



FEDERAL CABLES

QUALITY UNMATCHED

FIRE RESISTANT CABLES



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Introduction

“**FEDERAL CABLES**” (**Fedcab**) is part of Federal group of companies established in the year 1999. We are proud partners to the various energy needs of Middle east through different sectors. **Fedcab’s** manufacturing facility is located in Abu Dhabi, UAE with state of the art machineries and integrated technical expertise. Apart from cables, Federal manufactures power and distribution transformers, bus ducts and switchgear Panels.

Fedcab current range of cables conforming to international standards such as BS, BS EN, IEC, VDE, GOST or any other standard that may be desired by a client.

Fedcab Products (Low Voltage)

- XLPE Insulated PVC Sheathed Cables (Armoured / UN-Armoured) - BS 5467 / IEC 60502-1
- XLPE Insulated LSZH Sheathed Cables (Armoured / UN-Armoured) - BS 6724 / IEC 60502-1
- Fire Alarm Cables -BS 7629-1
- Single Core Fire Resistance Cables - BS 6387 / IEC 60331-21
- Multicore Fire Resistance Cables - BS 7846
- PVC / LSZH Building Wires - BSEN 50525-2-31 / BSEN 50525-3-41
- Flexible Cables - BSEN 50525-2-11
- Rubber Cables - BSEN 50525-2-21
- Instrument Cables - BSEN 50288-7
- Panel Wires - BS 6231

Technical Advisory Services

Fedcab has a dedicated technical advisory team to assist customers in choosing the apt product technically suitable for their requirements.

Certificate of Product Approval

Certificate Number: 1693c

Issue: 01

Federal Transformers Co. LLC.

Plot No. 17 AR17, 18, 19,
ICAD II, Mussafah,
Abu Dhabi 9769.
United Arab Emirates



is authorised to use the LPCB mark in association with the product(s) listed in this certificate and appendix having complied with the requirements of the standard(s) detailed below:

Product(s)

Cable Types as listed below:
FEDCAB FIRE SMART SC ELECTRIC CABLE

Standard(s) (see Appendix for details)

BS 6387:2013 (Category CWZ)
IEC 60331-21:1999
EN 60754-1:2014
EN 61034-2:2005+A2:2020
EN 60332-1-2:2004+A11:2016

This Certificate is maintained and held in force through regular surveillance activities and subject to the corresponding ISO 9001 Certificate being maintained.

Obada Al-een

Signed for BRE Global Ltd.

Obada Piracha
Certification Manager

11 January 2023
Date of Issue

11 January 2023
Date of First Issue



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Issue: 01

Federal Transformers Co. LLC.

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United Arab Emirates



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Product(s)

Cable Types as listed below:
FEDCAB FIRE SMART ELECTRIC CABLE

Standard(s) (see Appendix for details)

BS 7846:2015 (Category F2)

This Certificate is maintained and held in force through regular surveillance activities and subject to the corresponding ISO 9001 Certificate being maintained.

Signed for BRE Global Ltd.

Obada Piracha

Certification Manager

29 July 2022

Date of Issue

29 July 2022

Date of First issue



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Certificate of Product Approval

Certificate Number: 1693a

Issue: 01

Federal Transformers Co. LLC.

Plot No. 17 AR17, 18, 19,
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United Arab Emirates



is authorised to use the LPCB mark in association with the product(s) listed in this certificate and appendix having complied with the requirements of the standard(s) detailed below:

Product(s)

Cable Types as listed below:
FEDCAB Fire Safe Electric Cable

Standard(s) (see Appendix for details)

BS 7629-1:2015 (Standard 60)
BS 6387:2013 (Category CWZ)
EN 50200:2015 (Class PH120)

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Obada Al-een

Signed for BRE Global Ltd.

Obada Piracha

Certification Scheme Manager

31 March 2022

Date of Issue

31 March 2022

Date of First issue



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Quality Standard

Quality Management System Certified to ISO 9001

Fedcab's Quality Management System conforming to ISO 9001:2015 is certified by TUV NORD Germany.

Certification to the ISO 9001 standard demonstrates that Fedcab has documented procedures to ensure and demonstrate full compliance with all requirements of the standard and that these procedures are followed by every department in the company, thus ensuring that goods leaving Fedcab's factory are of the best quality and meet customer's requirements in every respect.

Fedcab is committed to supply best quality products which it articulates with the slogan "Quality Unmatched". Fedcab cables are type tested at DEKRA Certification B.V., The Netherlands as below.



Environmental Management System Certified to ISO 14001

Fedcab's Environmental Management System conforms to the ISO 14001:2015 International Environmental Management Standard and is certified by TUV NORD, Germany.

Certification to the ISO 14001:2015 International standard shows that Fedcab has a well defined structure and established working practices aimed at limiting its impact on the environment. Measurement and monitoring of effects, issuing work instructions, training of personnel and taking corrective actions are all essential elements to limiting the impact on the environment. Fedcab has set improvement targets to

reduce the significant environmental impacts associated with its activities and thus ensuring sustainability.

Occupational Health & Safety Assessment Certified To OHSAS 45001:2018

Fedcab is ISO 45001 certified, an internationally accepted Standard for occupational health and safety management systems. This certification demonstrates Fedcab's adherence to sound occupational health & safety practices.

Manufacturing, Inhouse Testing & Quality Measures

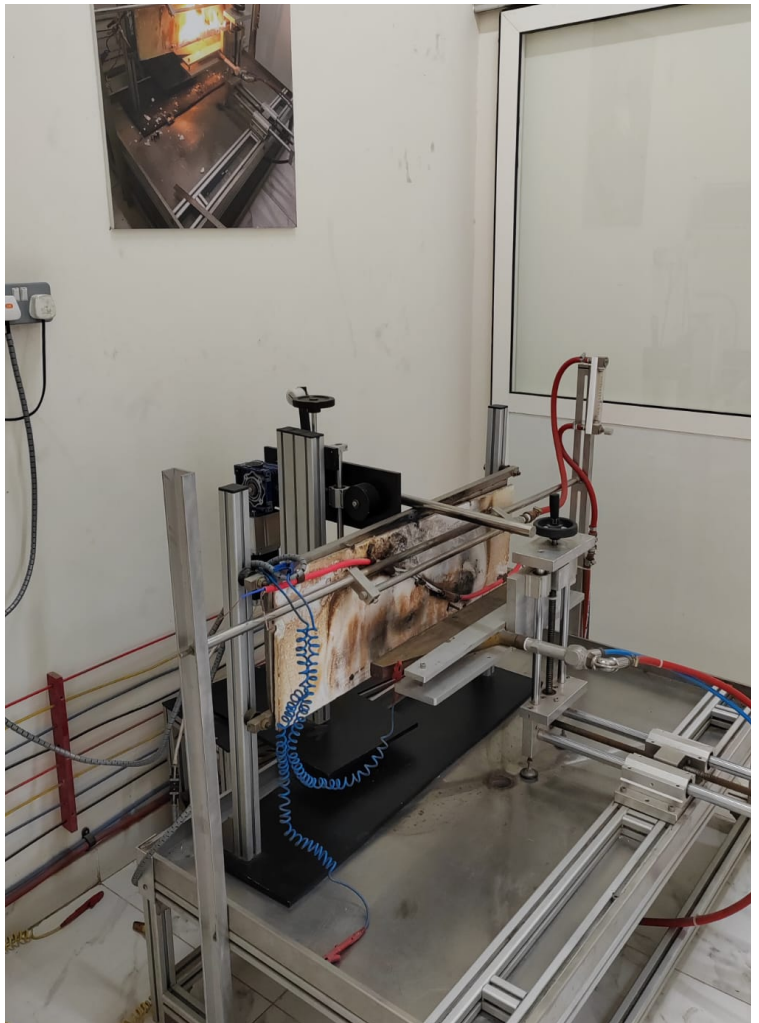
Fedcab takes utmost care while manufacturing its products. We have the latest plant and equipment from manufacturers such as **Niehoff-Germany, Rosendhal-Austria and Royle systems-USA**. We have online diameter gauges from BETA Lasermike, USA, Sikora, Germany and state of the art cable quicke optical non-contact measurement system from Sweden. We have online high voltage testing facility on our extrusion lines. Entire production process is carried out in-house and quality checks are carried out at each stage of production right from raw material to the finished product. We procure raw materials from best available sources which qualify to our in-house quality standards.

Federal Cables have most modern and fully equipped laboratory for testing materials and finished cables. Raw materials, in process materials and finished cables are all tested as per well documented quality norms. The laboratory is manned by engineers and managers having rich experience. We have complete facility for testing cables for fire performance (Circuit Integrity), flame retardance, low smoke and halogen free characteristics etc.

Final testing is done according to the requirement of the various specifications, ensuring full compliance and long term product reliability. In addition to all electrical testing, all cables are subjected to stringent physical and mechanical testing. We have complete Type Testing facility for all types of cables that we produce.



Circuit Integrity Testing Laboratory



Current Rating

The calculation of the current ratings, Current rating equations (100% load factor) and calculation of losses are based on IEC 60287 series, The ratings for a cable are adopted from BS 7671, Wiring Regulations.

Current ratings mentioned in the tables below are for the following standard installation conditions. For any change in the installation condition, current ratings in the tables should be multiplied by the respective derating factors.

Max. continuous operating conductor temperature: 90°C
Ambient Air Temperature : 30°C

It should be noted that all ratings for cables run in free air have been based on the assumption that they are shielded from the direct rays of the sun without restriction of ventilation. The rating for cables subjected to direct sunlight should be reduced to take account of this factor and further guidance on this subject is available on request.

Rating factor for ambient air temperatures

Air Temperature	25°C	30°C	35°C	40°C	45°C	50°C	55°C
Rating Factors	1.02	1.0	0.96	0.91	0.87	0.82	0.76

Correction factors for grouping

No of Cables in a group	2	3	4	5	6	7	8	9
Rating factor	0.8	0.7	0.65	0.6	0.57	0.54	0.52	0.5

Applications

- FEDCAB Firesafe cables (Fire Alarm) are used in High rise building, commercial complexes, schools and educational institutions, hospitals etc. For the connections with security systems like smoke detectors, emergency lightings, exit sign boards and fire command centers. These cables are used where the fire safety is utmost important.

BS 7629-1, 300/500 V Fire alarm cable with non corrosive gases and low emission of smoke when affected by fire.

Category STANDARD 30 & STANDARD 60 when tested in accordance with BSEN 50200- Method of test for resistance to fire of unprotected small cables for using emergency circuits. Also meets category ENHANCED 120 when tested in accordance with BSEN 50200 and the 120 Min survival time when tested in accordance with BS 8434-2.

- FEDCAB Firesmart (Single core fire resistant cable) are designed for installation in trunking and conduits where a fire situation may pose a major hazard. Circuit integrity is maintained and to achieve optimum performance such cable should be installed in metal conduits. Circuit integrity for installation in metal conduits; BS 6387 categories C, W & Z (when applied to a single cable).

Exceeds IEC 6033-1 - 3 Hrs at 750Deg C - when the test temperature increased to 950Deg C, Equivalent to BS 6387 category C.

- FEDCAB Firesmart cables offer the advantages of an armoured 600/1000V rated, low smoke zero halogen (LSZH) cable with circuit integrity. They are intended for use in installations where vital circuits are required to continue operation in the event of the outbreak of fire. It is particularly suited for use in public buildings and constructions (such as hospitals, theatres, shopping developments, tunnels, mass transit railways, oil & petrochemical plants, power stations and computer installations) where the danger to life, equipment and structures may be greatly increased in the event of a power failure due to fire.

FIRE RESISTANCE

BS 6387

Following tests are carried out to verify if a cable is capable of maintaining circuit integrity under fire condition, fire with water, and fire with mechanical shocks. During the tests the cables are maintained at their rated voltage.

▶ Fire Resistance (CAT. A B C S)

The cable is exposed to fire at the specified temperature and time.



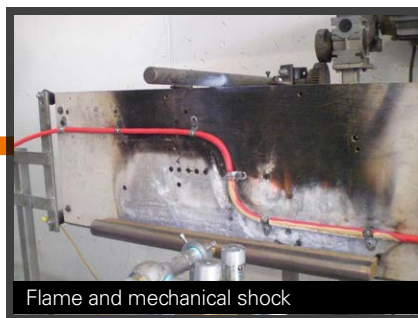
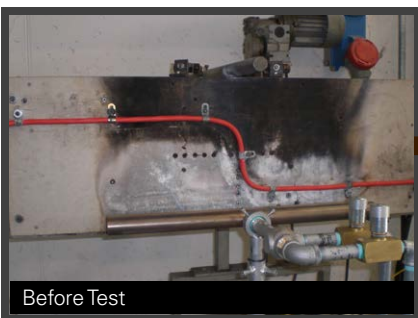
▶ Fire and Water Resistance (CAT. W)

The cable is exposed for 15 minutes to flame at 650°C and for additional 15 minutes to fire and water spray.



▶ Fire Resistance with Mechanical Shocks (CAT. X Y Z)

The cable is mounted on a vertical panel and shocked with a steel bar for 15 minutes while submitted to the action of a flame.



Performance Table

TEST	CATEGORY
Fire Resistance	
650 °C for 3 hours	A
750 °C for 3 hours	B
950 °C for 3 hours	C
950 °C for 20 minutes	S

TEST	CATEGORY
Resistance to Fire and Water	
650 °C	W
Resistance to Fire with Mechanical Shock	
650 °C	X
750 °C	Y
950 °C	Z



**FEDCAB FIRE SAFE ELECTRIC CABLE (FIRE ALARM CABLE) - Complying to BS 7629 - 1
(LPCB Approved)**

Cable Construction :

- Conductor : Annealed Copper conductor
- Voltage Grade : 300/500V
- Insulation : Silicon EI-2 insulation
- CPC (Drain Wire) : Annealed Tinned Copper
- Screening : Aluminium Foil Tape
- Outer Sheath : LSZH sheath
- LPCB Certification : BS 7629 - 1 (STANDARD 60)
- FIRE RESISTANCE : BS 6387 (CWZ)



**NOTE : FEDCAB FIRE SAFE ELECTRIC CABLE MET THE FIRE RESISTANCE REQUIREMENTS FOR 120 MINUTE
WHEN TESTED IN ACCORDANCE WITH BS EN 50200 :2015 PH120**

TECHNICAL PARAMETERS								
NO OF CORE	SIZE (mm ²)	RADIAL INSULATION THICKNESS (mm)	CPC (mm ²)	SHEATH THICKNESS (mm)	OVERALL DIAMETER (mm) (APPROX)	CONDUCTOR RESISTANCE @20C (MAX) Ω/Km	Current rating* (Clipped Direct) (Amps)	Voltage drop* (mV/A/m)
2	1.5	0.7	1.5	0.9	8.5	12.1	19.5	29
2	2.5	0.8	2.5	1	10.5	7.41	27	18
2	4	0.8	4	1.1	12.5	4.61	36	11
3	1.5	0.7	1.5	0.9	9.5	12.1	17.5	25
3	2.5	0.8	2.5	1	12	7.41	24	15
3	4	0.8	4	1.1	13.5	4.61	32	9.5
4	1.5	0.7	1.5	1	10.5	12.1	17.5	25
4	2.5	0.8	2.5	1.1	13	7.41	24	15
4	4	0.8	4	1.2	15	4.61	32	9.5

Colour Code : New

- 2 core : Brown & Blue
- 3 core : Brown , Black , Grey
- 4 core : Blue , Brown ,Black , Grey

Colour Code : Old

- 2 core : Red & Black
- 3 core : Red , Yellow , Blue
- 4 core : Red , Yellow , Blue , Black



FEDCAB FIRE SMART SINGLE CORE ELECTRIC CABLE (SINGLE CORE) - Complying to BS 6387 / IEC 60331-21

(LPCB Approved)

Cable Construction :

- Conductor : Annealed Copper conductor
- Primary Insulation : Mica Glass Tape
- Secondary Insulation : Extruded XL-LSZH (90Deg C)
- Voltage Grade : 600/1000V
- LPCB Certification : BS 6387



TECHNICAL PARAMETERS							
SIZE (mm ²)	Avg. Insulation Thickness (mm)	Approx Overall Diameter (mm)	Maximum Conductor D.C Resistance @ 20°C Ω/Km	Current Rating (1Φ AC) Amps	Current Rating (3Φ AC) Amps	Voltage Drop (1Φ AC) MV/A/M	Voltage Drop (3Φ AC) MV/A/M
1X1.5	0.7	4.0	12.1	23	20	31	27
1X2.5	0.8	5.0	7.41	31	28	19	16
1X4	0.8	5.5	4.61	42	37	12	10
1X6	0.8	6.0	3.08	54	48	7.9	6.8
1X10	1.0	7.0	1.83	75	66	4.7	4
1X16	1.0	8.0	1.15	100	88	2.9	2.5
1X25	1.2	10.0	0.727	133	117	1.9	1.65
1X35	1.2	11.0	0.524	164	144	1.35	1.15
1X50	1.4	12.0	0.387	198	175	1.05	0.9
1X70	1.4	14.0	0.268	253	222	0.75	0.65
1X95	1.6	16.0	0.193	306	269	0.58	0.5
1X120	1.6	17.0	0.153	354	312	0.48	0.42
1X150	1.8	19.0	0.124	393	342	0.43	0.37
1X185	2.0	21.0	0.0991	449	384	0.37	0.32
1X240	2.2	24.0	0.0754	528	450	0.33	0.29
1X300	2.4	26.0	0.0601	603	514	0.31	0.27



FEDCAB FIRE SMART ELECTRIC CABLE (FIRE RESISTANT CABLE) - Complying to BS 7846

(LPCB APPROVED)

Cable Construction :

- Conductor : Annealed Copper conductor
- Voltage Grade : 600/1000V
- Fire Barrier : MICA Glass Tape
- Insulation : XLPE
- Inner Sheath : LSZH Compound
- Armouring : Galvanised Steel Wire
- Outer Sheath : LSZH Compound



LPCB Certification : BS 7846 (CATEGORY F2)

FIRE RESISTANCE : BS 6387 (CWZ)

***Note: The core assembly tape for cables from 25 mmsq to 300 mmsq MICA Glass Tape will be used to enhance fire performance.**

TECHNICAL PARAMETERS (2 CORE ARMoured CABLES)								
SIZE (SQ.MM)	Insulation Thickness (mm)	Inner Sheath Thickness (mm)	Armour wire size (mm)	Outer Sheath Thickness (mm)	Approx Overall Diameter (mm)	Conductor Resistance @20C (max) Ω/Km	Current rating on perforated cable trays / free air Amp	Voltage drop (1 phase) mV/A/m
1.5 *	0.6	0.8	0.9	1.3	11.5	12.1	29	31
2.5 *	0.7	0.8	0.9	1.4	13	7.41	39	19
4*	0.7	0.8	0.9	1.4	14	4.61	52	12
6*	0.7	0.8	0.9	1.4	15.2	3.08	66	7.9
10 *	0.7	0.8	1.25	1.5	18	1.83	90	4.7
16 *	0.7	0.8	1.25	1.5	19.1	1.15	115	2.9
25	0.9	0.8	1.25	1.6	18.9	0.727	152	1.9
35	0.9	1	1.6	1.7	21.8	0.524	188	1.35
50	1	1	1.6	1.8	23.8	0.387	228	1
70	1.1	1	1.6	1.9	27.2	0.268	291	0.69
95	1.1	1.2	2	2	31.2	0.193	354	0.52
120	1.2	1.2	2	2.1	33	0.153	410	0.42
150	1.4	1.2	2	2.2	36.2	0.124	472	0.35
185	1.6	1.4	2.5	2.4	40.8	0.0991	539	0.29
240	1.7	1.4	2.5	2.5	44.4	0.0754	636	0.24
300	1.8	1.6	2.5	2.6	48.4	0.0601	732	0.21

* ◆ Circular Conductor & All other sizes are shaped conductor

Colour Code : New

Colour Code : Old

2 core : Brown & Blue

2 core : Red & Black



**FEDCAB FIRE SMART ELECTRIC CABLE (FIRE RESISTANT CABLE) - Complying to BS 7846
(LPCB APPROVED)**

Cable Construction :

Conductor : Annealed Copper conductor
 Voltage Grade : 600/1000V
 Fire Barrier : MICA Glass Tape
 Insulation : XLPE
 Inner Sheath : LSZH Compound
 Armouring : Galvanised Steel Wire
 Outer Sheath : LSZH Compound
 LPCB Certification : BS 7846 (CATEGORY F2)
 FIRE RESISTANCE : BS 6387 (CWZ)



***Note: The core assembly tape for cables from 25 mmsq to 300 mmsq MICA Glass Tape will be used to enhance fire performance.**

TECHNICAL PARAMETERS (3 CORE ARMoured CABLES)								
SIZE (SQ.MM)	Insulation Thickness (mm)	Inner Sheath Thickness (mm)	Armour wire size (mm)	Outer Sheath Thickness(mm)	Approx Overall Diameter (mm)	Conductor Resistance @20C (max) Ω/Km	Current rating on perforated cable trays / free air Amp	Voltage drop (3 phase AC) mV/A/m
1.5 *	0.6	0.8	0.9	1.3	11.8	12.1	25	27
2.5 *	0.7	0.8	0.9	1.4	13.5	7.41	33	16
4*	0.7	0.8	0.9	1.4	14.6	4.61	44	10
6*	0.7	0.8	0.9	1.4	15.9	3.08	56	6.8
10 *	0.7	0.8	1.25	1.5	18.8	1.83	78	4
16 *	0.7	0.8	1.25	1.6	20.7	1.15	99	2.5
25	0.9	1	1.6	1.7	22.5	0.727	131	1.65
35	0.9	1	1.6	1.8	24.8	0.524	162	1.15
50	1	1	1.6	1.8	27.6	0.387	197	0.87
70	1.1	1	1.6	1.9	30.9	0.268	251	0.6
95	1.1	1.2	2	2.1	35.3	0.193	304	0.45
120	1.2	1.2	2	2.2	38.2	0.153	353	0.37
150	1.4	1.4	2.5	2.3	43	0.124	406	0.3
185	1.6	1.4	2.5	2.4	46.8	0.0991	463	0.26
240	1.7	1.4	2.5	2.6	51.4	0.0754	546	0.21
300	1.8	1.6	2.5	2.7	56.6	0.0601	628	0.185

* ➡ Circular Conductor & All other sizes are shaped conductor

Colour Code : New

3 core : Brown ,Black & Grey

Colour Code : Old

3 core : Red ,Yellow & Blue



FEDCAB FIRE SMART ELECTRIC CABLE (FIRE RESISTANT CABLE) - Complying to BS 7846

(LPCB APPROVED)

Cable Construction :

- Conductor : Annealed Copper conductor
- Voltage Grade : 600/1000V
- Fire Barrier : MICA Glass Tape
- Insulation : XLPE
- Inner Sheath : LSZH Compound
- Armouring : Galvanised Steel Wire
- Outer Sheath : LSZH Compound
- LPCB Certification : BS 7846 (CATEGORY F2)
- FIRE RESISTANCE : BS 6387 (CWZ)



***Note: The core assembly tape for cables from 25 mmsq to 300 mmsq MICA Glass Tape will be used to enhance fire performance.**

TECHNICAL PARAMETERS (4 CORE ARMoured CABLES)

SIZE (SQ.MM)	Insulation Thickness (mm)	Inner Sheath Thickness (mm)	Armour wire size (mm)	Outer Sheath Thickness (mm)	Approx Overall Diameter (mm)	Conductor Resistance @20C (max) Ω/Km	Amp Current rating on perforated cable trays/free air (Amp)	Voltage drop (3φ AC) (mV/A/m)
1.5 *	0.6	0.8	0.9	1.3	12.5	12.1	25	27
2.5 *	0.7	0.8	0.9	1.4	14.4	7.41	33	16
4 *	0.7	0.8	0.9	1.4	15.6	4.61	44	10
6 *	0.7	0.8	1.25	1.5	18	3.08	56	6.8
10 *	0.7	0.8	1.25	1.5	20.2	1.83	78	4
16 *	0.7	0.8	1.25	1.6	22.3	1.15	99	2.5
25	0.9	1	1.6	1.7	25.3	0.727	131	1.65
35	0.9	1	1.6	1.8	28	0.524	162	1.15
50	1	1	1.6	1.9	31	0.387	197	0.87
70	1.1	1.2	2	2.1	36.9	0.268	251	0.6
95	1.1	1.2	2	2.2	40.3	0.193	304	0.45
120	1.2	1.4	2.5	2.3	45.4	0.153	353	0.37
150	1.4	1.4	2.5	2.4	49.7	0.124	406	0.3
185	1.6	1.4	2.5	2.6	54.7	0.0991	463	0.26
240	1.7	1.6	2.5	2.7	60.5	0.0754	546	0.21
300	1.8	1.6	2.5	2.9	66.9	0.0601	628	0.185

* ➡ Circular Conductor & All other sizes are shaped conductor

Colour Code : New

Colour Code : Old

4 core : Brown ,Blue , Black & Grey

4 core : Red ,Yellow , Blue & Black

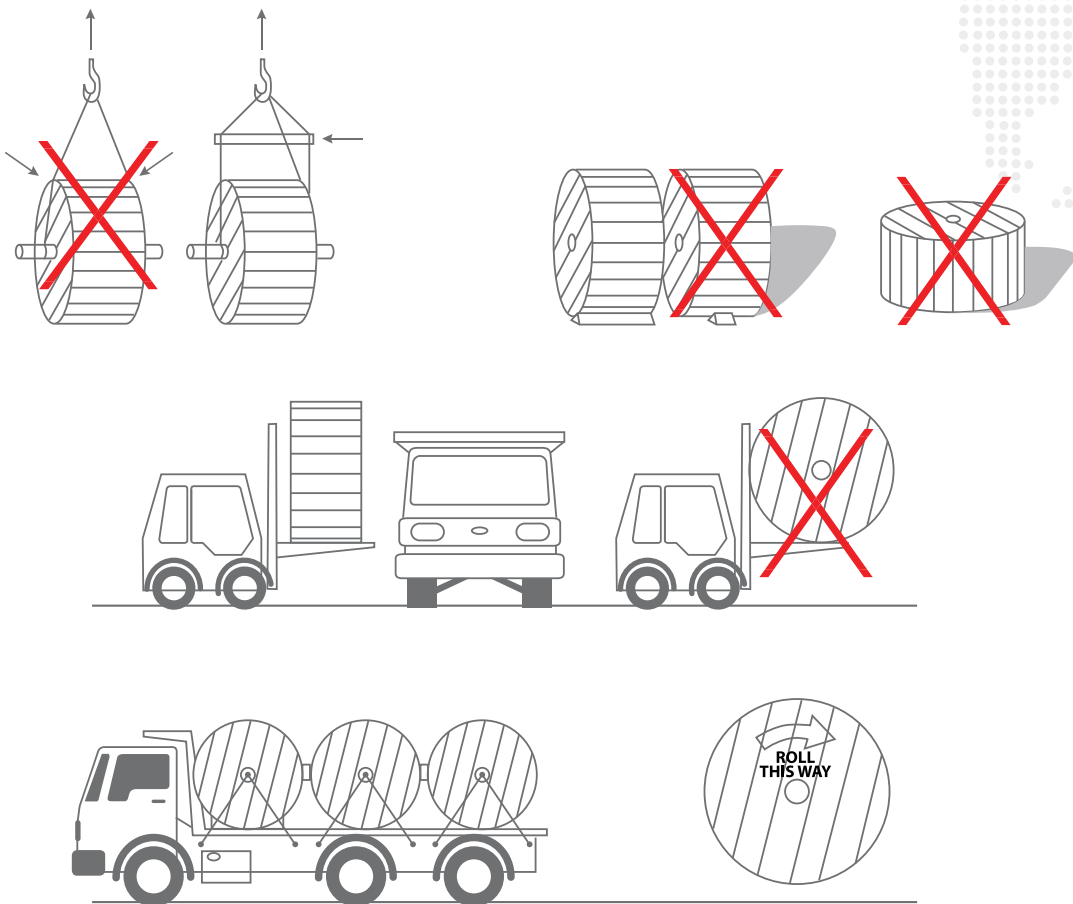
AC resistance, Reactance at 50 HZ and Short circuit ratings

Nominal Size (mm ²)	AC resistance at 90°C		Reactance at 50 Hz			Short circuit rating* Duration 1 Sec. (kA)
	Single core (0/km)	Multicore (0/km)	Single core cables		Multicore cables	
			Armoured (0/km)	Unarmoured (0/km)	(Arm & Unarm) (0/km)	
1.5	15.43	15.43	--	0.147	0.105	0.215
2.5	9.45	9.45	--	0.137	0.099	0.358
4	5.88	5.88	--	0.128	0.093	0.572
6	3.93	3.93	--	0.119	0.089	0.858
10	2.33	2.33	--	0.111	0.084	1.43
16	1.47	1.47	--	0.103	0.081	2.288
25	0.927	0.927	--	0.103	0.081	3.575
35	0.668	0.669	--	0.098	0.079	5.01
50	0.494	0.494	0.114	0.093	0.078	7.15
70	0.342	0.343	0.106	0.088	0.074	10.01
95	0.247	0.248	0.102	0.086	0.072	13.59
120	0.196	0.197	0.097	0.085	0.072	17.16
150	0.16	0.16	0.096	0.085	0.073	21.45
185	0.128	0.129	0.095	0.083	0.072	26.46
240	0.0988	0.0999	0.093	0.082	0.071	34.32
300	0.0801	0.0814	0.092	0.079	0.071	42.9
400	0.064	0.0659	0.09	0.08	0.07	57.2
500	0.052		0.089	0.078		71.5
630	0.0425		0.087	0.078		90.09
800	0.0358		0.086	0.076		114.4
1000	0.031		0.085	0.075		143

- Maximum conductor temperature at the end of short circuit is 250⁰C

Drum Handling Instructions

The movement of cable drums by forklift truck is the preferred method. Most drums of cable are within a weight range that permits their movement by this method. In general, the forklift truck method of drum handling is only applicable where a hard and level ground surface is available. This is required in the intended storage area. In this case a forklift capable of lifting about 12 tones will be required (maximum drum weight plus contingency). It is also necessary to ensure that the forklift truck tines are capable of traversing the width of the drum and provide support to both flanges. For the smaller drums, tines of 1200 mm length will be satisfactory. The larger drums will require tines of 1800 mm length. For the larger drums, for example containing 33 kV or 132 kV cables or long lengths of cable, it will be necessary to have tines at least 2500 mm so that the cable drums are adequately supported by both drum danges



LSZH cables need to be handled with care during installation because special additives are used in polymer sheath LSF compound material to give the typical flame retardant characteristics like high oxygen index , low halogen, low smoke , no acid gas liberation etc.

LSZH Cable Installation guidelines and best practices:-

- Morning time preferred for installation where ambient temperature is comparatively low.
- Should not expose to direct sunlight for considerable period before installation i.e., the temp. of the cable sheath should be below 40 degree Celsius.
- Special LSF compatible accessories and fixings are recommended for installations requiring enhanced fire performance.
- Do not use Wire/Rope directly on cable sheath for pulling.
- Special care on uneven surface , welding points and joints of cable trays to avoid outer sheath damage.
- Rollers and bends should be free from any kind sharpness and protrusions that may damage sheath.

Common Abbreviations

THERMO PLASTIC

PVC-Polyvinyl Chloride

PE-Polyethylene, Polythene

LSZH-Low smoke zero halogen

LDPE-Low Density Polyethylene

MDPE-Medium Density Polyethylene

HDPE-High Density Polyethylene

PUR-Polyurethane (Thermosetting also)

TPE – Thermoplastic elastomer

PA-Polyamide

METALLIC LAYERS

AWA-Aluminum Wire Armour

SWA/GSWA- Galvanized Steel Wire Armour

GSDT - Galvanized Steel Double Tape Armour

PBE-Lead Alloy E barrier sheath

GSWB-Galvanized steel wire braid

TCWB-Tinned Copper Wire Braid

PCWB-Plain Copper Wire Braid

ABWB-Annealed Brass Wire Braid

Al-PE-Aluminium Polymer Foil

CT – Copper Tape

THERMOSETTING

XLPE-Cross Linked Polyethylene

SR-Silicon Rubber

XLLSZH-Cross Linked LSZH

PUR-Polyurethane

EPR-Ethylene Propylene Rubber

PCP-Polychloroprene

CPE-Chlorinated Polyethylene

EVA-Ethylene Vinyl Acetate

EMA-Ethylene Methyl Acrylate

CABLE MATERIAL CODES

Nil – Copper

A – Aluminium

Y - PVC

2X - XLPE

2Y - Polyethylene

W – Galvanized steel wire armour

Wa – Aluminium wire armour



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