.I. Flat Strip
Standard	: IEC 60331, IEC 60332, IEC 60754, BS 6387, BS 7846 EN 50290-2-27, BS 7655, BS 7629-1, IS 7098, IS9968

HIGHT TEMPERATURE CABLES

High temperature cables are used in areas where both working temperature and ambient temperature are too high. W e offer a variety of high temperature insulations such as alumina yarn, ceramic yarn, fibre glass, fluoroplastic polymers and elastomer to perform in continuos temperature up to 1200°C.

Telephone Cables



Organic Cables twisted paired cables are best suited for telephone and switchboard cabling applications. The cables can be used for switchboard and internal telephone wiring in apartments, high-rise buildings, offices, factories, hotels, residential complexes, etc. The most common sizes are 2 Pair, 3 Pair, 4 Pair and 5 Pair in conductor of 0.4 mm or 0.5 mm.

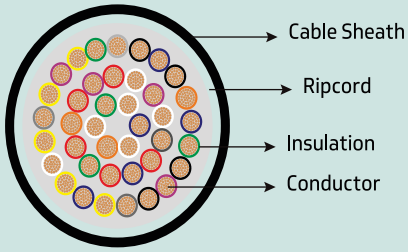
Salient Features

- Low Power Loss
- Low Crosstalk
- Fire Retardant Sheath
- Low attenuation

Range of Product

- 1 Pair to 20 Pair (0.4 mm / 0.5 mm)

Cable Cross Section View



Technical Details:

- Conductor: The central conductor is made of bare annealed solid electrolytic grade of copper
- Insulation: Premium quality HDPE is used. This serves for low attenuation and minimized cross talk
- Twisted Pairs: The cores are carefully twisted with suitable lays and bunched together
- Packing: Available in 90 meter packed in carton and 500 meter packed in easy pull box. Higher lengths available on special request

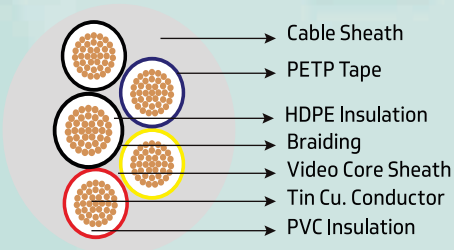
CCTV Cable

Organic Cables offers specially designed cables for CCTV Camera cable for high quality video transmission. These cables are designed to transmit the complete video frequency range with minimum distortion or attenuation. They offer reliable security by withstanding over-heating, seepage, weather changes and rodent attacks.

Salient Features

- Min. distortion of video frequency range
- Clear Picture even on low frequency

Cable Cross Section View



Technical Details

- Screened Core for Video signal
- Conductor: The central conductor is made of fine wires tin coated electrolytic grade copper
- Insulation: The insulation provided over the conductor is of HDPE with high dielectric strength and low capacitance
- Screen: Annealed tin coated copper 85% coverage approx
- Sheath: Black coloured PVC Power Cores
- Separator: PETP tape
- Sheath: PVC
- Cable Colour: White.
- Packing : Available in 100 meter packed in carton and 305 meter packed in easy pull box.

HEAT RESISTANCE POWER CABLES

We provide a range of single & multi core heat resistance cable for temperature range up to 800°C. Our Heat Resistance Power Cables are suitable to resist in chemical, fire and flame atmosphere.

TECHNICAL SPECIFICATION

Construction	:	Single / Multi Cores
Voltage Grade	:	Up to 1.1 KV Grade
Conductor	:	ABC, NPC, Pure Nickel, NPC 27%
Conductor Size	:	1.5, 2.5, 4.0, 6.0, 10.0, 16.0, 25.0, 35.0 Sq mm upto 240 sq. mm
Heat Barrier Tape	:	Polyimide Tape
Conductor Stranding:		Multistrand as per IS 8130:84/IEC60228
Core Insulation	:	PTFE, FEP, PFA, Silicon, Fibre Glass, Ceramic Fibre etc.
Isolator	:	Polyimide, Sintered PTFE Foil
Fire Barrier Tape	:	Glass Mica Tape
Screening	:	Mesh Braided(Overall)
Inner/Outer Sheath	:	Teflon, Fibre Glass, Ceramic Fibre etc.
Outer Breading	:	Asbestos
Armouring	:	SS Braiding
Standards	:	As per IS 8130:84, JSS 51038, JSS 51037

FEATURES

- Max. Temp. Up to 800°C
- Excellent Heat Resistant
- Excellent Abrasion Resistance
- Excellent Flame Retardant
- Good Thermal Stability
- Good Chemical Resistivity

APPLICATIONS

- Steel
- Glass
- Ceramic Metal Industries
- Chemical & Fertilizers
- Refractories
- Power
- Oil & Gas
- Cement

DC SOLAR PHOTOVOLTAICCABLES

DC Solar Cable are single core copper cables each for +ve and -ve, They are insulated with cross linkable polyolefin compound and sheathed with halogen free polyolefin compound.(Generally conforming to BS EN 50618:2014 Standard)

SIZE cross-sectional area in (sqmm)	Max. Conductor D.C. Resistance at 20°C in ohm/(km)	Average Diameter of Conductor (in mm)	Approx. Overall Diameter of cable (in mm)		Approximate Overall weight (in kg/km)	Minimum Bending radius (in mm)	Current rating under continous operation 90°C and ambient temperature 40°C (in A)	Short circuit current rating for 1 sec. duration (in KA)
1.5	13.7	1.46	4.46	4.86	35	19	22	0.189
2.5	8.21	1.88	4.88	5.28	46	21	30	0.315
4.0	5.09	2.39	5.39	5.79	64	23	42	0.504
6.0	3.39	2.93	5.93	6.33	84	25	52	0.756
10	1.95	3.86	7.26	7.66	133	31	76	1.26
16	1.24	5.39	8.79	9.19	195	37	95	2.02
25	0.795	6.73	10.53	11.13	290	45	124	3.15
35	0.565	8.08	11.88	12.48	390	50	159	4.41
50	0.393	9.69	13.49	14.09	530	56	185	6.30
70	0.277	11.54	15.34	15.94	715	64	239	8.82
95	0.210	13.25	17.05	17.85	920	71	290	11.97
120	0.164	15.00	18.80	19.60	1150	78	335	15.12
150	0.132	16.77	21.37	22.37	1460	89	385	18.90
185	0.108	18.54	23.54	24.54	1770	98	440	23.31
240	0.0817	21.33	26.33	27.33	2300	110	520	30.24

SPECIAL PROPERTIES OF SOLAR CABLES

Lasts up to 30 years even under tough external conditions.

Annealed Tinned Copper Conductor (Class 5 as per IEC-60228)

Resists extreme temperatures (-40°C to 120°C maximum at the core) and ozone resistant.

Full protection against ultraviolet rays.

Low smoke emission & low toxicity / corrosivity during fire.

Flame retardant, fire retardant.

Fast & Easy installation with color identification.

In accordance with new environmental regulations.

Suitable to common connector types.

Electron-Beam & Silane Cross Linked

CHEMICAL PROPERTIES

Weather resistant & UV resistant

Resistant to mineral oils & chemicals

Resistant to acids & alkaline

Ammonia Resistance

THERMAL PROPERTIES

Maximum Conductor temperature of operation at 120°C during 20000 hours

Ambient temperature: -40°C to +90°C

Generally conforming to National/International standards

ELECTRICAL PROPERTIES

Voltage rating: 1.5 (1.8) KV DC / 0.6 / 1.0 (1.2) KV AC

High voltage test 6.5KV AC/15KV DC for 5 minutes.

Min. Insulation resistance @ 90°C = 0.20MÙ/km

Spark test - 6000 V AC(8000 V DC)

MECHANICAL PROPERTIES

Resistant to Impact, tear & abrasion

Minimum bending radius - 4 times of overall diameter.

Safe pulling force -50 N/sqmm.

OTHER AVAILABLE DESIGNS

Design I : Insulated and sheathed with cross linkable LSZH which has UV as well as ozone protection properties (generally conforming to BS EN 50618:2014).

Design II : Insulated with HR105°C PVC Compound and sheathed with UV Stabilized HR 105°C PVC Compound (generally confirming to IS-694 and IS-1554).

Design III : Insulated with XLPE compound and Sheathed with UV Stabilized PVC ST2 Compound(generally confirming to IS 7098 Part 1 Guidelines)

AUTOMOTIVE WIRES AND CABLES

We are a leading manufacturer of automotive wire and cables. Automotive wiring to be used at 60 V DC or less in surface vehicles electrical system in various applications. We provide automotive wires in a variety of gauge sizes and colors premium-grade PVC insulation. Automotive wires and cables are used i wiring harness assemblies for cars, light, medium, heavy and industrial trucks, motorcycles, buses, agricultural equipment, recreational vehicles, construction equipment, Train equipment, and off-road vehicles etc.

GERMAN STANDARD

Standard Compliance : ISO 6722 (Class B, C, D,F,H, E)

Single-Core Cables : FLY, FLYY, FLYW, FLRYW, FLYK, FLRYK, FLRY-A,FLRY-B,FLR2X-A,FLR2X-B,FL2G, FL2X, FLRYW-A, FLRYWd, FLRYW-B, FLR4Y, FLR5Y-A, FLR5Y-B, FLR6Y-A,FLR6Y-B, FLU6Y, FLR7Y-A. FLR7Y-B, FLR14Y, FLR51Y-A, FLR51Y-B, FLYWK & FLRYWK, FLYOY/FLYKOY

Multi-Core Cables : FLYY, FLYZ, FLRYB11Y, FLR2X11Y, FL6Y2G

Code Designation : FL - Automotive Wire, FLZ - Automotive Ignition Wire, Y=soft-PVC (polyvinyl chloride) YW=soft-PVC, heat-resistant, hot-pressure resistant, 4Y=PA (polyamide) 6Y=FEP, 7Y=ETFE, 2X=XLPE, 4, 2G=SIR(Silicone rubber), 14Y= PFA, R=Reduced insulation trickiness, U=Ultra thin Insulation, C=Cooper braiding, B=Screen(film/foil shiedl)

JAPANESE STANDARD

Standard Compliance : JASO D611-94, JASO D611-09, JASO D611-92, JASO D608 JIS 3406

Cables : AV, AV-V, AVS, AVSS, AVSSH, AEX, AEXF, AEXSF, AEXHF, AESSXF, AEXHSF, ATW-FEP, AFHX, HAEXF, HFSSF-T3, AVSSX/AESSX, CAVS, EB/HDEB, AEX-BS, AEXHF-BS, AESSXF/ALS, AVSS-BS, APEX-BS, AVSSXFT

Code Designation : **A**= automotive low tension cable, V=polyvinyl chloride insulation, S=thin wall insulation, **SS**=extreme thin wall insulation, **XX=**cross linked insulation, **T**=twisted

AMERICAN STANDARD

Standard Compliance : SAE J1127 - Automotive Wire, SAE J1128 - Battery Cable

Cables : TWP=thin wall, thermoplastic insulation low-tension cable for accumulator.

GPT=thermoplastic insulation low-tension cable.

TXL=thin-wall low-tension cables for automobiles.

GXL=cross linked polyolefin insulation low-tension cables for automobiles.

SXL=cross linked polyolefin insulation special purpose low-tension cables for automobiles.

HDT=heavy duty, thermoplastic insulation low-tention cable for automobiles.

SGT=starter or ground, general purpose thermoplastic insulated

STX=APC conductor, thin wall ELPO insulation

SGX=APC conductor, general purpose XLPO insulation

WTA=soft annealed copper conductor ultra thin wall PVC insulation

DIGITAL LINEAR HEAT SENSING CABLE

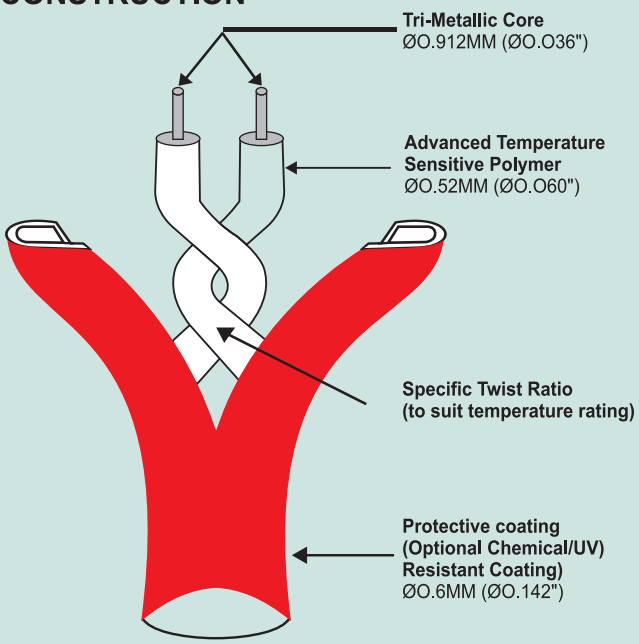
Linear Heat Detection Cable consist of a twisted pair of extremely low resistance tri metallic conductors, coated in advanced temperature sensitive thermal polymers which is chemically engineered to breakdown at particular fixed temperatures allowing the twisted conductors to make contact and initiate an alarm at the control panel. This linear cable can detect a fire anywhere along its entire length.

The proper temperature model must be chosen to provide the fastest alarm response to a potential fire conditions without creating false alarm conditions as it's a co-axial cable which exerts a defined change in elcctrical resistance of internal polymer when subjected to changes in surface temperatures. Fault indication of open and short circuit condition on the sensor cable can be provided by system monitoring through an associated electronic interface unit.

TECHNICAL SPECIFICATION

Construction	: Dual Insulated, twisted pair tri-matellic cores
Insulation	: 1.1 Kv tested Advance Thermal Polymers
Wire Overall Diameter	: 3.60 mm (Approx)
Minimum Bending Radius:	50 mm > 0°C 100 mm < 0°C
Ambient Temperature	: 68°C to 78°C version 88°C to 105°C version
Maximum Rated voltage :	30 vac /42 Vdc
Resistance	: 100 Ohm/Km
Maximum Zone Length	: 3000 mtr
Capacitance	: 88-150pF/mtr
Inductance	: 540-1050H/mtr
Outer Color	: Red for 68°C Yellow for 78°C Light Green for 88°C Dark Green for 105°C
Available	: 200 / 300 / 500 Mtr Length

CONSTRUCTION



INDUSTRY SECTOR

- Tunnels
- Mining
- Manufacturing
- Warehousing
- Cold Stores
- Communications & General Inductries

INDUSTRY APPLICATION

- ★ Cable Trays
- ★ Conveyor Belts
- ★ Rack Storage
- ★ Floating Roof Storage Tanks
- ★ Refrigerated storage
- ★ Pipelines
- ★ Power equipments Switchgear, transformer, motors and fan's

Single Core HRFR PVC Insulated Industrial Grade Copper Conductor (Unsheathed) Flexible Cables, 1100 Volts

Basic Code	Nominal Cross Sectional area of conductor	Number/ Nom. Dia of cond. strands*	Thickness of Insulation (Nom)	Approx. overall Diameter	Current Carrying Capacity 2 Cables Single Phase		Max. Conductor Resistance per KM at 20°C
					Conduit / Trunking	Unenclosed clipped directly to a surface or on cable trays	
Life Line Plus (HRFR)	sq. mm.	mm	mm	mm	Amps	Amps	Ohms
WHFF OC 1X50	0.5	16/0.2	0.6	2.1	4	4	39.00
WHFFOC 1X75	0.75	24/0.2	0.6	2.3	8	8	26.00
WHFFOC11X0	1.0**	14/0.3	0.7	2.7	12	13	18.10
WHFFOC 11X5	1.5**	22/0.3	0.7	3.0	14	18	12.10
WHFFOC 12X5	2.5**	36/0.3	0.8	3.6	20	24	7.41
WHFFOC 14X0	4.0	56/0.3	0.8	4.1	26	32	4.95
WHFFOC 16X0	6.0	84/0.3	0.8	4.6	34	41	3.30

Single Core HRFR PVC Insulated Industrial Grade Copper Conductor (Unsheathed) Flexible Cables, 1100 Volts

Nominal Cross Sectional area of conductor	Number/ Nom. Dia of cond. strands*	Thickness of Insulation (Nom)	Approx. Overall Diameter	Current Carrying Capacity 2 Cables Single Phase	Max. Conductor Resistance per KM at 20°C
				Unenclosed Clipped directly to a surface or on cable trays	
sq. mm.	mm	mm	mm	Amps	Ohms
10	80/0.4	1.0	6.1	51	1.91
16	126/0.4	1.0	7.0	69	1.21
25	196/0.4	1.2	8.6	89	0.780
35	276/0.4	1.2	9.7	113	0.554
50	396/0.4	1.4	11.5	153	0.386
70	360/0.5	1.4	13.0	238	0.272
95	475/0.5	1.6	15.1	289	0.206
120	608/0.5	1.6	16.6	339	0.161
150	750/0.5	1.8	18.5	394	0.129
185	925/0.5	2.0	20.4	461	0.106
240	1221/0.5	2.2	23.2	555	0.0801
300	1525/0.5	2.4	26.0	649	0.0641
400	2013/0.5	2.6	30.0	771	0.0486
500	2310/0.5	2.8	33.0	818	0.0384
630	3090/0.5	2.8	38.0	916	0.0287

Single Core FR-LSH PVC Insulated Industrial Grade Copper Conductor (Unsheathed) Flexible Cables, 1100 Volts

Basic Code	Nominal Cross Sectional area of conductor	Number/Nom. Dia of cond. strands*	Thickness of Insulation (Nom)	Approx. overall Diameter	Current Carrying Capacity 2 Cables Single Phase		Max. Conductor Resistance per KM at 20°C
					Conduit/ Trunking	Unenclosed clipped directly to a surface or on cable trays	
Life Guard (FR-LSH)	sq. mm.	mm	mm	mm	Amps	Amps	Ohms
WFRLS OC 11X0	1.0**	14/0.3	0.7	2.7	11	12	18.10
WFRLS OC 11X5	1.5**	22/0.3	0.7	3.0	13	16	12.10
WFRLS OC 12X5	2.5**	36/0.3	0.8	3.6	18	22	7.41
WFRLS OC 14X0	4.0	56/0.3	0.8	4.1	24	29	4.95
WFRLS OC 16X0	6.0	84/0.3	0.8	4.6	31	37	3.30

Single Core HFFR Insulated Industrial Grade Copper Conductor (Unsheathed) Flexible Cables, 1100 Volts

Basic Code	Nominal Cross Sectional area of conductor	Number/Nom. Dia of cond. strands*	Thickness of Insulation (Nom)	Approx. overall Diameter	Current Carrying Capacity 2 Cables Single Phase		Max. Conductor Resistance per KM at 20°C
					Conduit/ Trunking	Unenclosed clipped directly to a surface or on cable trays	
Life Shield (HFFR)	sq. mm.	mm	mm	mm	Amps	Amps	Ohms
WHFFZN...A11X0	1.0**	14/0.3	0.7	2.7	11	12	18.10
WHFFZN...A11X5	1.5**	22/0.3	0.7	3.0	13	16	12.10
WHFFZN...A12X5	2.5**	36/0.3	0.8	3.6	18	22	7.41
WHFFZN...A14X0	4.0	56/0.3	0.8	4.1	24	29	4.95
WHFFZN...A16X0	6.0	84/0.3	0.8	4.6	31	37	3.30

Multicore Round FR PVC Insulated Industrial Grade Copper Conductor (Sheathed) Flexible Cables, 1100 Volts

Basic Code	Nominal Cross Sectional area of conductor	Number Nom. Dia of cond. strands*	Thickness of Insulation (Nom)	Nominal Thickness of Sheath			Appx. Overall Diameter			Current Rating AC	Voltage Drop/ Amp/Meter		Max. Conductor Resistance per KM at 20°C
				2 Core	3 Core	4 Core	2 Core	3 Core	4 Core		DC or Single Phase AC	3 Phase AC	
	sq. mm.	mm	mm	mm	mm	mm	mm	mm	mm	Amps	mV	mV	Ohms
WHMFOC _X50	0.5	16/0.20	0.6	0.9	0.9	0.9	6.2	6.5	7.0	4	83	72	39.0
WHMFOC _X75	0.75	24/0.20	0.6	0.9	0.9	0.9	6.6	6.9	7.5	7	56	48	26.0
WHMFOC _1X0	1.0	32/0.20	0.6	0.9	0.9	0.9	6.9	7.3	7.9	11	43	37	19.5
WHMFOC _1X5	1.5	30/0.25	0.6	0.9	0.9	1.0	7.4	7.8	8.7	13	31	26	13.3
WHMFOC _2X5	2.5	50/0.25	0.7	1.0	1.0	1.0	8.8	9.4	10.2	18	18	16	7.98
WHMFOC _4X0	4.0	56/0.30	0.8	1.0	1.0	1.0	10.2	10.9	11.9	24	11	9.6	4.95
WHMFOC _6X0	6.0	84/0.30	0.80	1.1	1.1	1.2	11.5	12.2	13.6	31	8	7	3.30

Basic Code	Nominal Cross Sectional area of conductor	Number Nom. Dia of cond. strands*	Thickness of Insulation (Nom)	Nominal Thickness of Sheath					Appx. Overall Diameter					Max. Conductor Resistance per KM at 20°C
				5 Core	6 Core	7 Core	8 Core	10 Core	5 Core	6 Core	7 Core	8 Core	10 Core	
	sq. mm.	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Ohms
WHMFOC _X50	0.5	16/0.20	0.6	0.9	0.9	0.9	1.0	1.0	7.8	8.2	8.2	9.4	11.0	39.0
WHMFOC _X75	0.75	24/0.20	0.6	0.9	1.0	1.0	1.0	1.1	8.3	9.4	9.4	10.4	11.8	26.0
WHMFOC _1X0	1.0	32/0.20	0.6	1.0	1.0	1.0	1.0	1.1	9.0	9.8	9.8	10.9	12.5	19.50
WHMFOC _1X5	1.5	30/0.25	0.6	1.0	1.0	1.0	1.1	1.1	9.8	10.7	10.7	12.0	13.7	13.30
WHMFOC _2X5	2.5	50/0.25	0.7	1.0	1.1	1.1	1.2	1.3	11.8	12.8	12.8	14.0	16.8	7.98
WHMFOC _4X0	4.0	56/0.30	0.8	1.1	1.2	1.2	1.3	1.4	13.8	15.8	15.8	16.8	20.4	4.95

PVC Insulated Industrial Multicore Round Grade Cables

Basic Code	Nominal Cross Sectional area of conductor	Number Nom. Dia of cond. strands*	Thickness of Insulation (Nom)	Nominal Thickness of Sheath					Appx. Overall Diameter					Max. Conductor Resistance per KM at 20°C
				12 Core	14 Core	16 Core	19 Core	24 Core	12 Core	14 Core	16 Core	19 Core	24 Core	
	sq. mm.	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Ohms
WHMFOC _X50	0.5	16/0.20	0.6	1.0	1.1	1.1	1.1	1.2	11.6	12.0	12.7	13.2	15.4	39.0
WHMFOC _X75	0.75	24/0.20	0.6	1.1	1.1	1.2	1.2	1.3	12.4	12.8	13.8	14.3	16.8	26.0
WHMFOC _1X0	1.0	32/0.20	0.6	1.1	1.1	1.2	1.3	1.4	12.9	13.7	14.4	15.1	18.0	19.50
WHMFOC _1X5	1.5	30/0.25	0.6	1.1	1.2	1.2	1.3	1.4	14.2	14.8	15.8	16.6	19.4	13.30
WHMFOC _2X5	2.5	50/0.25	0.7	1.3	1.3	1.4	1.4	1.5	17.3	18.0	19.5	20.4	23.8	7.98
WHMFOC _4X0	4.0	56/0.30	0.8	1.4	1.4	1.5	1.5	1.6	20.6	22.0	23.8	25.2	28.5	4.95

Note: Available in 100 metres length with black outer sheath & in bigger packing on request. Any colour on specific request can be supplied, in economical run.
*The number and diameter of conductor strands are for reference only. Conductor resistance as per IS:8130 is the governing criteria.
Conductor shall be of Class-V as per IS:8130

Progressive sequential length marking on every meter.

Core Identification:

2 CORE : Red & Black
3 CORE : Red, Black & Yellow-Green
4 CORE : Red, Yellow, Blue & Yellow-Green
5 CORE : Red, Yellow, Blue, Black & Grey
6 CORE : Red, Yellow, Blue, Yellow-Green, White & Black
7 CORE & Above : Number printing on each core / Colour code as specified in IS:694

Some comparative technical features are given below.

S. No.	Feature	Heat Resistant & Flame Retardent PVC	Flame Retardent Low Smoke & Halogen FR-LSH	Low Smoke HFFR
1	Insulation Material	Spl. FR PVC	Spl. FR-LSH PVC	Spl. Polymer
2	Insulation Property	Good	Good	Very Good
3	Temperature Rating	85°C	70°C	70°C
4	Thermal Stability	Good	Good	Very Good
5	Flame Retardancy	Very Good	Very Good	Excellent
6	Safety during Burning	Good	Good	Excellent
7	Requirement of critical oxygen index as per ASTMD-2863 to catch fire (%)	>30	>30	>35
8	Temperature Index	>250°C	>250°C	>280°C
9	Light Transmission (Visibility) during Cable as per ASTMD-2843 Burning (%)	NA —	>40 Good	>80 Excellent
10	Release of Halogen Gas During Burning (%)	NA —	< 20% Good	< 0.5% Excellent
11	Abrasion Resistance During Installation	Good	Good	Good

CERTIFIED & TESTED BY

Plot No 90, Sector-8, Bhiwadi Distt. Alwar Rajasthan - 301019

Ph. : 01493-55201719 www.organiccables.com Email :- marketing@organiccables.com, vijaygupta@organiccables.com.