MEGHNA Cables™

Committed to Quality & Safety

TECHNICAL CATALOGUE

MEGHNA STAR CABLES

TECHNICAL CATALOGUE

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This is the Technical Catalogue of the products of Meghna Star Cables & Electrical Appliances Limited which is made available by the publisher Meghna Star Cables & Electrical Appliances Ltd. to support its readers with detail technical information and understanding of the wires, cables and conductors of Meghna Star Cables in accordance with local and international standards Please contact our technical service department for any further query and discussion on our product and services All the efforts have been made to ensure that this technical catalogue is free from any error or type mistakes. Readers of this technica catalogue are cordially requested to consider these error (if any) and encourage Us by giving their valuable suggestions to do better next time.

MEGHNA STAR Cables™

Committed to Quality & Safety

MEGHNA STAR CABLES established in 2017 offers one of the most complete lines of Household Wires, Low Voltage (PVC & XLPE Insulated), XLPE Insulated Medium Voltage Cables, Fire Survival, Instrumentation, Control, Communication, Overhead Conductor, Enamelled Round Copper Winding Wires, Copper & Aluminium Busbar, Copper & Aluminium Strip (Paper Insulated) & Electrical Ceiling Fan. Our superior products provide leading edge within every cable series and for every application. Among the national and international standards with which our cables could comply are IEC, BS, DIN-VDE, IS, ASTM, JIS & ISO Standard etc.

MEGHNA STAR CABLES offers a comprehensive stock of cables and other electrical Products through its nationwide network of resellers and distributors.

MEGHNA STAR CABLES has been respected for its high standards of quality, excellent service level, competitive pricing and a unique and innovative spirit with our latest technologies. We are both inspired and well-positioned to meet the changing needs of our customers. We have the resources to diversify and to enhance our product lines and services. We understand the need for change and with our accurate planning. We are ready for the future and the promise of new marketing opportunities. Our tradition of growth through excellence is assured.

MEGHNA STAR CABLES has established an extensive network of design, manufacturing and logistics facilities in the country's major markets to serve the growing outsourcing needs of both multinational and regional customers.

PRODUCT SCOPE

We are committed to deliver the highest stranded conductor and power cables to the local market and also global market. To do so, we produce a versatile product range cover most of our customer needs:

Type of cable	Voltage Grade	Range
Building Wire	300/300V to 450/750V	0.22 mm^2 and up to 630 mm^2
Low Voltage Cables	0.6/1.0 kV to 1.8/3.0 kV	PVC Insulated Single Core 1.0 mm^2 and up to 2500 mm^2 PVC Insulated Multi Core 1.0 mm^2 and up to 400 mm^2 PVC Insulated Al Armoured Single Core 25 mm^2 and up to 1000 mm^2 PVC Insulated Steel Armoured Multi Core 25 mm^2 and up to 400 mm^2 XLPE Insulated Single Core 1.0 mm^2 and up to 2500 mm^2 XLPE Insulated Multi Core 1.0 mm^2 and up to 400 mm^2 XLPE Insulated Al Armoured Single Core 25 mm^2 and up to 1000 mm^2 XLPE Insulated Steel Armoured Multi Core .0 mm^2 and up to 400 mm^2 Flexible Single Core 0.5 mm^2 and up to 630 mm^2 Flexible Multi Core 0.5 mm^2 and up to 300 mm^2
Medium Voltage Cables	3.6/6.0 kV to 18/30kV	XLPE Insulated Single core Armoured/Un-armoured 25 mm^2 and up to 1000 mm^2 XLPE Insulated Multi core Armoured/Un-armoured 25 mm^2 and up to 300 mm^2 Aerial Bundle Cable 35 mm2 and up to 240 mm^2
Fire Survival Cables	0.6/1.0 kV to 1.8/3.0 kV	PVC-FR or LSZH Insulated Single Core 1.0 mm^2 and up to 2500 mm^2 PVC-FR or LSZH Insulated Multi Core 1.0 mm^2 and up to 400 mm^2 XLPE Insulated Single Core 1.0 mm^2 and up to 2500 mm^2 XLPE Insulated Multi Core 1.0 mm^2 and up to 400 mm^2 Fire Alarm (Fire Resistant) Shield/Un-shield PVC-FR/XLPE Insulated Single or Multi Core 1.0 mm^2 and up to 6.0 mm^2
Instrumentation Cables	300/300V to 450/750V	Multi Core or Multi Pair 0.22 mm^2 and up to 4.0 mm^2
Communication Cables	-	Telecommunication cable 1 pair to 100 pair Co-axial cable 3C to RG 11
Overhead Conductor	-	AAC 16 mm^2 and up to 1000 mm^2 ACSR 20 mm^2 and up to 450 mm^2 Or AWG 4 and up to MCM 636
Enamel Round Copper Winding Wire	Class-130, Class-155 & Class-180 (Grade-2)	SWG 12 to SWG 38
Paper Insulated Strip		4x2 mm to 15x5 mm
Copper Busbar		20x3 mm to 170x10 mm
Electric Ceiling Fan		48” & 56” (Aluminium & Steel Blade)

MEGHNA Cables
Committed to Quality & Safety

SELECTING ADVICE OF CABLES

The following factors are important when selecting a suitable cable construction which is required for transporting electrical energy from the power station to the customer:

- Maximum operating voltage
- Frequency
- Load to be carried
- Length of cables required and individual drum length
- Voltage drop
- Type of installation
- Underground (direct buried or in ducts)
- In air (open air or in pipe)
- Conductor size
- Type of Cable (Armoured or Un-armoured)
- Number of core
- Type of insulation (PVC or XLPE or Others)
- Length

Voltage

The standard rated voltage of a cable is denoted by U0/U (Um)

Where,

U_0: is the rated power-frequency voltage between conductor and earth or metallic screen.

U: is the rated power-frequency voltage between conductors.

U_m: is the maximum continuously permissible operating voltage of a cable at time or in any part of the network.

U_0/U	kV	0.3/0.5	0.45/0.75	0.6/1.0	1.8/3	3.6/6	6/10	8.7/15	12/20	18/30
U_m	kV	0.55	0.82	1.2	3.6	7.2	12	17.5	24	36

Note: Cable design for 6/10, 12/20 and 18/30 kV is applicable for 6.35/11, 12.7/22 and 19/33 kV respectively.

Standards:

Cables described in this catalogue are standard types, and their performance has been proved in operation.

Construction and tests are in accordance with the recommendation of IEC publications wherever applicable.

Cables in accordance to other standard (e.g. BDS, BS, ASTM, NEMA, ISO, IS etc) can be manufactured upon customers request.

Weight and Overall Dimension:

Weight and overall dimension are approximate

The deviations are due to manufacturing tolerance

Marking of cables:

Standard embossed/ printed outer Jacket Marking consisting of:

- Name of manufacturer MEGHNA STAR CABLES
- Type designation, size of conductor, rated voltage.
- Standard comply
- Continuous length marking every meter
- Year of manufacture
- Any special part on request.

DESIGNATION CODE FOR CABLES

Voltage Designation of Cables:

U_0 → is the rated power frequency voltage between conductor and earth or metallic screen for which the cable is designed

U → is the rated power frequency voltage between conductors for which the cable is designed

U_m → is the maximum value of the "highest system voltage" for which the equipment may be used

Cable Manufacturing Code Designation:

Standard code

N → According to VDE Standard (VDE 0271 & VDE 0250)

B → According to British Standard (BS 6004)

According to IEC Standard

Conductor Code

→ Copper Conductor

A → Aluminium Conductor

ATC → Annealed Tinned Copper Conductor

re → Conductor of single solid having circular cross-section

rm → Conductor of multiple stranded wires having circular cross-section

sm → Conductor of multiple stranded wires having sector shaped cross-section

rmc → Conductor of multiple stranded wires having circular compacted cross-section

Insulation & Sheath Code

Y → PVC (Polyvinyl Chloride) for Insulation or Sheath

2Y → PE (Polyethylene)

2x → XLPE (Cross Linked Polyethylene) for Insulation

H → LSZH Polyolefin (Thermoplastic Insulation or Sheath)

2H → LSZH Polyolefin (Thermosetting Insulation or Sheath)

Metallic Shield Code (Collective & Braided)

H → Non-metallic semi-conducting screen over conductor & over insulation

SE → Non-metallic semi-conducting screen over conductor & over insulation and copper screen around each individual core for three core cables

S → Metallic shield of copper (concentric or collective)

C → Metallic shield of copper (concentric or collective or braided)

IS → Individual pair shield

OS → Overall shield

Armour Code

Ra → Round Aluminium wire

F → Flat galvanized steel wire

R → Round galvanized steel wire

B → Galvanized Steel Tape

G → Helical galvanized steel tape binder over armour (IEC 60502)

Gb → Helical galvanized steel tape binder over armour (VDE 0271)

Product Category Code

A → Insulated single core cable

M → Sheathed cable single or multicores

Fire Performance Cable Code

FR → Flame Retardant

FRLS → Flame Retardant Low Smoke

HR → Heat Resistant

FiR → Fire Resistant

LSZH/LSOH → Low Smoke Zero Halogen

LSHF → Low Smoke Halogen Free

ABBREVIATION

BSTI	Bangladesh Standard & Testing Institution
BDS	Bangladesh Standard
IEC	International Electro technical Commission
ISO	International Organization for Standardization
VDE	Verband Deutser Elecktrotechniker (Union of German Electrical Engineer)
BS	British Standard
BSI	British Standards Institution (United Kingdom)
ASTM	American Society of Testing and Materials
NEMA	National Electrical Manufacturers Association
ANSI	American National Standards Institute
UL	Underwriters Laboratories (USA)
MIL	Military Specification (USA)
ICEA	Insulated Cable Engineers Association
IEE	Institute of Electrical Engineers (UK)
IEEE	Institute of Electrical and Electronics Engineers (USA)
JIS	Japanese Industrial Standards
JEC	Japanese Electrotechnical Committee
SA	Standards Australia (Australia)
BV	Bureau Veritas (France)
CSA	Canadian Standards Association (Canada)
CEA	Canadian Electricity Association
CEI	Comitiato Elettrotecnico Italiano (Italy)
UTE	Union Technique de IElectricite (France)
SEMI	Semiconductor Equipment and Materials International
ICC	Insulated Conductors Committee of the IEEE
ICF	International Cablemakers Federation
LV	Low Voltage (up to 3.0 kV)
MV	Medium Voltage (above 3.0 kV and up to 36 kV)
HV	High Voltage (above 36 kV and up to 150 kV)
EHV	Extra-high Voltage (above 150 kV)
CV	Continuous Vulcanization
CCV	Catenary Continuous Vulcanization
VCV	Vertical Continuous Vulcanization
UCR	Up Casting Rod
CCR	Continuous Casting Rod
PVC	Polyvinyl Chloride
PE	Polyethylene
XLPE	Cross Linked Polyethylene
TR-XLPE	Tree Retardant Cross Linked Polyethylene
WTR-XLPE	Water Tree Retardant Cross Linked Polyethylene
LDPE	Low Density Polyethylene
LLDPE	Linear Low Density Polyethylene
MDPE	Medium Density Polyethylene
HDPE	High Density Polyethylene
EPR	Ethylene Propylene Rubber
EPDM	Ethylene Propylene Diene Monomer
ESCR	Environmental Stress Cracking Resistance
PD	Partial Discharge
CATV	Community Antenna Television (International)
LAN	Local Area Network
WWW	World Wide Web

CONTENTS

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	BYFY-LF FR/BAYFY-LF FR or BYFY-FRLS/BAYFY-FRLS	300/500V	9-10
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	BYA FLEXIBLE- LF FR or BYA FLEXIBLE-FRLS	450/750V	11
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Low Voltage Cable	NYY-LF FR/NAYY-LF FR Single & Multi core	0.6/1.0 (1.2) kV	19-24
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	NYFGbY-LF FR/NAYFGbY-LF FR or YFGY-LF FR/AYFGY-LF FR	0.6/1.0 (1.2) kV	30-32
	NYRGbY-LF FR/NAYRGbY-LF FR or YRGY-LF FR/AYRGY-LF FR	0.6/1.0 (1.2) kV	33-35
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	NYY-1 Flexible LF FR / YY-1 Flexible LF FR	0.6/1.0 (1.2) kV	53
Medium Voltage Cable	2xHSYRaY/A2xHSYRaY-LF FR	3.6/6 (7.2) kV to 18/30 (36) kV	57
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LF-FR BUILDING WIRE

MEGHNA STAR CABLES building wire conforms to BDS IEC 60227, BDS 900, BDS 899 & BS 6004, BS 6500 constructions and comes in a variety of colors and features. High speed, extra low friction jacket designed to improve installation even under the most difficult conditions. Our high quality copper/ aluminium building wire is manufactured to deliver long-term, reliable performance in all types of building applications. PVC insulated cables have a long term permissible operational temperatureof 70˚C. This cable can be used either indoors or outdoors in cable ducts or conduits.

BYA-LF FR/BAYA-LF FR or BYA-FRLS/BAYA-FRLS

1 Core (Cu or Al/PVC)
PVC (Skin Coated) Insulated Non-sheathed Single Core Cable

APPLICATION

Suitable for surface mounted or concealed steel condition or trunking. Also suitable for field protected installation in and application up to 1000 V A.C up to 750V to earth D.C.

STANDARD

BS 6004
BDS IEC 60227-3
IEC 60332
IEC 61034
U_0

VOLTAGE GRADE

U_0/U : 300/500V & 450/750V

COLOR

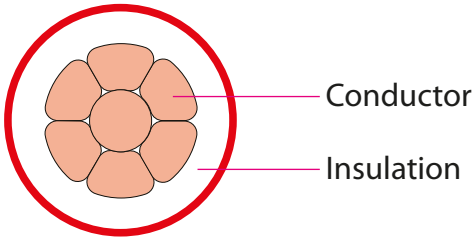
Insulation
(Red, Yellow, Blue, Black, Green, Yellow-Green)

CONSTRUCTION

Conductor: Solid/ Circular, Plain annealed copper or Aluminium, Class-1 & 2 to IEC 60228

Insulation:

PVC- LF FR (Skin Coated), TI1-LF FR to BS 7655
PVC- FRLS (Skin Coated), TI1-FRLS to BS 7655



PHYSICAL DATA					ELECTRICAL DATA							
Nominal cross sectional area of conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Overall Diameter		Approx. weight of cable		Max. D.C resistance of conductor at 20 °C		Current rating in conduits at 35 °C		Current rating in air at 35 °C	
			Lower limit	Upper limit	Cu	Al	Cu	Al	Cu	Al	Cu	Al
Core x mm²	nos./mm	mm	mm	mm	kg/km	kg/km	ohm/km	ohm/km	amps	amps	amps	amps
1 x 0.5 re	1/0.80	0.6	1.9	2.3	10	7	36.0	-	8	-	11	-
1 x 0.75 re	1/0.98	0.6	2.1	2.5	13	8	24.5	-	10	-	13	-
1 x 1.0 re	1/1.13	0.7	2.5	3.0	16	9	18.1	-	13	-	16	-
1 x 1.0 rm	3/0.65	0.7	2.5	3.0	17	10	18.1	-	13	-	16	-
1 x 1.3 rm	3/0.74	0.7	2.6	3.2	20	12	14.03	22.95	15	10	19	12
1 x 1.5 re	1/1.38	0.7	2.6	3.2	22	12	12.1	18.1	16	11	20	13
1 x 1.5 rm	7/0.52	0.7	2.7	3.3	23	13	12.1	18.1	16	11	20	13
1 x 1.5 rm	3/0.8	0.7	2.7	3.3	23	13	12.1	18.1	16	11	20	13
1 x 2.0 rm	3/0.91	0.8	3.1	3.8	30	17	9.11	15.18	20	13	25	15
1 x 2.5 re	1/1.78	0.8	3.2	3.9	32	17	7.41	12.1	22	15	28	18
1 x 2.5 rm	7/0.67	0.8	3.3	4.0	33	19	7.41	12.1	22	15	28	18
1 x 3.0 rm	7/0.74	0.8	3.5	4.3	40	21	5.99	9.84	26	17	31	20
1 x 4.0 rm	7/0.85	0.8	3.8	4.6	51	25	4.61	7.41	30	20	37	24
1 x 4.5 rm	7/0.91	0.8	3.9	4.7	56	28	3.89	6.51	32	21	39	25
1 x 6.0 rm	7/1.04	0.8	4.3	5.2	71	34	3.08	4.61	38	25	47	31
1 x 7.0 rm	7/1.12	1.0	4.5	5.8	85	41	2.61	4.29	42	27	51	33
1 x 9.5 rm	7/1.32	1.0	5.4	6.5	113	52	1.86	3.09	50	32	61	39
1 x 10 rm	7/1.35	1.0	5.6	6.7	117	53	1.83	3.08	52	34	63	41
1 x 14.5 rm	7/1.63	1.0	6.2	7.5	164	72	1.23	2.03	65	40	79	50
1 x 16 rm	7/1.70	1.0	6.4	7.8	179	77	1.15	1.91	70	45	85	55
1 x 16 rm	19/1.04	1.0	6.5	8.0	181	79	1.15	1.91	70	45	85	55

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

Characteristics

Operating Temperature
Flame Retardant
Maximum Short circuit
Lead free
Skin Coated
Rigid
Resistance to Solar Radiation
Test 1.5-2.5kV

Installation condition

Home Use
Outdoor Installation
Open air
In conduit

MEGHNA Cables
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BYA-LF FR/BAYA-LF FR or BYA-FRLS/BAYA-FRLS

1 Core (Cu or Al/PVC)
PVC (Skin Coated) Insulated Non-sheathed Single Core Cable

APPLICATION
Suitable for surface mounted or concealed steel condition or trunking. Also suitable for field protected installation in and application up to 1000 V A.C up to 750V to earth D.C.

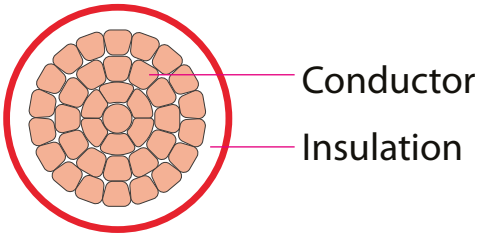
STANDARD
BS 6004
BDS IEC 60227-3
IEC 60332
IEC 61034

VOLTAGE GRADE
U_0/U : 450/750V

COLOR
Insulation
(Red, Yellow, Blue, Black, Green, Yellow-Green)

CONSTRUCTION
Conductor: Circular/ Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Insulation:
PVC- LF FR (Skin Coated), TI1-LF FR to BS 7655
PVC- FRLS (Skin Coated), TI1-FRLS to BS 7655



PHYSICAL DATA					ELECTRICAL DATA							
Nominal cross sectional area of conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Overall Diameter		Approx. weight of cable		Max. D.C resistance of conductor at 20 °C		Current rating in conduits at 35 °C		Current rating in air at 35 °C	
			Lower limit	Upper limit	Cu	Al	Cu	Al	Cu	Al	Cu	Al
Core x mm²	nos./mm	mm	mm	mm	kg/km	kg/km	ohm/km	ohm/km	amps	amps	amps	amps
1 x 25 rm	7/2.14	1.2	8.1	9.7	276	116	0.727	1.20	91	60	110	72
1 x 25 rm	19/1.30	1.2	8.2	9.9	278	118	0.727	1.20	91	60	110	72
1 x 35 rm	min. 6	1.2	9.0	10.9	373	153	0.524	0.868	112	73	136	88
1 x 50 rm	min. 6	1.4	10.8	12.8	532	216	0.387	0.641	136	88	164	107
1 x 70 rm	min. 12	1.4	12.1	14.6	732	285	0.268	0.443	173	112	207	137
1 x 95 rm	min. 15	1.6	14.1	17.1	985	382	0.193	0.320	216	140	253	165
1 x 120 rm	min. 18/15	1.6	15.6	18.8	1227	470	0.153	0.253	244	158	291	188
1 x 150 rm	min. 18/15	1.8	17.3	20.9	1535	572	0.124	0.206	-	-	333	217
1 x 185 rm	min. 30	2.0	19.3	23.3	1891	705	0.0991	0.164	-	-	381	248
1 x 240 rm	min. 34/30	2.2	22.0	26.2	2458	910	0.0754	0.125	-	-	452	295
1 x 300 rm	min. 34/30	2.4	24.5	29.6	3055	1125	0.0601	0.100	-	-	526	342
1 x 400 rm	min. 53	2.6	27.5	33.2	4078	1505	0.0470	0.0778	-	-	639	416
1 x 500 rm	min. 53	2.8	30.5	36.9	5048	1865	0.0366	0.0605	-	-	752	489
1 x 630 rm	min. 53	2.8	34.0	41.1	6363	2310	0.0283	0.0469	-	-	855	556

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

Characteristics
Operating Temperature
Flame Retardant
Maximum Short circuit
Lead free
Skin Coated
Rigid
Resistance to Solar Radiation
Test 1.5-2.5kV

Installation condition
Home Use
Outdoor Installation
Open air
In conduit

BYM-LF FR/BAYM-LF FR or BYM-FRLS/BAYM-FRLS

1 Core (Cu or Al/PVC/PVC)

PVC- LF FR (Skin coated) Insulated PVC LF FR Sheathed Single Core Cable

APPLICATION

Suitable for fixed installations in dry or damp premises clipped direct to a surface or on a cable tray unenclosed and also for use in non-metallic conduit.

STANDARD

BS 6004
BDS IEC 60227-4
IEC 60332 & IEC 61034

VOLTAGE GRADE

U_0/U : 300/500V

COLOR

Insulated core (Black)

Sheath (Grey or Other Colors available on request)

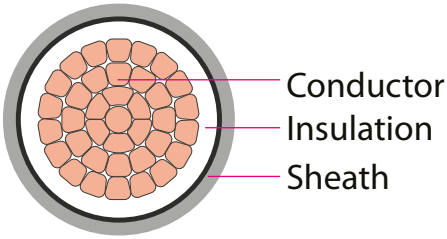
CONSTRUCTION

Conductor: Solid/ Circular/ Circular Compacted, Plain annealed Copper or Aluminium, Class-1 & 2 to IEC 60228

Insulation: PVC- LF FR (Skin Coated), TI1-LF FR to BS 7655

Sheath:

PVC- LF FR, TM1-LF FR to BS 7655
PVC- FRLS, TM1-FRLS to BS 7655



PHYSICAL DATA								ELECTRICAL DATA					
Nominal cross sectional area of conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of		Overall Diameter		Approx. weight of cable		Max. D.C resistance of conductor at 20 °C		Current rating in conduits at 35 °C		Current rating in air at 35 °C	
		Insulation	Sheath	Lower limit	Upper limit	Cu	Al	Cu	Al	Cu	Al	Cu	Al
Core x mm²	nos./mm	mm	mm	mm	mm	kg/km	kg/km	ohm/km	ohm/km	amps	amps	amps	amps
1 x 1.0 re	1/1.13	0.6	0.8	3.8	4.5	25	24	18.1	-	13	-	16	-
1 x 1.0 rm	3/0.65	0.6	0.8	3.8	4.5	26	25	18.1	-	13	-	16	-
1 x 1.3 rm	3/0.74	0.7	0.8	4.2	4.9	34	26	14.03	22.95	15	10	19	12
1 x 1.5 re	1/1.38	0.7	0.8	4.2	4.9	33	26	12.1	18.1	16	11	20	14
1 x 1.5 rm	7/0.52	0.7	0.8	4.2	4.9	33	27	12.1	18.1	16	11	20	14
1 x 1.5 rm	3/0.80	0.7	0.8	4.2	4.9	33	27	12.1	18.1	16	11	20	14
1 x 2.0 rm	3/0.91	0.7	0.8	4.6	5.4	44	32	9.11	15.18	20	12	25	15
1 x 2.5 re	1/1.78	0.8	0.8	4.8	5.8	45	36	7.41	12.1	22	15	28	19
1 x 2.5 rm	7/0.67	0.8	0.8	4.8	5.8	46	37	7.41	12.1	22	15	28	19
1 x 3.0 rm	7/0.74	0.8	0.8	5.1	6.1	60	41	5.99	9.84	26	17	31	20
1 x 4.0 rm	7/0.85	0.8	0.9	5.4	6.8	73	48	4.61	7.41	30	21	37	25
1 x 4.5 rm	7/0.91	0.8	0.9	5.6	7.0	81	52	3.89	6.51	32	22	39	26
1 x 6.0 rm	7/1.04	0.8	0.9	6.0	7.4	96	59	3.08	4.61	38	26	47	32
1 x 7.0 rm	7/1.12	0.8	0.9	6.5	7.8	107	64	2.61	4.29	42	27	51	33
1 x 9.5 rm	7/1.32	1.0	0.9	7.0	8.7	145	82	1.86	3.09	50	32	61	40
1 x 10 rm	7/1.35	1.0	0.9	7.2	8.8	147	84	1.83	3.08	52	36	63	43
1 x 14.5 rm	7/1.63	1.0	1.0	8.0	10.0	206	113	1.23	2.03	65	40	79	50
1 x 16 rm	7/1.70	1.0	1.0	8.4	10.5	218	117	1.15	1.91	70	46	85	55
1 x 25 rm	7/2.14	1.2	1.1	10.0	12.5	328	169	0.727	1.20	91	59	110	72
1 x 35 rmc	min 6	1.2	1.1	11.0	13.5	432	211	0.524	0.868	112	73	136	88

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

Characteristics

Operating Temperature, Flame Retardant, Maximum Short circuit, Lead free, Skin Coated, Rigid, Resistance to Solar Radiation, Test 1.5-2.5kV

Installation condition

Home Use, Outdoor Installation, Open air, In conduit

MEGHNA Cables
Committed to Quality & Safety

BYM-LF FR/BAYM-LF FR or BYM-FRLS/BAYM-FRLS

2 Core (Cu or Al/PVC/PVC)
PVC- LF FR (Skin coated) Insulated PVC LF FR Sheathed Two Core Cable

APPLICATION

Suitable for fixed installations in dry or damp premises clipped direct to a surface or on a cable tray unenclosed and also for use in non-metallic conduit.

STANDARD

BS 6004
BDS IEC 60227-4
IEC 60332 & IEC 61034

VOLTAGE GRADE

U_0/U : 300/500V

COLOR

Insulated core (Red, Black)

Sheath (Grey or Other Colors available on request)

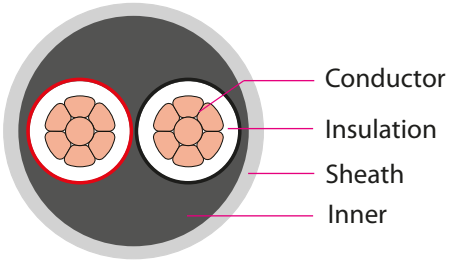
CONSTRUCTION

Conductor: Solid/ Circular/ Circular Compacted, Plain annealed Copper or Aluminium, Class-1 & 2 to IEC 60228

Insulation: PVC- LF FR (Skin Coated), TI1-LF FR to BS 7655

Inner Covering: PVC, TM1 to BS 7655

Sheath:
PVC- LF FR, TM1-LF FR to BS 7655
PVC- FRLS, TM1-FRLS to BS 7655



PHYSICAL DATA								ELECTRICAL DATA					
Nominal cross sectional area of conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of		Overall Diameter		Approx. weight of cable		Max. D.C resistance of conductor at 20 °C		Current rating in conduits at 35 °C		Current rating in air at 35 °C	
		Insulation	Sheath	Lower limit	Upper limit	Cu	Al	Cu	Al	Cu	Al	Cu	Al
Core x mm²	nos./mm	mm	mm	mm	mm	Kg/km	kg/km	ohm/km	ohm/km	amps	amps	amps	amps
2 x 1.0 re	1/1.13	0.6	1.2	7.6	8.8	93	-	18.1	-	13	-	15	-
2 x 1.0 rm	3/0.65	0.6	1.2	7.6	8.8	102	-	18.1	-	13	-	15	-
2 x 1.5 re	1/1.38	0.7	1.2	8.4	10.0	119	108	12.1	18.1	16	11	18	13
2 x 1.5 rm	7/0.52	0.7	1.2	9.0	10.2	121	111	12.1	18.1	16	11	18	13
2 x 1.5 rm	3/0.80	0.7	1.2	9.0	10.2	121	112	12.1	18.1	16	11	18	13
2 x 2.5 re	1/1.78	0.8	1.2	9.6	11.5	165	134	7.41	12.1	22	16	26	18
2 x 2.5 rm	7/0.67	0.8	1.2	10.4	11.8	167	135	7.41	12.1	22	16	26	18
2 x 4.0 rm	7/0.85	0.8	1.2	10.5	12.5	228	178	4.61	7.41	30	21	33	23
2 x 6.0 rm	7/0.1.04	0.8	1.2	11.5	14.0	294	219	3.08	4.61	37	26	43	30
2 x 10 rm	7/1.35	1.0	1.4	15.0	17.5	485	359	1.83	3.08	50	35	60	42
2 x 16 rm	7/1.70	1.0	1.4	16.5	20.0	673	471	1.15	1.91	66	43	80	52
2 x 25 rm	7/2.14	1.2	1.4	20.5	24.0	1004	685	0.727	1.20	75	49	88	57
2 x 35 rmc	min 6	1.2	1.6	23.0	27.5	1347	906	0.524	0.868	92	60	108	70

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

Characteristics

Operating Temperature
Flame Retardant
Maximum Short circuit
Lead free
Skin Coated
Rigid
Resistance to Solar Radiation
Test 1.5-2.5kV

Installation condition

Home Use
Outdoor Installation
Open air
In conduit

BYM-LF FR/BAYM-LF FR or BYM-FRLS/BAYM-FRLS

3 Core (Cu or Al/PVC/PVC)

PVC- LF FR (Skin coated) Insulated PVC LF FR Sheathed Three Core Cable

APPLICATION

Suitable for fixed installations in dry or damp premises clipped direct to a surface or on a cable tray unenclosed and also for use in non-metallic conduit.

STANDARD

BS 6004

BDS IEC 60227-4

IEC 60332 & IEC 61043

VOLTAGE GRADE

U_0/U : 300/500V

COLOR

Insulated core (Red, Yellow, Blue)

Sheath (Grey or Other Colors available on request)

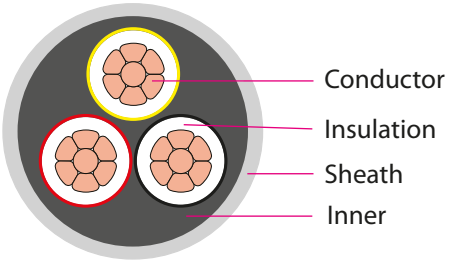
CONSTRUCTION

Conductor: Solid/ Circular/ Sector Shaped, Plain annealed Copper or Aluminium, Class-1 & 2 to IEC 60228

Insulation: PVC- LF FR (Skin Coated), TI1-LF FR to BS 7655

Inner Covering: PVC, TM1 to BS 7655

Sheath:
PVC- LF FR, TM1-LF FR to BS 7655
PVC- FRLS, TM1-FRLS to BS 7655



PHYSICAL DATA								ELECTRICAL DATA					
Nominal cross sectional area of conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of		Overall Diameter		Approx. weight of cable		Max. D.C resistance of conductor at 20 °C		Current rating in conduits at 35 °C		Current rating in air at 35 °C	
		Insulation	Sheath	Lower limit	Upper limit	Cu	Al	Cu	Al	Cu	Al	Cu	Al
Core x mm²	nos./mm	mm	mm	mm	mm	kg/km	kg/km	ohm/km	ohm/km	amps	amps	amps	amps
3 x 1.0 re	1/1.13	0.6	1.2	7.8	9.2	106	-	18.1	-	11	-	12	-
3 x 1.0 rm	3/0.65	0.6	1.2	7.8	9.2	115	-	18.1	-	11	-	12	-
3 x 1.5 re	1/1.38	0.7	1.2	8.8	10.5	139	115	12.1	18.1	15	10	16	11
3 x 1.5 rm	7/0.52	0.7	1.2	9.2	10.8	142	117	12.1	18.1	15	10	16	11
3 x 1.5 rm	3/0.80	0.7	1.2	9.2	10.8	142	118	12.1	18.1	15	10	16	11
3 x 2.5 re	1/1.78	0.8	1.2	10.0	12.0	195	150	7.41	12.1	20	14	22	15
3 x 2.5 rm	7/0.67	0.8	1.2	1.0.5	12.5	198	152	7.41	12.1	20	14	22	15
3 x 4.0 rm	7/0.85	0.8	1.2	11.0	13.0	268	193	4.61	7.41	27	19	30	21
3 x 6.0 rm	7/1.04	0.8	1.4	12.5	15.5	386	273	3.08	4.61	33	23	37	26
3 x 10 rm	7/1.35	1.0	1.4	15.5	19.0	590	400	1.83	3.08	46	32	51	36
3 x 16 rm	7/1.70	1.0	1.4	18.0	21.5	856	553	1.15	1.91	58	38	67	44
3 x 25 rm	7/2.14	1.2	1.6	22.0	26.0	1272	794	0.727	1.20	66	43	77	50
3 x 35 sm	min 6	1.2	1.6	24.5	29.0	1685	1023	0.524	0.868	81	53	90	59

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

Characteristics

Operating Temperature · Flame Retardant · Maximum Short circuit · Lead free · Skin Coated · Rigid · Resistance to Solar Radiation · Test 1.5-2.5kV

Installation condition

Home Use · Outdoor Installation · Open air · In conduit

MEGHNA Cables
Committed to Quality & Safety

BYM-LF FR/BAYM-LF FR or BYM-FRLS/BAYM-FRLS

4 Core (Cu or Al/PVC/PVC)

PVC- LF FR (Skin coated) Insulated PVC LF FR Sheathed Four Core Cable

APPLICATION

Suitable for fixed installations in dry or damp premises clipped direct to a surface or on a cable tray unenclosed and also for use in non-metallic conduit.

STANDARD

BS 6004

BDS IEC 60227-4

IEC 60332 & IEC 61034

VOLTAGE GRADE

U_0/U : 300/500V

COLOR

Insulated core (Red, Yellow, Blue, Black)

Sheath (Grey or Other Colors available on request)

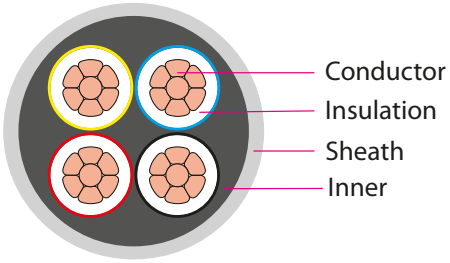
CONSTRUCTION

Conductor: Solid/ Circular/ Sector Shaped, Plain annealed Copper or Aluminium, Class-1 & 2 to IEC 60228

Insulation: PVC- LF FR (Skin Coated), TI1-LF FR to BS 7655

Inner Covering: PVC, TM1 to BS 7655

Sheath:
PVC- LF FR, TM1-LF FR to BS 7655
PVC- FRLS, TM1-FRLS to BS 7655



PHYSICAL DATA								ELECTRICAL DATA					
Nominal cross sectional area of conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of		Overall Diameter		Approx. weight of cable		Max. D.C resistance of conductor at 20 °C		Current rating in conduits at 35 °C		Current rating in air at 35 °C	
		Insulation	Sheath	Lower limit	Upper limit	Cu	Al	Cu	Al	Cu	Al	Cu	Al
Core x mm²	nos./mm	mm	mm	mm	mm	kg/km	kg/km	ohm/km	ohm/km	amps	amps	amps	amps
4 x 1.0 re	1/1.13	0.6	1.2	8.4	9.8	124	-	18.1	-	11	-	12	-
4 x 1.0 rm	3/0.65	0.6	1.2	8.4	9.8	151	-	18.1	-	11	-	12	-
4 x 1.5 re	1/1.38	0.7	1.2	9.6	11.5	164	135	12.1	18.1	15	10	16	11
4 x 1.5 rm	7/0.52	0.7	1.2	10.0	12.0	168	136	12.1	18.1	15	10	16	11
4 x 1.5 rm	3/0.80	0.7	1.2	10.0	12.0	168	138	12.1	18.1	15	10	16	11
4 x 2.5 re	1/1.78	0.8	1.2	11.0	13.0	230	175	7.41	12.1	20	14	22	15
4 x 2.5 rm	7/0.67	0.8	1.2	11.5	13.5	235	161	7.41	12.1	20	14	22	15
4 x 4.0 rm	7/0.85	0.8	1.4	12.0	14.5	342	241	4.61	7.41	27	19	30	21
4 x 6.0 rm	7/1.04	0.8	1.4	14.0	17.0	464	314	3.08	4.61	33	23	37	26
4 x 10 rm	7/1.35	1.0	1.4	17.0	20.5	719	466	1.83	3.08	46	32	51	36
4 x 16 rm	7/1.70	1.0	1.4	20.0	23.5	1051	647	1.15	1.91	58	38	67	44
4 x 25 rm	7/2.14	1.2	1.6	24.0	28.5	1600	963	0.727	1.20	66	43	77	50
4 x 35 sm	min 6	1.2	1.6	27.0	32.0	2085	1202	0.524	0.868	81	53	90	59

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

Characteristics

Operating Temperature · Flame Retardant · Maximum Short circuit · Lead free · Skin Coated · Rigid · Resistance to Solar Radiation · Test 1.5-2.5

Installation condition

Home Use · Outdoor Installation · Open air · In conduit

BYFY-LF FR/BAYFY-LF FR or BYFY-FRLS/BAYFY-FRLS

2 Core (Cu or Al/PVC/PVC)

PVC- LF FR (Skin coated) Insulated PVC LF FR Sheathed Two Core Flat Cable

APPLICATION

Suitable for fixed installations in dry or damp premises clipped direct to a surface or on a cable tray unenclosed and also for use in non-metallic conduit.

STANDARD

BS 6004

IEC 60332 & IEC 61034

VOLTAGE GRADE

U_0/U : 300/500V

COLOR

Insulated core (Red, Black)

Sheath (Grey or Other Colors available on request)

CONSTRUCTION

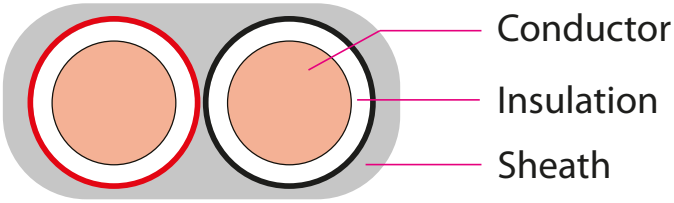
Conductor: Solid/ Circular, Plain annealed copper or Aluminium, Class-1 & 2 to IEC 60228

Insulation: PVC- LF FR (Skin Coated), TI1-LF FR to BS 7655

Sheath:

PVC- LF FR, TM1-LF FR to BS 7655

PVC- FRLS, TM1-FRLS to BS 7655



PHYSICAL DATA								ELECTRICAL DATA					
Nominal cross sectional area of conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of		Overall Diameter		Approx. weight of cable		Max. D.C resistance of conductor at 20 °C		Current rating in conduits at 35 °C		Current rating in air at 35 °C	
		Insulation	Sheath	Lower limit	Upper limit	Cu	Al	Cu	Al	Cu	Al	Cu	Al
Core x mm²	nos./mm	mm	mm	mm	mm	kg/km	kg/km	ohm/km	ohm/km	amps	amps	amps	amps
2 x 1.0 re	1/1.13	0.6	0.9	4.0x6.2	4.7x7.4	55	-	18.1	-	13	-	15	-
2 x 1.0 rm	3/0.65	0.6	0.9	4.0x6.3	4.8x7.6	60	-	18.1	-	13	-	15	-
2 x 1.3 rm	3/0.74	0.7	0.9	4.2x6.9	5.4x8.7	70	54	14.03	22.95	15	9	17	11
2 x 1.5 re	1/1.38	0.7	0.9	4.4x7.0	5.4x8.4	73	55	12.1	18.1	16	13	18	15
2 x 1.5 rm	3/0.80	0.7	0.9	4.5x7.2	5.5x8.6	77	58	12.1	18.1	16	13	18	15
2 x 1.5 rm	7/0.52	0.7	0.9	4.5x7.3	5.5x8.7	78	59	12.1	18.1	16	13	18	15
2 x 2.0 rm	3/0.91	0.7	0.9	5.2x8.5	6.3x9.8	93	66	9.11	15.18	20	14	23	16
2 x 2.5 re	1/1.78	0.8	1.0	5.2x8.4	6.2x9.8	104	76	7.41	12.1	22	16	26	20
2 x 2.5 rm	7/0.67	0.8	1.0	5.3x8.6	6.3x10.0	108	79	7.41	12.1	22	16	26	20
2 x 3.0 rm	7/0.74	0.8	1.0	5.6x9.4	6.5x10.6	129	91	5.99	9.84	24	17	28	21
2 x 4.0 rm	7/0.85	0.8	1.0	5.6x9.6	7.2x11.5	154	104	4.61	7.41	30	22	33	26
2 x 4.5 rm	7/0.91	0.8	1.0	5.9x10.2	7.2x11.7	167	110	3.89	6.51	32	23	38	27
2 x 6.0 rm	7/1.04	0.8	1.1	6.4x10.5	8.0x13.0	210	133	3.08	4.61	37	27	43	35
2 x 10 rm	7/1.35	1.0	1.2	7.8x13.0	9.6x16.0	328	201	1.83	3.08	50	37	60	47
2 x 16 rm	7/1.70	1.0	1.3	9.0x15.5	11.0x18.5	474	271	1.15	1.91	66	49	80	62

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

Characteristics

Operating Temperature · Flame Retardant · Maximum Short circuit · Lead free · Skin Coated · Rigid · Resistance to Solar Radiation · Test 1.5-2.5kV

Installation condition

Home Use · Outdoor Installation · Open air · In conduit

MEGHNA Cables
Committed to Quality & Safety

BYFY-LF FR/BAYFY-LF FR or BYFY-FRLS/BAYFY-FRLS

3 Core (Cu or Al/PVC/PVC)

PVC- LF FR (Skin coated) Insulated PVC LF FR Sheathed Three Core Flat Cable

APPLICATION

Suitable for fixed installations in dry or damp premises clipped direct to a surface or on a cable tray unenclosed and also for use in non-metallic conduit.

STANDARD

BS 6004
IEC 60332 & IEC 61034

VOLTAGE GRADE

U_0/U : 300/500V

COLOR

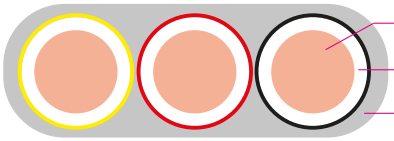
Insulated core (Red, Yellow, Blue)
Sheath (Grey or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Circular, Plain annealed copper or Aluminium, Class-1 & 2 to IEC 60228

Insulation: PVC- LF FR (Skin Coated), TI1-LF FR to BS 7655

Sheath: PVC- LF FR, type 6-LF FR to BS 7655
PVC- FRLS, type 6-FRLS to BS 7655



PHYSICAL DATA						ELECTRICAL DATA							
Nominal cross sectional area of conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of		Overall Diameter		Approx. weight of cable		Max. D.C resistance of conductor at 20 °C		Current rating in conduits at 35 °C		Current rating in air at 35 °C	
		Insulation	Sheath	Lower limit	Upper limit	Cu	Al	Cu	Al	Cu	Al	Cu	Al
Core x mm²	nos./mm	mm	mm	mm	mm	kg/km	kg/km	ohm/km	ohm/km	amps	amps	amps	amps
3 x 1.0 re	1/1.13	0.6	0.9	4.0x8.4	4.7x9.8	78	-	18.1	-	11	-	12	-
3 x 1.0 rm	3/0.65	0.6	0.9	4.1x8.5	4.8x10.0	85	-	18.1	-	11	-	12	-
3 x 1.5 re	1/1.38	0.7	0.9	4.4x9.8	5.4x11.5	104	77	12.1	18.1	15	12	16	13
3 x 1.5 rm	7/0.52	0.7	0.9	4.5x10.0	5.5x11.6	111	82	12.1	18.1	15	12	16	13
3 x 2.5 re	1/1.78	0.8	0.9	5.2x11.5	6.2x13.5	152	106	7.41	12.1	20	16	22	17
3 x 2.5 rm	7/0.67	0.8	1.0	5.4x11.8	6.4x13.8	164	116	7.41	12.1	20	16	22	17
3 x 4.0 rm	7/0.85	0.8	1.1	5.8x13.5	7.4x16.5	232	157	4.61	7.41	33	24	30	25
3 x 6.0 rm	7/1.04	0.8	1.1	6.4x15.0	8.0x18.0	308	194	3.08	4.61	37	30	37	30
3 x 10 rm	7/1.35	1.0	1.2	7.8x19.0	9.6x22.5	480	290	1.83	3.08	48	35	48	35
3 x 16 rm	7/1.70	1.0	1.3	9.0x22.0	11.0x26.5	698	396	1.15	1.91	64	47	64	47

BYFYE-LF FR or BYFYE-FRLS

2 Core (Cu/PVC/ECC/PVC)

PVC- LF FR (Skin coated) Insulated PVC LF FR Sheathed Two Core Flat Cable with ECC conductor

APPLICATION

Suitable for fixed installations in dry or damp premises clipped direct to a surface or on a cable tray unenclosed and also for use in non-metallic conduit.

STANDARD

BS 6004
IEC 60332 & IEC 61034

VOLTAGE GRADE

U_0/U : 300/500V

COLOR

Insulated core (Red, Black)
Sheath (Grey or Other Colors available on request)

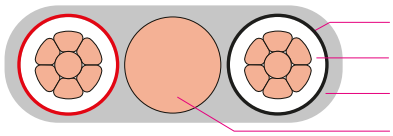
CONSTRUCTION

Conductor: Solid/ Circular, Plain annealed copper, Class-1 & 2 to IEC 60228

E.C.C Conductor: Solid annealed copper, Class-1 & 2 to IEC 60228

Insulation: PVC- LF FR (Skin Coated), TI1-LF FR to BS 7655

Sheath: PVC- LF FR, type 6-LF FR to BS 7655
PVC- FRLS, type 6-FRLS to BS 7655



PHYSICAL DATA							ELECTRICAL DATA			
Nominal cross sectional area of conductor	No. of strands & diameter of wire	No. of strands & diameter of ECC wire	Nominal thickness of		Overall Diameter		Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current rating in conduits at 35 °C	Current rating in air at 35 °C
			Insulation	Sheath	Lower limit	Upper limit				
							Cu	Cu	Cu	Cu
Core x mm²	nos./mm	nos./mm	mm	mm	mm	mm	kg/km	ohm/km	amps	amps
2 x 1.0 re	1/1.13	1/1.13	0.6	0.9	4.0x7.2	4.7x8.6	68	18.1	13	15
2 x 1.5 re	1/1.38	1/1.13	0.7	0.9	4.4x8.2	5.4x9.6	85	12.1	16	18
2 x 2.5 re	1/1.78	1/1.13	0.8	1.0	5.2x9.8	6.2x11.5	119	7.41	22	26
2 x 4.0 rm	7/0.85	1/1.38	0.8	1.0	5.6x10.5	7.2x13.0	175	4.61	30	33
2 x 6.0 rm	7/1.04	1/1.78	0.8	1.1	6.4x12.5	8.0x15.0	245	3.08	37	43
2 x 10 rm	7/1.35	7/0.85	1.0	1.2	7.8x15.5	9.6x19.0	368	1.83	50	60
2 x 16 rm	7/1.70	7/1.04	1.0	1.3	9.0x18.0	11.0x22.5	536	1.15	66	80

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

BYA FLEXIBLE- LF FR or BYA FLEXIBLE-FRLS

1 Core (Cu/PVC)

PVC- LF FR (Skin coated) Insulated Non-Sheathed Single Core Flexible Cable

APPLICATION

These types are permitted for the inner wiring of equipment, distributor and switchboards and also for protective laying to the lightings with a nominal voltage up to 1000 V alternating current or up to 750 V direct current against earth.

STANDARD

BS 6004

IEC 60332 & IEC 61034

VOLTAGE GRADE

U_0/U : 450/750V

COLOR

Insulation

(Red, Yellow, Blue, Black, Green, Yellow-Green)

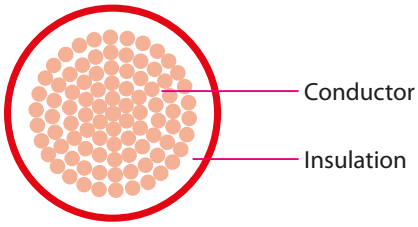
CONSTRUCTION

Conductor: Flexible, Plain annealed copper, Class-5 to IEC 60228

Insulation:

PVC- LF FR (Skin Coated), TI1-LF FR to BS 7655

PVC- FRLS (Skin Coated), TI1-FRLS to BS 7655



PHYSICAL DATA						ELECTRICAL DATA		
Nominal cross sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of insulation	Overall Diameter		Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current rating at 35 °C	
			Lower limit	Upper limit			in conduit	in air
Core x mm²	nos./mm	mm	mm	mm	kg/km	ohm/km	amps	amps
1 x 1.5 rm	30/0.25	0.7	2.8	3.4	24	13.30	18	22
1 x 2.5 rm	50/0.25	0.8	3.4	4.1	34	7.98	24	30
1 x 4.0 rm	56/0.30	0.8	3.9	4.8	52	4.95	32	39
1 x 6.0 rm	84/0.30	0.8	4.4	5.3	72	3.30	41	50
1 x 10 rm	80/0.40	1.0	5.7	6.8	118	1.91	57	67
1 x 16 rm	126/0.40	1.0	6.7	8.1	180	1.21	75	90
1 x 25 rm	196/0.40	1.2	8.4	10.2	278	0.780	96	105
1 x 35 rm	276/0.40	1.2	9.7	11.7	376	0.554	119	140
1 x 50 rm	396/0.40	1.4	11.5	13.9	536	0.386	142	170
1 x 70 rm	360/0.50	1.4	13.2	16.0	735	0.272	182	215
1 x 95 rm	475/0.50	1.6	15.1	18.2	992	0.206	222	260
1 x 120 rm	608/0.50	1.6	16.7	20.2	1233	0.161	255	302
1 x 150 rm	756/0.50	1.8	18.6	22.5	1540	0.129	298	355
1 x 185 rm	950/0.50	2.0	20.6	24.9	1900	0.106	339	408
1 x 240 rm	1221/0.50	2.2	23.5	28.4	2482	0.0801	401	476

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

Characteristics

Operating Temperature · Flame Retardant · Maximum Short circuit · Lead free · Skin Coated · Flexible · Resistance to Solar Radiation · Test 1.5-2.5kV

Installation condition

Home Use · Outdoor Installation · Open air · In conduit

MEGHNA Cables
Committed to Quality & Safety

FLEXIBLE-LF FR or FLEXIBLE-FRLS

1 Core (Cu/PVC)
PVC- LF FR (Skin coated) Insulated Non-Sheathed Single Core Flexible Cable

APPLICATION
These types are permitted for the inner wiring of equipment, distributor and switchboards and also for protective laying to the lightings with a nominal voltage up to 500 V.

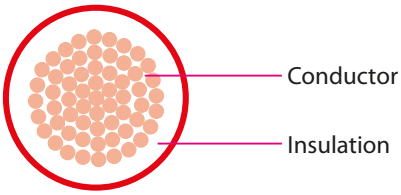
STANDARD
BS 6004
BDS 899
IEC 60332 & IEC 61034

VOLTAGE GRADE
U_0/U : 300/500V

COLOR
Insulation
(Red, Yellow, Blue, Black, Green, Yellow-Green)

CONSTRUCTION
Conductor: Flexible , Plain annealed copper, Class-5 to IEC 60228

Insulation: PVC- LF FR (Skin Coated), TI1-LF FR to BS 7655
PVC- FRLS (Skin Coated), TI1-FRLS to BS 7655



PHYSICAL DATA						ELECTRICAL DATA		
Nominal cross sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of insulation	Overall Diameter		Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current rating at 35 °C	
			Lower limit	Upper limit			in conduit	in air
Core x mm²	nos./mm	mm	mm	mm	kg/km	ohm/km	amps	amps
1 x 0.4 rm	14/0.193	0.6	2.0	2.4	8	47.33	2	3
1 x 0.5 rm	16/0.20	0.6	2.1	2.5	9	39.00	3	4
1 x 0.65 rm	23/0.193	0.6	2.2	2.6	11	28.79	5	6
1 x 0.75 rm	24/0.20	0.6	2.2	2.7	12	26.00	6	7
1 x 1.0 rm	32/0.20	0.6	2.4	2.8	15	19.50	9	10
1 x 1.2 rm	40/0.193	0.6	2.5	3.0	17	16.56	11	13
1 x 2.0 rm	70/0.193	0.7	3.2	3.7	28	9.46	16	18
1 x 3.0 rm	110/0.193	0.8	3.7	4.5	43	6.01	22	24

FLEXIBLE-LF FR (T/T) or FLEXIBLE-FRLS (T/T)

2 Core (Cu/PVC/Twisted)
PVC- LF FR (Skin coated) Insulated Twisted Twin (T/T) Flexible Cable

APPLICATION
Suitable for dry place where mechanical stress do not exist, at the connections of mobile equipment.

STANDARD
BS 6004
BDS 899
IEC 60332 & IEC 61034

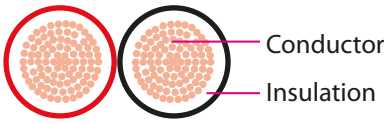
VOLTAGE GRADE
U_0/U : 300/500V

COLOR
Insulation (Red, Black)

CONSTRUCTION
Conductor: Flexible , Plain annealed copper, Class-5 to IEC 60228

Insulation:
PVC- LF FR (Skin Coated), TI1-LF FR to BS 7655
PVC- FRLS (Skin Coated), TI1-FRLS to BS 7655

Twist: Two core twisted



PHYSICAL DATA						ELECTRICAL DATA		
Nominal cross sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of insulation	Overall Diameter		Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current rating at 35 °C	
			Lower limit	Upper limit			in conduit	in air
Core x mm²	nos./mm	mm	mm	mm	kg/km	ohm/km	amps	amps
2 x 0.4 rm	14/0.193	0.6	2.0	2.4	16	47.33	2	3
2 x 0.5 rm	16/0.20	0.6	2.1	2.5	18	39.00	3	4
2 x 0.65 rm	23/0.193	0.6	2.2	2.6	22	28.79	5	6
2 x 0.75 rm	24/0.20	0.6	2.2	2.7	24	26.00	6	7
2 x 1.0 rm	32/0.20	0.6	2.4	2.8	30	19.50	9	10
2 x 1.2 rm	40/0.193	0.6	2.5	3.0	34	16.56	11	13
2 x 2.0 rm	70/0.193	0.7	3.2	3.7	56	9.46	16	18

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

FLEXIBLE-LF FR (F/T) or FLEXIBLE-FRLS (F/T)

2 Core (Cu/PVC/PVC)

PVC- LF FR (Skin coated) Insulated PVC LF FR Sheathed Two Core Flat Twin Flexible Cable

APPLICATION

Suitable for dry place where mechanical stress do not exist, at the connections of mobile equipment.

STANDARD

BS 6500

BDS 899

IEC 60332 & IEC 61034

VOLTAGE GRADE

U_0/U : 300/500V

COLOR

Insulation (Red, Black)

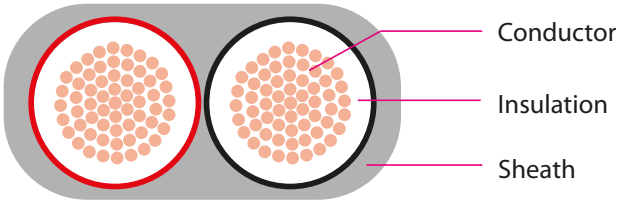
Sheath (White or Other Colors available on request)

CONSTRUCTION

Conductor: Flexible , Plain annealed copper, Class-5 to IEC 60228

Insulation: PVC- LF FR (Skin Coated), TI2 to BS 7655

Sheath:
PVC- LF FR (Skin Coated), TM2-LF FR to BS 7655
PVC- FRLS (Skin Coated), TM2-FRLS to BS 7655



PHYSICAL DATA						ELECTRICAL DATA			
Nominal cross sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of		Overall Diameter		Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current rating at 35 °C	
		Insulation	Sheath	Lower limit	Upper limit			in conduit	in air
Core x mm²	nos./mm	mm	mm	mm	mm	kg/Km	ohm/km	amps	amps
2 x 0.4 rm	14/0.193	0.6	0.8	3.3x5.4	4.3x6.9	37	47.33	3	4
2 x 0.5 rm	16/0.20	0.6	0.8	3.5x5.6	4.4x7.0	41	39.00	3	4
2 x 0.65 rm	23/0.193	0.6	0.8	3.6x5.9	4.5x7.1	46	28.79	5	6
2 x 0.75 rm	24/0.20	0.6	0.8	3.7x6.0	4.5x7.2	48	26.00	6	7

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

Characteristics

Operating Temperature · Flame Retardant · Maximum Short circuit · Lead free · Skin Coated · Flexible · Resistance to Solar Radiation · Test 1.5-2kV

Installation condition

Home Use · Outdoor Installation · Open air · In conduit

MEGHNA Cables
Committed to Quality & Safety

FLEXIBLE CORD-LF FR or FLEXIBLE CORD-FRLS

2/3 Core (Cu/PVC/PVC)

PVC- LF FR (Skin coated) Insulated PVC LF FR Sheathed Two/Three Core Flexible Cord

APPLICATION

Use on household appliances in covered, dry, steamed and humid areas where low mechanical stress exists.

STANDARD

BS 6500
BDS 899
IEC 60332 & IEC 61034

VOLTAGE GRADE

U_0/U : 300/500V

COLOR

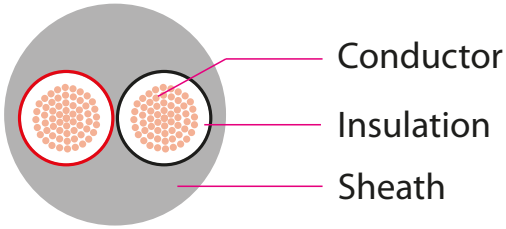
Insulation
2 core (Red, Black)
3core (Red, Yellow & Blue)
Sheath (White or Other Colors available on request)

CONSTRUCTION

Conductor: Flexible , Plain annealed copper, Class-5 to IEC 60228

Insulation: PVC- LF FR (Skin Coated), TI2 to BS 7655

Sheath:
PVC- LF FR (Skin Coated), TM2-LF FR to BS 7655
PVC- FRLS (Skin Coated), TM2-FRLS to BS 7655



PHYSICAL DATA							ELECTRICAL DATA		
Nominal cross sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of		Overall Diameter		Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current rating at 35 °C	
		Insulation	Sheath	Lower limit	Upper limit			in conduit	in air
Core x mm²	nos./mm	mm	mm	mm	mm	kg/km	ohm/km	amps	amps
2 x 0.4 rm	14/0.193	0.6	0.8	5.3	6.7	49	47.33	3	4
2 x 0.5 rm	16/0.20	0.6	0.8	5.4	6.8	54	39.00	3	4
2 x 0.65 rm	23/0.193	0.6	0.8	5.6	7.1	60	28.79	6	7
2 x 0.75 rm	24/0.20	0.6	0.8	5.7	7.2	64	26.00	7	8
2 x 1.0 rm	32/0.20	0.6	0.8	5.9	7.5	74	19.50	10	11
2 x 1.2 rm	40/0.193	0.6	0.8	6.5	7.9	78	16.56	13	15
2 x 1.5 rm	30/0.25	0.7	0.8	6.8	8.6	99	13.30	15	17
2 x 2.0 rm	70/0.193	0.7	0.8	8.2	9.5	127	9.46	18	20
2 x 2.5 rm	50/0.25	0.8	1.0	8.4	10.6	151	7.98	20	22
2 x 3.0 rm	110/0.193	0.8	1.1	9.8	11.2	174	6.01	24	26
2 x 4.0 rm	56/0.30	0.8	1.1	10.5	11.8	200	4.95	25	27

PHYSICAL DATA							ELECTRICAL DATA		
Nominal cross sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of		Overall Diameter		Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current rating at 35 °C	
		Insulation	Sheath	Lower limit	Upper limit			in conduit	in air
Core x mm²	nos./mm	mm	mm	mm	mm	kg/km	ohm/km	amps	amps
3 x 0.4 rm	14/0.193	0.6	0.8	5.6	7.1	57	47.33	2	3
3 x 0.5 rm	16/0.20	0.6	0.8	5.8	7.3	64	39.00	3	4
3 x 0.65 rm	23/0.193	0.6	0.8	5.9	7.4	70	28.79	6	7
3 x 0.75 rm	24/0.20	0.6	0.8	6.0	7.6	75	26.00	7	8
3 x 1.0 rm	32/0.20	0.6	0.8	6.3	8.0	88	19.50	10	11
3 x 1.2 rm	40/0.193	0.6	0.9	6.8	8.6	100	16.56	13	15
3 x 1.5 rm	30/0.25	0.7	0.9	7.4	9.4	124	13.30	15	17
3 x 2.0 rm	70/0.193	0.7	1.0	8.8	10.2	155	9.46	18	20
3 x 2.5 rm	50/0.25	0.8	1.0	9.2	11.4	184	7.98	20	22
3 x 3.0 rm	110/0.193	0.8	1.1	10.5	11.9	215	6.01	24	26
3 x 4.0 rm	56/0.30	0.8	1.2	11.2	12.7	254	4.95	25	27

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

Characteristics

Operating Temperature, Flame Retardant, Maximum Short circuit, Lead free, Skin Coated, Flexible, Resistance to Solar Radiation, Test 1.5-2kV

Installation condition

Home Use, Outdoor Installation, Open air, In conduit

FLEXIBLE CORD-LF FR or FLEXIBLE CORD-FRLS

4 Core (Cu/PVC/PVC)

PVC- LF FR (Skin coated) Insulated PVC LF FR Sheathed Four Core Flexible Cord

APPLICATION

Use on household appliances in covered, dry, steamed and humid areas where low mechanical stress exists.

STANDARD

BS 6500

BDS 899

IEC 60332 & IEC 61034

VOLTAGE GRADE

U_0/U : 300/500V

COLOR

Insulation (Red, Yellow, Blue & Black)

Sheath (White or Other Colors available on request)

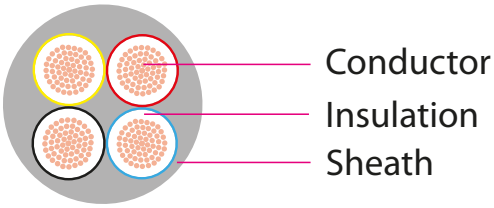
CONSTRUCTION

Conductor: Flexible , Plain annealed copper, Class-5 to IEC 60228

Insulation: PVC- LF FR (Skin Coated), TI2 to BS 7655

Sheath:

PVC- LF FR (Skin Coated), TM2-LF FR to BS 7655
PVC- FRLS (Skin Coated), TM2-FRLS to BS 7655



PHYSICAL DATA							ELECTRICAL DATA		
Nominal cross sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of		Overall Diameter		Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current rating at 35 °C	
		Insulation	Sheath	Lower limit	Upper limit			in conduit	in air
Core x mm²	nos./mm	mm	mm	mm	mm	kg/km	ohm/km	amps	amps
4 x 0.4 rm	14/0.193	0.6	0.8	6.2	7.7	68	47.33	2	3
4 x 0.5 rm	16/0.20	0.6	0.8	6.3	7.8	76	39.00	3	4
4 x 0.65 rm	23/0.193	0.6	0.8	6.5	8.2	86	28.79	6	7
4 x 0.75 rm	24/0.20	0.6	0.8	6.6	8.3	92	26.00	7	8
4 x 1.0 rm	32/0.20	0.6	0.9	7.1	9.0	112	19.50	10	11
4 x 1.2 rm	40/0.193	0.6	0.9	7.9	9.4	124	16.56	13	15
4 x 1.5 rm	30/0.25	0.7	1.0	8.4	10.5	158	13.30	15	17
4 x 2.0 rm	70/0.193	0.7	1.0	9.6	11.2	188	9.46	18	20
4 x 2.5 rm	50/0.25	0.8	1.1	10.1	12.5	228	7.98	20	22
4 x 3.0 rm	110/0.193	0.8	1.2	11.8	13.4	274	6.01	24	26
4 x 4.0 rm	56/0.30	0.8	1.2	12.3	13.9	315	4.95	25	27

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

Characteristics

Operating Temperature · Flame Retardant · Maximum Short circuit · Lead free · Skin Coated · Flexible · Resistance to Solar Radiation · Test 1.5-2.5kV

Installation condition

Home Use · Outdoor Installation · Open air · In conduit

MEGHNA Cables
Committed to Quality & Safety

MEGHNA Cables™
Committed to Quality & Safety

LF-FR LOW VOLTAGE CABLES

PVC Insulated: MEGHNA STAR CABLES low voltage PVC insulated cables are widely used and have a long term permissible operationa temperature of up to 70˚C. These cables can be used either indoors or outdoors as buried, in ducts or cable trays in power and switching stations, local distribution systems, industrial plants and commercial buildings for voltage requirements of 0.6/1.0 kV and up to 1.8/3.0 kV. The cables have perfect bending properties for easy installation and maintenance, which make them the preferred choice for indoor machinery and control equipment application.

XLPE Insulated: MEGHNA STAR CABLES low voltage XLPE insulated cables are excellent insulated material that has several advantages over conventional thermoplastic insulated materials. Some of these advantages include zero halogen, higher durability, longer operational life and excellent chemical resistance. It also has a higher permissible operational temperature of up to 90˚C and hence allows the cables to withstand a greater current rating compared to PVC cables. This variance gets wider as the conductor size increases. This is also the reason XLPE-insulated cables are widely chosen where bigger cables are required for main power supply.

Should there be a requirement for ground emplacement; the armored cable is preferred for higher electrical and mechanical protection. On the other hand, XLPE-insulated cables are less flexible compared to PVC cables, hence making it a less favorable choice for smaller conductor size cables where the current rating advantage is less significant.

NYY-LF FR/ NAYY-LF FR

Single Core (Cu or Al/PVC/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

VDE 0271/3.69

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV
Permissible Service Voltage: 0.72/1.2 kV

COLOR

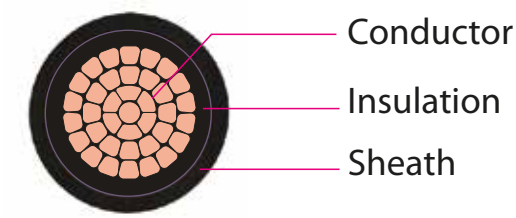
Insulated core : (Black)
Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Compacted, Plain annealed Copper or Aluminium, Class-1 or Class-2 to IEC 60228

Insulation: PVC-LF FR, PVC/A to IEC 60502-1

Sheath: PVC- LF FR, ST-1 to IEC 60502-1



PHYSICAL DATA							
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
						Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	kg/km
1 x 1.5	re	1/1.38	0.8	1.8	6.6	65	56
1 x 1.5	rm	7/0.52	0.8	1.8	6.8	68	58
1 x 2.5	re	1/1.78	0.8	1.8	7.2	80	69
1 x 2.5	rm	7/0.68	0.8	1.8	7.4	86	71
1 x 4	rm	7/0.85	1.0	1.8	8.2	113	88
1 x 6	rm	7/1.04	1.0	1.8	8.7	140	102
1 x 10	rm	7/1.35	1.0	1.8	9.7	190	126
1 x 16	rm	7/1.70	1.0	1.8	10.7	262	158
1 x 16	rm	19/1.04	1.0	1.8	11.0	268	160
1 x 25	rm	7/2.14	1.2	1.8	12.4	375	216
1 x 25	rm	19/1.30	1.2	1.8	12.8	385	220
1 x 35	rmc	min. 6	1.2	1.8	13.7	472	262
1 x 50	rmc	min. 6	1.4	1.8	15.6	610	342
1 x 70	rmc	min. 12	1.4	1.8	17.3	846	425
1 x 95	rmc	min. 15	1.6	1.8	19.4	1095	542
1 x 120	rmc	min. 18/15	1.6	1.8	21.0	1338	638
1 x 150	rmc	min. 18/15	1.8	1.8	23.1	1640	790
1 x 185	rmc	min. 30	2.0	2.0	25.6	2026	954
1 x 240	rmc	min. 34/30	2.2	2.0	28.6	2640	1194
1 x 300	rmc	min. 34/30	2.4	2.0	31.3	3250	1451
1 x 400	rmc	min. 53	2.6	2.2	35.3	4220	1880
1 x 500	rmc	min. 53	2.8	2.2	38.0	5283	2320
1 x 630	rmc	min. 53	2.8	2.2	42.0	6515	2775
1 x 800	rmc	min. 53	2.8	2.4	46.2	8162	3190
1 x 1000	rmc	min. 53	3.0	2.6	51.1	10285	3350

Characteristics

Operating Temperature -20°C to 70°C
Maximum Short Circuit 160°C
Rigid
Meter Marking
Flame Retardant
Lead free
Test 3.5kV

Installation condition

Industrial Use
Outdoor Installation
Open air
Buried
In Duct
In water

NYY-LF FR/ NAYY-LF FR

Single Core (Cu or Al/PVC/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

VDE 0271/3.69

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV
Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Black)

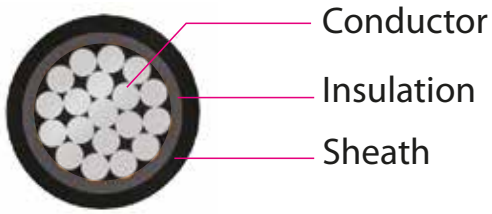
Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Compacted, Plain annealed Copper or Aluminium, Class-1 or Class-2 to IEC 60228

Insulation: PVC-LF FR, PVC/A to IEC 60502-1

Sheath: PVC- LF FR, ST-1 to IEC 60502-1



ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
1 x 1.5	re	12.1	18.1	27	20	-	-	22	17	-	-
1 x 1.5	rm	12.1	18.1	27	20	-	-	22	17	-	-
1 x 2.5	re	7.41	12.1	36	30	-	-	30	23	-	-
1 x 2.5	rm	7.41	12.1	36	30	-	-	30	23	-	-
1 x 4	rm	4.61	7.41	47	36	37	29	39	29	31	23
1 x 6	rm	3.08	4.61	59	45	48	36	50	36	41	29
1 x 10	rm	1.83	3.08	78	60	60	46	69	50	53	38
1 x 16	rm	1.15	1.91	100	76	78	60	94	67	73	51
1 x 16	rm	1.15	1.91	100	76	78	60	94	67	73	51
1 x 25	rm	0.727	1.20	130	101	101	80	125	89	97	68
1 x 25	rm	0.727	1.20	130	101	101	90	125	89	97	68
1 x 35	rmc	0.524	0.868	155	119	120	93	160	114	124	87
1 x 50	rmc	0.387	0.641	185	144	144	114	195	138	151	105
1 x 70	rmc	0.268	0.443	225	175	175	138	245	171	190	130
1 x 95	rmc	0.193	0.320	270	211	210	167	300	204	232	153
1 x 120	rmc	0.153	0.253	310	243	240	190	350	242	272	184
1 x 150	rmc	0.124	0.206	350	275	270	216	405	280	314	212
1 x 185	rmc	0.0991	0.164	390	306	302	240	460	320	357	244
1 x 240	rmc	0.0754	0.125	450	351	349	275	555	386	430	292
1 x 300	rmc	0.0601	0.100	515	402	386	306	640	448	448	304
1 x 400	rmc	0.0470	0.0778	585	453	439	345	770	546	540	374
1 x 500	rmc	0.0366	0.0605	680	526	510	400	900	643	630	440
1 x 630	rmc	0.0283	0.0469	800	615	600	467	1030	740	721	510
1 x 800	rmc	0.0221	0.0367	945	724	708	550	1160	836	812	575
1 x 1000	rmc	0.0176	0.0291	1095	835	821	630	1310	949	917	655

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature -20°C to 70°C
Maximum Short Circuit 160°C
Rigid
Meter Marking
Flame Retardant
Lead free
Test 3.5kV

Installation condition

Industrial Use
Outdoor Installation
Open air
Buried
In Duct
In water

MEGHNA Cables
Committed to Quality & Safety

NYY-LF FR / NAYY-LF FR or YY-LF FR / AYY-LF FR

2 Core (Cu or Al/PVC/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red & Black)

Sheath : (Black or Other Colors available on request)

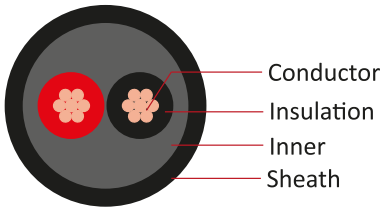
CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Compacted, Plain annealed Copper or Aluminium, Class-1 or Class-2 to IEC 60228

Insulation: PVC- LF FR, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Sheath: PVC- LF FR, ST-1 to IEC 60502-1



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
						Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	kg/km
2 x 1.5	re	1/1.38	0.8	1.8	11.0	165	-
2 x 1.5	rm	7/0.52	0.8	1.8	11.2	170	-
2 x 2.5	re	1/1.78	0.8	1.8	12.4	205	-
2 x 2.5	rm	7/0.68	0.8	1.8	12.8	215	-
2 x 4	rm	7/0.85	1.0	1.8	14.5	305	223
2 x 6	rm	7/1.04	1.0	1.8	15.6	375	257
2 x 10	rm	7/1.35	1.0	1.8	17.5	509	314
2 x 16	rm	7/1.70	1.0	1.8	19.5	691	390
2 x 25	rm	7/2.14	1.2	1.8	23.5	1044	518
2 x 35	rmc	min. 6	1.2	1.8	26.0	1330	620

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
2 x 1.5	re	12.1	18.1	25	18	18	-	19	14	16	-
2 x 1.5	rm	12.1	18.1	25	18	18	-	19	14	16	-
2 x 2.5	re	7.41	12.1	34	28	25	-	27	20	21	-
2 x 2.5	rm	7.41	12.1	34	28	25	-	27	20	21	-
2 x 4	rm	4.61	7.41	44	33	33	25	35	25	29	21
2 x 6	rm	3.08	4.61	55	41	42	31	45	31	38	27
2 x 10	rm	1.83	3.08	74	56	58	45	62	43	51	36
2 x 16	rm	1.15	1.91	97	73	74	56	84	57	64	42
2 x 25	rm	0.727	1.20	125	96	97	76	110	74	85	56
2 x 35	rmc	0.524	0.868	150	114	119	92	140	94	108	71

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature -20°C to 70°C
Maximum Short Circuit 160°C
Rigid
Meter Marking
Flame Retardant
Lead free
Test 3.5kV

Installation condition

Industrial Use
Outdoor Installation
Open air
Buried
In Duct
In water

MEGHNA Cables
Committed to Quality & Safety

NYY-LF FR / NAYY-LF FR or YY-LF FR / AYY-LF FR

3 Core (Cu or Al/PVC/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow & Blue)

Sheath : (Black or Other Colors available on request)

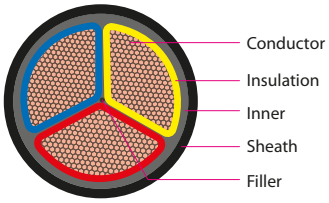
CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Sector shaped, Plain annealed Copper or Aluminium, Class-1 or Class-2 to IEC 60228

Insulation: PVC- LF FR, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Sheath: PVC- LF FR, ST-1 to IEC 60502-1



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
						Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	kg/km
3 x 1.5	re	1/1.38	0.8	1.8	11.5	195	-
3 x 1.5	rm	7/0.52	0.8	1.8	11.8	200	-
3 x 2.5	re	1/1.78	0.8	1.8	12.7	250	-
3 x 2.5	rm	7/0.68	0.8	1.8	13.2	260	-
3 x 4	rm	7/0.85	1.0	1.8	15.0	360	260
3 x 6	rm	7/1.04	1.0	1.8	16.4	460	305
3 x 10	rm	7/1.35	1.0	1.8	18.5	625	379
3 x 16	rm	7/1.70	1.0	1.8	21.0	920	480
3 x 25	rm	7/2.14	1.2	1.8	25.0	1320	652
3 x 35	sm	min. 6	1.2	1.8	24.2	1400	804
3 x 50	sm	min. 6	1.4	1.8	25.9	1815	1045
3 x 70	sm	min. 12	1.4	2.0	29.2	2444	1325
3 x 95	sm	min. 15	1.6	2.1	33.4	3350	1735
3 x 120	sm	min. 18/15	1.6	2.2	36.3	4110	2040
3 x 150	sm	min. 18/15	1.8	2.3	39.5	5100	2475
3 x 185	sm	min. 30	2.0	2.5	43.5	6260	3040
3 x 240	sm	min. 34/30	2.2	2.7	48.8	7900	3795
3 x 300	sm	min. 34/30	2.4	2.9	54.1	10000	4700

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
3 x 1.5	re	12.1	18.1	22	15	16	-	16	11	13	-
3 x 1.5	rm	12.1	18.1	22	15	16	-	16	11	13	-
3 x 2.5	re	7.41	12.1	30	24	22	-	23	16	19	-
3 x 2.5	rm	7.41	12.1	30	24	22	-	23	16	19	-
3 x 4	rm	4.61	7.41	38	27	29	21	32	22	25	17
3 x 6	rm	3.08	4.61	48	34	37	26	41	27	33	21
3 x 10	rm	1.83	3.08	64	46	49	36	56	37	44	29
3 x 16	rm	1.15	1.91	83	59	64	46	75	48	56	34
3 x 25	rm	0.727	1.20	110	81	82	61	98	62	76	47
3 x 35	sm	0.524	0.868	130	94	99	72	120	74	94	57
3 x 50	sm	0.387	0.641	155	114	119	82	150	93	114	68
3 x 70	sm	0.268	0.443	190	140	146	109	190	116	142	82
3 x 95	sm	0.193	0.320	225	166	178	135	230	134	169	90
3 x 120	sm	0.153	0.253	260	193	201	152	270	162	196	108
3 x 150	sm	0.124	0.206	295	220	229	175	305	180	223	120
3 x 185	sm	0.0991	0.164	330	246	256	195	350	210	262	148
3 x 240	sm	0.0754	0.125	385	286	300	227	410	241	305	168
3 x 300	sm	0.0601	0.100	425	312	332	253	470	278	343	199

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

NYY-LF FR / NAYY-LF FR or YY-LF FR / AYY-LF FR

3 & half Core (Cu or Al/PVC/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

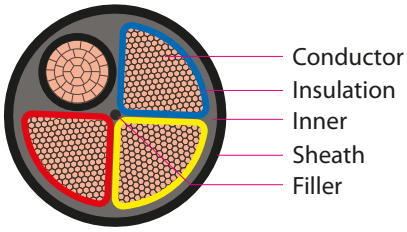
CONSTRUCTION

Conductor: Stranded Circular/ Sector shaped/ compacted, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

Insulation: PVC- LF FR, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Sheath: PVC- LF FR, ST-1 to IEC 60502-1



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
						Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	kg/km
3 x 25+16	rm/rm	7/2.14	1.2	1.8	27	1400	910
		7/1.70	1.0				
3 x 35+16	sm/rm	min. 6	1.2	1.8	26.2	1580	920
		7/1.70	1.0				
3 x 50+25	sm/rm	min. 6	1.4	1.9	28.5	2180	1200
		7/2.14	1.2				
3 x 70+35	sm/rmc	min. 12	1.4	2.0	32.5	2910	1505
		min. 6	1.2				
3 x 95+50	sm/rmc	min. 15	1.6	2.2	38.0	3950	2000
		min. 6	1.4				
3 x 120+70	sm/rmc	min. 18/15	1.6	2.3	40.8	5050	2390
		min. 12	1.4				
3 x 150+70	sm/rmc	min. 18/15	1.8	2.4	45.0	6020	2830
		min. 12	1.4				
3 x 185+95	sm/rmc	min. 30	2.0	2.6	50.5	7450	3510
		min.15	1.6				
3 x 240+120	sm/rmc	min. 34/30	2.2	2.8	56.0	9650	4360
		min.18/15	1.6				
3 x 300+150	sm/rmc	min. 34/30	2.4	3.0	63.0	12100	5404
		min. 18/15	1.8				

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
3 x 25+16	rm/rm	0.727/1.15	1.20/1.91	110	81	86	65	98	62	76	47
3 x 35+16	sm/rm	0.524/1.15	0.868/1.91	130	94	101	74	120	74	93	56
3 x 50+25	sm/rm	0.387/0.727	0.641/1.20	155	114	120	90	150	93	116	70
3 x 70+35	sm/rmc	0.268/0.524	0.443/0.868	190	140	148	111	190	116	148	88
3 x 95+50	sm/rmc	0.193/0.387	0.320/0.641	225	166	175	132	230	134	179	100
3 x 120+70	sm/rmc	0.153/0.268	0.253/0.443	260	193	202	153	270	162	210	122
3 x 150+70	sm/rmc	0.124/0.268	0.206/0.443	295	220	229	175	305	180	237	135
3 x 185+95	sm/rmc	0.0991/0.193	0.164/0.320	330	246	257	196	350	210	272	158
3 x 240+120	sm/rmc	0.0754/0.153	0.125/0.253	383	284	299	226	410	241	318	180
3 x 300+150	sm/rmc	0.0601/0.124	0.100/0.206	425	312	329	250	470	278	364	220

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

MEGHNA Cables
Committed to Quality & Safety

NYY-LF FR / NAYY-LF FR or YY-LF FR / AYY-LF FR

4 Core (Cu or Al/PVC/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

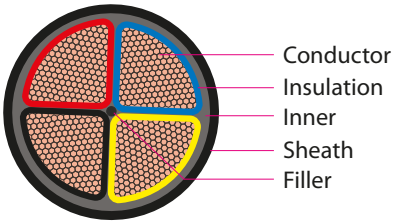
CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Sector shaped, Plain annealed Copper or Aluminium, Class -1 or Class-2 to IEC 60228

Insulation: PVC- LF FR, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Sheath: PVC- LF FR, ST-1 to IEC 60502-1



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
						Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	kg/km
4 x 1.5	re	1/1.38	0.8	1.8	12.5	230	-
4 x 1.5	rm	7/0.52	0.8	1.8	13.0	235	-
4 x 2.5	re	1/1.78	0.8	1.8	14.0	305	-
4 x 2.5	rm	7/0.68	0.8	1.8	14.6	312	-
4 x 4	rm	7/0.85	1.0	1.8	16.2	430	290
4 x 6	rm	7/1.04	1.0	1.8	17.5	540	345
4 x 10	rm	7/1.35	1.0	1.8	20.0	760	480
4 x 16	rm	7/1.70	1.0	1.8	23.2	1135	660
4 x 25	rm	7/2.14	1.2	1.8	27.6	1600	900
4 x 35	sm	min. 6	1.2	1.8	26.4	1800	985
4 x 50	sm	min. 6	1.4	1.9	29.0	2460	1310
4 x 70	sm	min. 12	1.4	2.1	33.5	3250	1700
4 x 95	sm	min. 15	1.6	2.2	38.4	4400	2190
4 x 120	sm	min. 18/15	1.6	2.4	41.0	5500	2605
4 x 150	sm	min. 18/15	1.8	2.5	45.2	6800	3210
4 x 185	sm	min. 30	2.0	2.7	50.5	8350	3890
4 x 240	sm	min. 34/30	2.2	2.9	56.0	10700	4925
4 x 300	sm	min. 34/30	2.4	3.1	64.0	13200	5950

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
4 x 1.5	re	12.1	18.1	22	15	16	-	16	11	13	-
4 x 1.5	rm	12.1	18.1	22	15	16	-	16	11	13	-
4 x 2.5	re	7.41	12.1	30	24	22	-	23	16	19	-
4 x 2.5	rm	7.41	12.1	30	24	22	-	23	16	19	-
4 x 4	rm	4.61	7.41	38	27	29	21	32	22	25	17
4 x 6	rm	3.08	4.61	48	34	37	26	41	27	33	21
4 x 10	rm	1.83	3.08	64	46	49	36	56	37	44	29
4 x 16	rm	1.15	1.91	83	59	64	46	75	48	56	34
4 x 25	rm	0.727	1.20	110	81	82	61	98	62	76	47
4 x 35	sm	0.524	0.868	130	94	99	72	120	74	94	57
4 x 50	sm	0.387	0.641	155	114	119	82	150	93	114	68
4 x 70	sm	0.268	0.443	190	140	146	109	190	116	142	82
4 x 95	sm	0.193	0.320	225	166	178	135	230	134	169	90
4 x 120	sm	0.153	0.253	260	193	201	152	270	162	196	108
4 x 150	sm	0.124	0.206	295	220	229	175	305	180	223	120
4 x 185	sm	0.0991	0.164	330	246	256	195	350	210	262	148
4 x 240	sm	0.0754	0.125	385	286	300	227	410	241	305	168
4 x 300	sm	0.0601	0.100	425	312	332	253	470	278	343	199

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

NYY Flexible-LF FR

Single Core (Cu/PVC/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Black)

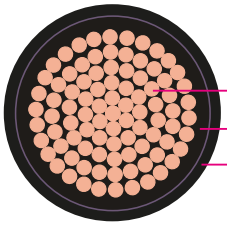
Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Flexible, Plain annealed Copper, Class-5 to IEC 60228

Insulation: PVC- LF FR, PVC/A to IEC 60502-1

Sheath: PVC- LF FR, ST-1 to IEC 60502-1



PHYSICAL DATA							ELECTRICAL DATA	
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity at 35 °C ambient temp.
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	Ω/km	Amp
1 x 1.0	rm	32/0.20	0.8	1.8	6.9	60	19.5	15
1 x 1.5	rm	30/0.25	0.8	1.8	7.2	70	13.3	24
1 x 2.5	rm	50/0.25	0.8	1.8	7.8	88	7.98	32
1 x 4.0	rm	56/0.30	1.0	1.8	8.6	110	7.98	41
1 x 6	rm	84/0.30	1.0	1.8	9.3	140	4.95	52
1 x 10	rm	80/0.40	1.0	1.8	10.3	190	3.30	72
1 x 16	rm	126/0.40	1.0	1.8	11.7	265	1.91	98
1 x 25	rm	196/0.40	1.2	1.8	13.6	280	0.780	131
1 x 35	rm	276/0.40	1.2	1.8	15	488	0.554	167
1 x 50	rm	396/0.40	1.4	1.8	17.2	672	0.386	204
1 x 70	rm	360/0.50	1.4	1.8	19.1	890	0.272	256
1 x 95	rm	475/0.50	1.6	1.8	21.6	1170	0.206	314
1 x 120	rm	608/0.50	1.6	1.8	23.4	1428	0.161	366
1 x 150	rm	756/0.50	1.8	1.8	25.7	1750	0.129	423
1 x 185	rm	925/0.50	2.0	2.0	28.5	2190	0.106	478
1 x 240	rm	1221/0.50	2.2	2.0	30.8	2750	0.0801	580
1 x 300	rm	1525/0.50	2.4	2.0	33.5	3400	0.0641	666
1 x 400	rm	2013/0.50	2.6	2.2	38.4	4450	0.0486	800
1 x 500	rm	1769/0.60	2.8	2.2	42.0	5560	0.0384	935
1 x 630	rm	2257/0.60	2.8	2.2	46.4	6940	0.0287	1068

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature -20°C to 70°C
Maximum Short Circuit 160°C
Flexible
Meter Marking
Flame Retardant
Lead free
Test 3.5kV

Installation condition

Industrial Use
Outdoor Installation
Open air
Buried
In Duct
In water

MEGHNA Cables
Committed to Quality & Safety

NYY Flexible-LF FR / YY Flexible-LF FR

2 Core (Cu/PVC/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red & Black)

Sheath : (Black or Other Colors available on request)

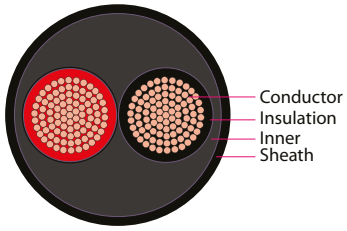
CONSTRUCTION

Conductor: Flexible, Plain annealed Copper, Class-5 to IEC 60228

Insulation: PVC- LF FR, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Sheath: PVC- LF FR, ST-1 to IEC 60502-1



PHYSICAL DATA							ELECTRICAL DATA	
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity at 35 °C ambient temp.
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	Ω/km	Amp
2 x 1.0	rm	32/0.20	0.8	1.8	11.4	175	19.5	12
2 x 1.5	rm	30/0.25	0.8	1.8	12.1	196	13.3	20
2 x 2.5	rm	50/0.25	0.8	1.8	13.5	242	7.98	30
2 x 4.0	rm	56/0.30	1.0	1.8	15.0	315	4.95	38
2 x 6	rm	84/0.30	1.0	1.8	16.8	400	3.30	46
2 x 10	rm	80/0.40	1.0	1.8	18.4	525	1.91	65
2 x 16	rm	126/0.40	1.0	1.8	22.0	750	1.21	86
2 x 25	rm	196/0.40	1.2	1.8	26.2	1135	0.780	115
2 x 35	rm	276/0.40	1.2	1.8	28.0	1320	0.554	145

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature -20°C to 70°C

Maximum Short Circuit 160°C

Flexible

Meter Marking

Flame Retardant

Lead free

Test 3.5kV

Installation condition

Industrial Use

Outdoor Installation

Open air

Buried

In Duct

In water

NYY Flexible-LF FR / YY Flexible-LF FR

3 Core (Cu/PVC/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow & Blue)

Sheath : (Black or Other Colors available on request)

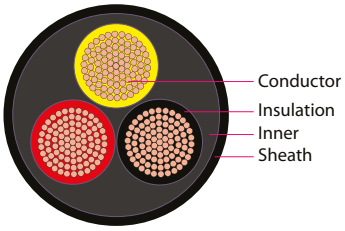
CONSTRUCTION

Conductor: Flexible, Plain annealed Copper, Class 5 to IEC 60228

Insulation: PVC- LF FR, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Sheath: PVC- LF FR, ST-1 to IEC 60502-1



PHYSICAL DATA							ELECTRICAL DATA	
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity at 35 °C ambient temp.
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	Ω/km	Amp
3 x 1.0	rm	32/0.20	0.8	1.8	12.0	190	19.5	12
3 x 1.5	rm	30/0.25	0.8	1.8	12.5	215	13.3	18
3 x 2.5	rm	50/0.25	0.8	1.8	14.2	290	7.98	25
3 x 4.0	rm	56/0.30	1.0	1.8	16.0	380	4.95	33
3 x 6	rm	84/0.30	1.0	1.8	17.6	485	3.30	44
3 x 10	rm	80/0.40	1.0	1.8	19.8	655	1.91	58
3 x 16	rm	126/0.40	1.0	1.8	23.8	980	1.21	80
3 x 25	rm	196/0.40	1.2	1.8	26.0	1200	0.780	105
3 x 35	rm	276/0.40	1.2	1.8	29.0	1560	0.554	130
3 x 50	rm	396/0.40	1.4	1.8	33.0	2100	0.386	148
3 x 70	rm	360/0.50	1.4	2.0	38.0	2920	0.272	175

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature -20°C to 70°C
Maximum Short Circuit 160°C
Flexible
Meter Marking
Flame Retardant
Lead free
Test 3.5kV

Installation condition

Industrial Use
Outdoor Installation
Open air
Buried
In Duct
In water

MEGHNA Cables
Committed to Quality & Safety

NYY Flexible-LF FR / YY Flexible-LF FR

4 Core (Cu/PVC/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

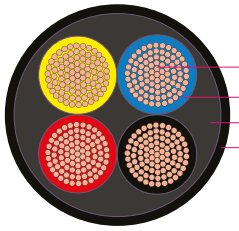
CONSTRUCTION

Conductor: Flexible, Plain annealed Copper, Class 5 to IEC 60228

Insulation: PVC- LF FR, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Sheath: PVC- LF FR, ST-1 to IEC 60502-1



PHYSICAL DATA							ELECTRICAL DATA	
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity at 35 °C ambient temp.
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	Ω/km	Amp
4 x 1.0	rm	32/0.20	0.8	1.8	13.0	225	19.5	12
4 x 1.5	rm	30/0.25	0.8	1.8	13.6	260	13.3	18
4 x 2.5	rm	50/0.25	0.8	1.8	15.0	245	7.98	25
4 x 4.0	rm	56/0.30	1.0	1.8	17.5	455	4.95	33
4 x 6	rm	84/0.30	1.0	1.8	19.0	575	3.30	44
4 x 10	rm	80/0.40	1.0	1.8	22.0	830	1.91	58
4 x 16	rm	126/0.40	1.0	1.8	25.7	1080	1.21	80
4 x 25	rm	196/0.40	1.2	1.8	28.6	1550	0.780	105
4 x 35	rm	276/0.40	1.2	1.8	32.0	2020	0.554	130
4 x 50	rm	396/0.40	1.4	1.9	37.0	2800	0.386	148
4 x 70	rm	360/0.50	1.4	2.1	42.0	3720	0.272	175

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature -20°C to 70°C
Maximum Short Circuit 160°C
Flexible
Meter Marking
Flame Retardant
Lead free
Test 3.5kV

Installation condition

Industrial Use
Outdoor Installation
Open air
Buried
In Duct
In water

NYRaY-LF FR / NAYRaY-LF FR or YRaY-LF FR / AYRaY-LF FR

Single Core (Cu or Al/PVC/AWA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

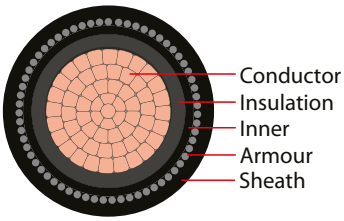
Conductor: Stranded Circular/ Compacted, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

Insulation: PVC- LF FR, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Armour: Round Aluminium wire to IEC 60502-1

Sheath: PVC- LF FR, ST-1 to IEC 60502-1



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal diameter of round aluminium wire armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
1 x 35	rmc	min. 6	1.2	1.25	1.8	17.3	615	290
1 x 50	rmc	min. 6	1.4	1.25	1.8	19.3	770	370
1 x 70	rmc	min. 12	1.4	1.25	1.8	20.8	1000	455
1 x 95	rmc	min. 15	1.6	1.25	1.8	23.3	1265	570
1 x 120	rmc	min. 18/15	1.6	1.6	1.8	25.5	1575	680
1 x 150	rmc	min. 18/15	1.8	1.6	1.8	27.5	1915	800
1 x 185	rmc	min. 30	2.0	1.6	1.8	29.5	2325	950
1 x 240	rmc	min. 34/30	2.2	1.6	1.9	32.3	2920	1195
1 x 300	rmc	min. 34/30	2.4	2.0	2.0	36.0	3620	1485
1 x 400	rmc	min. 53	2.6	2.0	2.1	40.1	4675	1873
1 x 500	rmc	min. 53	2.8	2.0	2.2	43.6	5725	2270
1 x 630	rmc	min. 53	2.8	2.0	2.4	47.2	7025	2760
1 x 800	rmc	min. 53	2.8	2.5	2.5	54.4	8920	3465
1 x 1000	rmc	min. 53	3.0	2.5	2.7	59.3	11020	4250

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
1 x 35	rmc	0.524	0.868	155	119	120	93	160	114	124	87
1 x 50	rmc	0.387	0.641	185	144	144	114	195	138	152	105
1 x 70	rmc	0.268	0.443	225	175	175	138	245	171	191	130
1 x 95	rmc	0.193	0.320	270	211	210	167	300	204	233	153
1 x 120	rmc	0.153	0.253	310	243	240	191	350	242	272	184
1 x 150	rmc	0.124	0.206	350	275	270	216	405	280	314	212
1 x 185	rmc	0.0991	0.164	390	306	302	241	460	320	358	243
1 x 240	rmc	0.0754	0.125	450	351	349	276	555	386	431	292
1 x 300	rmc	0.0601	0.100	515	402	386	307	640	448	448	304
1 x 400	rmc	0.0470	0.0778	585	453	439	345	770	546	540	374
1 x 500	rmc	0.0366	0.0605	680	526	510	400	900	643	630	441
1 x 630	rmc	0.0283	0.0469	800	615	600	467	1030	740	721	508
1 x 800	rmc	0.0221	0.0367	945	724	708	549	1160	836	812	575
1 x 1000	rmc	0.0176	0.0291	1095	835	821	632	1310	949	917	654

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

MEGHNA Cables
Committed to Quality & Safety

NYFGbY-LF FR / NAYFGbY-LF FR or YFGY-LF FR / AYFGY-LF FR

3 Core (Cu or Al/PVC/FSA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow & Blue)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular / Sector shaped, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

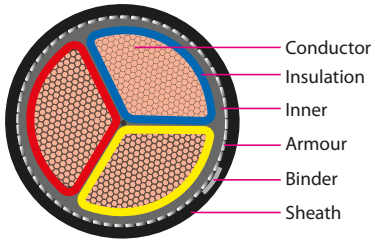
Insulation: PVC- LF FR, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Armour: Flat Galvanized Steel strip to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath: PVC- LF FR, ST-1 to IEC 60502-1



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of flat steel strip armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
3 x 25	rm	7/2.14	1.2	0.8	1.8	27.0	1800	1281
3 x 35	sm	min. 6	1.2	0.8	1.8	26.0	1900	1330
3 x 50	sm	min. 6	1.4	0.8	1.9	28.0	2500	1600
3 x 70	sm	min. 12	1.4	0.8	2.0	31.0	3115	1963
3 x 95	sm	min.15	1.6	0.8	2.2	36.4	4325	2478
3 x 120	sm	min. 18/15	1.6	0.8	2.3	39.0	5220	2835
3 x 150	sm	min. 18/15	1.8	0.8	2.4	43.0	6375	3336
3 x 185	sm	min. 30	2.0	0.8	2.6	47.0	7650	3995
3 x 240	sm	min. 34/30	2.2	0.8	2.8	53.0	9650	4864
3 x 300	sm	min. 34/30	2.4	0.8	3.0	58.5	12080	5820

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
3 x 25	rm	0.727	1.20	110	81	86	61	98	62	76	47
3 x 35	sm	0.524	0.868	130	94	101	72	120	74	93	57
3 x 50	sm	0.387	0.641	155	114	120	82	150	93	116	68
3 x 70	sm	0.268	0.443	190	140	148	109	190	116	148	82
3 x 95	sm	0.193	0.320	225	166	175	135	230	134	179	90
3 x 120	sm	0.153	0.253	260	193	202	152	270	162	210	108
3 x 150	sm	0.124	0.206	295	220	229	175	305	180	237	121
3 x 185	sm	0.0991	0.164	330	246	257	195	350	210	272	148
3 x 240	sm	0.0754	0.125	385	286	299	227	410	241	318	167
3 x 300	sm	0.0601	0.100	425	312	329	253	470	278	364	199

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

NYFGbY-LF FR / NAYFGbY-LF FR or YFGY-LF FR / AYFGY-LF FR

3 & half Core (Cu or Al/PVC/FSA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Compacted/ Sector shaped, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

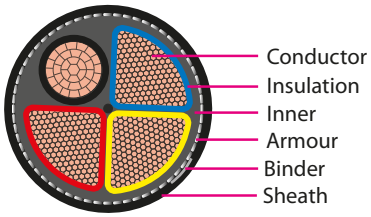
Insulation: PVC- LF FR, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Armour: Flat Galvanized Steel strip to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath: PVC- LF FR, ST-1 to IEC 60502-1



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of flat steel strip armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
3 x 25+16	rm/rm	7/2.14	1.2	0.8	1.8	28.9	2010	1434
		7/1.70	1.0					
3 x 35+16	sm/rm	min. 6	1.2	0.8	1.8	28.3	2130	1402
		7/1.70	1.0					
3 x 50+25	sm/rm	min. 6	1.4	0.8	1.9	32.2	3060	1804
		7/2.14	1.2					
3 x 70+35	sm/rmc	min. 12	1.4	0.8	2.1	36.1	3950	2176
		min. 6	1.2					
3 x 95+50	sm/rmc	min. 15	1.6	0.8	2.2	41.0	5110	2775
		min. 6	1.4					
3 x 120+70	sm/rmc	min. 18/15	1.6	0.8	2.3	44.4	6490	3323
		min. 12	1.4					
3 x 150+70	sm/rmc	min. 18/15	1.8	0.8	2.4	48.3	7300	3723
		min. 12	1.4					
3 x 185+95	sm/rmc	min. 30	2.0	0.8	2.6	53.5	9050	5019
		min.15	1.6					
3 x 240+120	sm/rmc	min. 34/30	2.2	0.8	2.8	59.5	11100	5812
		min.18/15	1.6					
3 x 300+150	sm/rmc	min. 34/30	2.4	0.8	3.0	68.0	14400	7009
		min. 18/15	1.8					

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
3 x 25+16	rm/rm	0.727/1.15	1.20/1.91	110	81	86	65	98	62	76	47
3 x 35+16	sm/rm	0.524/1.15	0.868/1.91	130	94	101	74	120	74	93	56
3 x 50+25	sm/rm	0.387/0.727	0.641/1.20	155	114	120	90	150	93	116	70
3 x 70+35	sm/rmc	0.268/0.524	0.443/0.868	190	140	148	111	190	116	148	88
3 x 95+50	sm/rmc	0.193/0.387	0.320/0.641	225	166	175	132	230	134	179	100
3 x 120+70	sm/rmc	0.153/0.268	0.253/0.443	260	193	202	153	270	162	210	122
3 x 150+70	sm/rmc	0.124/0.268	0.206/0.443	295	220	229	175	305	180	237	135
3 x 185+95	sm/rmc	0.0991/0.193	0.164/0.320	330	246	257	196	350	210	272	158
3 x 240+120	sm/rmc	0.0754/0.153	0.125/0.253	383	284	299	226	410	241	318	180
3 x 300+150	sm/rmc	0.0601/0.124	0.100/0.206	425	312	329	250	470	278	364	220

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

MEGHNA Cables
Committed to Quality & Safety

NYFGbY-LF FR / NAYFGbY-LF FR or YFGY-LF FR / AYFGY-LF FR

4 Core (Cu or Al/PVC/FSA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Sector shaped, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

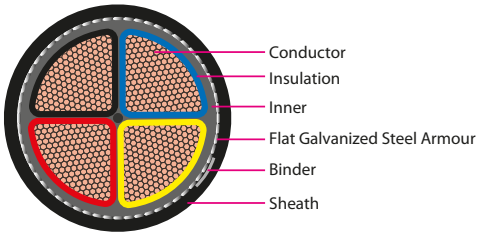
Insulation:

Inner covering: PVC, ST-1 to IEC 60502-1

Armour: Flat Galvanized Steel strip to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath:



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of flat steel strip armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
4 x 25	rm	7/2.14	1.2	0.8	1.8	30.0	2100	1500
4 x 35	sm	min. 6	1.2	0.8	1.8	29.2	2400	1580
4 x 50	sm	min. 6	1.4	0.8	2.0	32.8	3280	2165
4 x 70	sm	min. 12	1.4	0.8	2.1	37.5	4285	2614
4 x 95	sm	min. 15	1.6	0.8	2.2	42.0	5500	3227
4 x 120	sm	min. 18/15	1.6	0.8	2.4	44.4	6800	3687
4 x 150	sm	min. 18/15	1.8	0.8	2.6	48.5	8180	4365
4 x 185	sm	min. 30	2.0	0.8	2.7	54.0	10250	5134
4 x 240	sm	min. 34/30	2.2	0.8	3.0	60.8	12900	6292
4 x 300	sm	min. 34/30	2.4	0.8	3.2	67.5	15400	7394

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
4 x 25	rm	0.727	1.20	110	81	86	65	98	62	76	47
4 x 35	sm	0.524	0.868	130	94	101	74	120	74	93	56
4 x 50	sm	0.387	0.641	155	114	120	90	150	93	116	70
4 x 70	sm	0.268	0.443	190	140	148	111	190	116	148	88
4 x 95	sm	0.193	0.320	225	166	175	132	230	134	179	100
4 x 120	sm	0.153	0.253	260	193	202	153	270	162	210	122
4 x 150	sm	0.124	0.206	295	220	229	175	305	180	237	135
4 x 185	sm	0.0991	0.164	330	246	257	196	350	210	272	158
4 x 240	sm	0.0754	0.125	385	286	299	226	410	241	318	180
4 x 300	sm	0.0601	0.100	425	312	329	250	470	278	364	220

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Installation condition

NYRGbY-LF FR / NAYRGbY-LF FR or YRGY-LF FR / AYRGY-LF FR

3 Core (Cu or Al/PVC/SWA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow & Blue)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Sector shaped, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

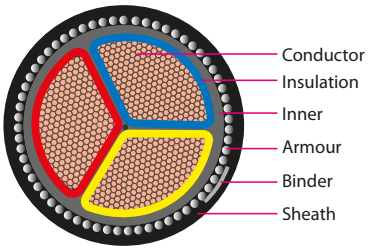
Insulation: PVC- LF FR, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Armour: Round Galvanized Steel wire to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath: PVC- LF FR, ST-1 to IEC 60502-1



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal diameter of round steel wire armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
3 x 25	rm	7/2.14	1.2	1.6	1.8	28.5	1755	1276
3 x 35	sm	min. 6	1.2	1.6	1.9	27.8	2080	1415
3 x 50	sm	min. 6	1.4	1.6	2.0	30.7	2650	1698
3 x 70	sm	min. 12	1.4	2.0	2.1	34.6	3700	2362
3 x 95	sm	min. 15	1.6	2.0	2.2	39.0	4750	2943
3 x 120	sm	min. 18/15	1.6	2.0	2.3	42.1	5660	3382
3 x 150	sm	min. 18/15	1.8	2.5	2.5	47.3	7265	4413
3 x 185	sm	min. 30	2.0	2.5	2.7	50.5	8660	5149
3 x 240	sm	min. 34/30	2.2	2.5	2.9	57.0	10819	6245
3 x 300	sm	min. 34/30	2.4	2.5	3.1	61.0	12993	7204

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
3 x 25	rm	0.727	1.20	110	81	86	61	98	62	76	47
3 x 35	sm	0.524	0.868	130	94	101	72	120	74	93	57
3 x 50	sm	0.387	0.641	155	114	120	82	150	93	116	68
3 x 70	sm	0.268	0.443	190	140	148	109	190	116	148	82
3 x 95	sm	0.193	0.320	225	166	175	135	230	134	179	90
3 x 120	sm	0.153	0.253	260	193	202	152	270	162	210	108
3 x 150	sm	0.124	0.206	295	220	229	175	305	180	237	121
3 x 185	sm	0.0991	0.164	330	246	257	195	350	210	272	148
3 x 240	sm	0.0754	0.125	385	286	299	227	410	241	318	167
3 x 300	sm	0.0601	0.100	425	312	329	253	470	278	364	199

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

MEGHNA Cables
Committed to Quality & Safety

NYRGbY-LF FR / NAYRGbY-LF FR or YRGY-LF FR / AYRGY-LF FR

3 & half Core (Cu or Al/PVC/SWA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Compacted/ Sector shaped, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

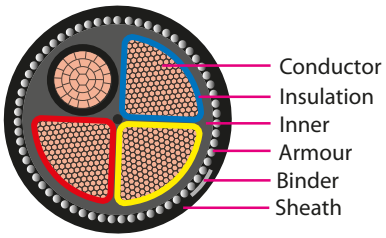
Insulation: PVC- LF FR, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Armour: Round Galvanized Steel wire to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath: PVC- LF FR, ST-1 to IEC 60502-1



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal diameter of round steel wire armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
3 x 25+16	rm/rm	7/2.14	1.2	1.6	1.8	30.8	2010	1590
		7/1.70	1.0					
3 x 35+16	sm/rm	min. 6	1.2	1.6	1.9	30.1	2465	1698
		7/1.70	1.0					
3 x 50+25	sm/rm	min. 6	1.4	2.0	2.0	33.5	3250	2140
		7/2.14	1.2					
3 x 70+35	sm/rmc	min. 12	1.4	2.0	2.1	38.7	4310	2752
		min. 6	1.2					
3 x 95+50	sm/rmc	min. 15	1.6	2.0	2.3	43.3	5601	3480
		min. 6	1.4					
3 x 120+70	sm/rmc	min. 18/15	1.6	2.5	2.5	48.0	7159	4435
		min. 12	1.4					
3 x 150+70	sm/rmc	min. 18/15	1.8	2.5	2.6	51.2	8347	5049
		min. 12	1.4					
3 x 185+95	sm/rmc	min. 30	2.0	2.5	2.7	56.1	10000	5888
		min.15	1.6					
3 x 240+120	sm/rmc	min. 34/30	2.2	2.5	2.9	62.3	12383	7049
		min.18/15	1.6					
3 x 300+150	sm/rmc	min. 34/30	2.4	2.5	3.1	68.2	15100	8380
		min. 18/15	1.8					

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
3 x 25+16	rm/rm	0.727/1.15	1.20/1.91	110	81	86	65	98	62	76	47
3 x 35+16	sm/rm	0.524/1.15	0.868/1.91	130	94	101	74	120	74	93	56
3 x 50+25	sm/rm	0.387/0.727	0.641/1.20	155	114	120	90	150	93	116	70
3 x 70+35	sm/rmc	0.268/0.524	0.443/0.868	190	140	148	111	190	116	148	88
3 x 95+50	sm/rmc	0.193/0.387	0.320/0.641	225	166	175	132	230	134	179	100
3 x 120+70	sm/rmc	0.153/0.268	0.253/0.443	260	193	202	153	270	162	210	122
3 x 150+70	sm/rmc	0.124/0.268	0.206/0.443	295	220	229	175	305	180	237	135
3 x 185+95	sm/rmc	0.0991/0.193	0.164/0.320	330	246	257	196	350	210	272	158
3 x 240+120	sm/rmc	0.0754/0.153	0.125/0.253	383	284	299	226	410	241	318	180
3 x 300+150	sm/rmc	0.0601/0.124	0.100/0.206	425	312	329	250	470	278	364	220

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

NYRGbY-LF FR / NAYRGbY-LF FR or YRGY-LF FR / AYRGY-LF FR

4 Core (Cu or Al/PVC/SWA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Sector shaped, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

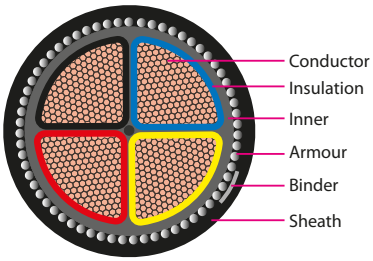
Insulation: PVC- LF FR, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Armour: Round Galvanized Steel wire to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath: PVC- LF FR, ST-1 to IEC 60502-1



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal diameter of round steel wire armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
4 x 25	rm	7/2.14	1.2	1.6	1.8	30.0	2135	1497
4 x 35	sm	min. 6	1.2	1.6	1.9	30.1	2620	1733
4 x 50	sm	min. 6	1.4	2.0	2.1	34.5	3525	2257
4 x 70	sm	min. 12	1.4	2.0	2.3	39.5	4675	2892
4 x 95	sm	min. 15	1.6	2.5	2.4	45.2	6450	4044
4 x 120	sm	min. 18/15	1.6	2.5	2.5	48.6	7640	4601
4 x 150	sm	min. 18/15	1.8	2.5	2.7	52.0	9150	5348
4 x 185	sm	min. 30	2.0	2.5	2.9	58.3	11050	6369
4 x 240	sm	min. 34/30	2.2	2.5	3.1	63.0	13850	7751
4 x 300	sm	min. 34/30	2.4	2.5	3.3	70.1	17300	9581

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
4 x 25	rm	0.727	1.20	110	81	86	64.54	98	62	76	47
4 x 35	sm	0.524	0.868	130	94	101	74.1	120	74	93	56
4 x 50	sm	0.387	0.641	155	114	120	89.66	150	93	116	70
4 x 70	sm	0.268	0.443	190	140	148	111	190	116	148	88
4 x 95	sm	0.193	0.320	225	166	175	131.6	230	134	179	100
4 x 120	sm	0.153	0.253	260	193	202	153.2	270	162	210	122
4 x 150	sm	0.124	0.206	295	220	229	174.8	305	180	237	135
4 x 185	sm	0.0991	0.164	330	246	257	195.88	350	210	272	158
4 x 240	sm	0.0754	0.125	385	286	299	226.26	410	241	318	180
4 x 300	sm	0.0601	0.100	425	312	329	249.54	470	278	364	220

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature -20°C to 70°C
Maximum Short Circuit 160°C
Rigid
Meter Marking
Flame Retardant
Lead free
Test 3.5kV

Installation condition

Industrial Use
Outdoor Installation
Open air
Buried
In Duct
In water

MEGHNA Cables
Committed to Quality & Safety

NYCY-LF FR / YCY-LF FR

3 Core (Cu /PVC/CWS/PVC)

APPLICATION

Power cables for increased electrical and also mechanical protection are required. Those cables are installed in open air, in underground, in water, indoors and in cable ducts. The concentric conductor (C) is allowed to be used as neutral-, protective or earthed conductor. Simultaneously, this also is permitted to apply as a screen for example earth-connected protection against contact.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow & Blue)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Sector shaped, Plain annealed Copper, Class-2 to IEC 60228

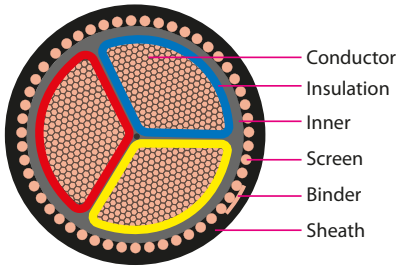
Insulation: PVC- LF FR, PVC/A to IEC 60502-1

Inner covering : PVC, ST-1 to IEC 60502-1

Screen: Solid copper wire concentric

Binder: Helically copper tape

Sheath: PVC- LF FR, ST-1 to IEC 60502-1



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Number & diameter of concentric wire	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable
Core x mm²	-	no./mm	no./mm	mm	mm	mm	kg/km
3 x 25+16C	rm	7/2.14	19/1.05	1.2	1.8	24.3	1302
3 x 35+16C	sm	min. 6	19/1.05	1.2	1.8	26.2	1623
3 x 50+25C	sm	min. 6	29/1.05	1.4	1.9	30.4	2266
3 x 70+35C	sm	min. 12	35/1.13	1.4	2.1	33.7	3011
3 x 95+50C	sm	min. 15	50/1.13	1.6	2.2	38.4	4005
3 x 120+70C	sm	min. 18	70/1.13	1.6	2.4	42.1	5031
3 x 150+70C	sm	min. 18	70/1.13	1.8	2.5	45.3	6013
3 x 185+95C	sm	min. 30	67/1.35	2.0	2.6	50.1	7458
3 x 240+120C	sm	min. 34	65/1.53	2.2	2.8	55.8	9497
3 x 300+150C	sm	min. 34	72/1.63	2.4	3.2	61.3	11730

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Ground at 30 °C		Current Carrying Capacity in Air at 35 °C	
			Direct laid	In duct	Open	In pipes
Core x mm²	-	Ω/km	amp	amp	amp	amp
3 x 25+16C	rm	0.727	110	81	98	62
3 x 35+16C	sm	0.524	130	94	120	74
3 x 50+25C	sm	0.387	155	114	150	93
3 x 70+35C	sm	0.268	190	140	190	116
3 x 95+50C	sm	0.193	225	166	230	134
3 x 120+70C	sm	0.153	260	193	270	162
3 x 150+70C	sm	0.124	295	220	305	180
3 x 185+95C	sm	0.0991	330	246	350	210
3 x 240+120C	sm	0.0754	383	284	410	241
3 x 300+150C	sm	0.0601	425	312	470	278

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature -20°C to 70°C

Maximum Short Circuit 160°C

Rigid

Meter Marking

Flame Retardant

Lead free

Test 3.5kV

Installation condition

Industrial Use

Outdoor Installation

Open air

Buried

In Duct

In water

WELDING CABLES-LF FR

Single Core (Cu/PVC Tape/PVC)

APPLICATION

Easy to use inside visible or embedded piping. Direct burial installation or outdoors in wet environments as well as contact with hot parts in not allowed. It must not to be subject to thermic radiation.

VOLTAGE GRADE

200 V

COLOR

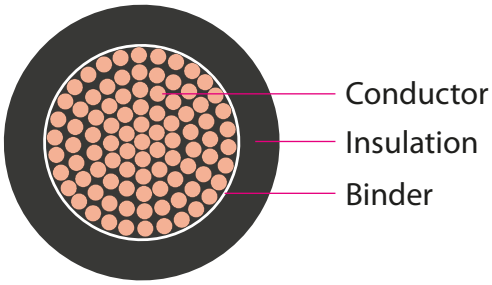
Insulation: ■ (Black)

CONSTRUCTION

Conductor: Flexible, Plain annealed Copper, Class 6 to IEC 60228

Binder (optional): PVC or Non-woven Tape

Insulation: PVC- LF FR, PVC/A to IEC 60502-1



PHYSICAL DATA						ELECTRICAL DATA	
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Nominal thickness of insulation	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity at 35 °C ambient temp.
Core x mm²	-	nos./mm	mm	mm	kg/km	Ω/km	Amp
1 x 25	rm	770/0.20	2.0	12.4	340	0.780	169
1 x 35	rm	1064/0.20	2.0	13.5	440	0.554	215
1 x 50	rm	703/0.30	2.0	15.2	595	0.386	264
1 x 70	rm	988/0.30	2.1	17.4	825	0.272	330
1 x 95	rm	1335/0.30	2.1	19.2	1060	0.206	405
1 x 120	rm	1690/0.3	2.2	21.4	1320	0.161	473
1 x 150	rm	2072/0.30	2.2	22.5	1610	0.129	545
1 x 185	rm	1460/0.40	2.2	25.2	2000	0.106	615
1 x 240	rm	1891/0.40	2.3	27.9	2550	0.0801	730

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

- Operating Temperature -20°C to 70°C
- Maximum Short Circuit 160°C
- Flexible
- Flame Retardant
- Lead free
- Meter Marking

Installation condition

- Industrial Use
- Outdoor Installation
- Open air

MEGHNA Cables
Committed to Quality & Safety

SUBMERSIBLE CABLE-LF FR

3 Core (Cu/PVC/PVC)

APPLICATION

These cables are used to connect under water Submersible Pump sets with supply line.

Agriculture, Irrigation, Domestic installation, Outdoor application & Power supply.

STANDARD

IS 694

VOLTAGE GRADE

Working voltage up to 1100 V

COLOR

Insulated core : (Red, Yellow & Blue)

Sheath : (Black or Other Colors available on request)

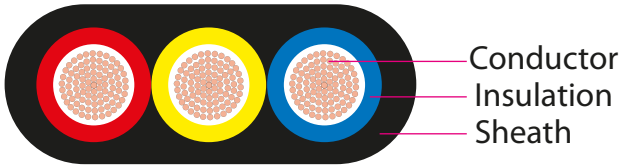
CONSTRUCTION

Conductor: Flexible, Plain annealed Copper, Class 5 to IEC 60228

Insulation: PVC- LF FR, PVC/A to IEC 60502-1

Sheath: PVC- LF FR, ST-1 to IEC 60502-1

(Special grade PVC makes it impervious to water, oil etc. making cable highly durable)



PHYSICAL DATA							ELECTRICAL DATA	
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter (WxT)	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity at 35 °C ambient temp.
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	Ω/km	Amp
3 x 1.0	rm	32/0.20	0.6	0.8	9.8 x 4.5	80	19.5	12
3 x 1.5	rm	30/0.25	0.6	0.9	11.0 x 5.0	102	13.3	15
3 x 2.5	rm	50/0.25	0.7	1.0	13.5 x 6.0	154	7.98	20
3 x 4.0	rm	56/0.30	0.8	1.1	16.1 x 6.7	225	4.95	25
3 x 6.0	rm	84/0.30	0.8	1.1	18.0 x 7.6	305	3.30	32
3 x 10	rm	80/0.40	1.0	1.2	22.0 x 9.0	488	1.91	45
3 x 16	rm	126/0.40	1.0	1.3	25.2 x 10.5	700	1.21	57
3 x 25	rm	196/0.40	1.2	1.5	31.2 x 12.5	1065	0.780	72
3 x 35	rm	276/0.40	1.2	1.6	35.0 x 14.2	1420	0.554	90
3 x 50	rm	396/0.40	1.4	1.7	41.5 x 16.2	2000	0.386	115
3 x 70	rm	360/0.50	1.6	1.9	48.8 x 19.1	2805	0.272	143
3 x 95	rm	475/0.50	1.8	2.0	56.0 x 21.5	3650	0.206	165

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature -20°C to 70°C
Maximum Short Circuit 160°C
Flexible
Meter Marking
Flame Retardant
Lead free
Test 3.5kV

Installation condition

Industrial Use
In water
In Duct

2xY/A2xY-LF FR or N2xY/NA2xY-LF FR

Single Core (Cu or Al/XLPE/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Natural)

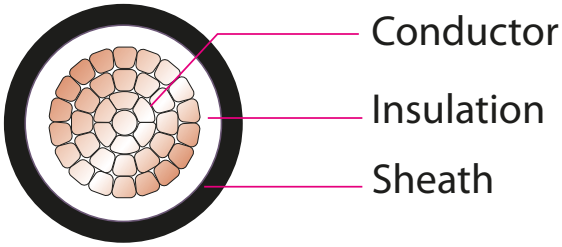
Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Solid or Stranded Circular/ Compacted, Plain annealed Copper or Aluminium, Class 1 or Class-2 to EC 60228

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Sheath: PVC- LF FR, ST-2 to IEC 60502-1



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
						Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	kg/km
1 x 1.5	re	1/1.38	0.7	1.4	6.1	50	-
1 x 1.5	rm	7/0.52	0.7	1.4	6.2	52	-
1 x 2.5	re	1/1.78	0.7	1.4	6.5	63	-
1 x 2.5	rm	7/0.68	0.7	1.4	6.6	65	-
1 x 4.0	rm	7/0.85	0.7	1.4	7.3	95	55
1 x 6.0	rm	7/1.04	0.7	1.4	7.9	107	66
1 x 10	rm	7/1.35	0.7	1.4	8.8	155	85
1 x 16	rm	7/1.70	0.7	1.4	9.9	227	112
1 x 25	rm	7/2.14	0.9	1.4	11.0	324	160
1 x 35	rmc	min. 6	0.9	1.4	12.1	425	200
1 x 50	rmc	min. 6	1.0	1.4	13.6	584	258
1 x 70	rmc	min. 12	1.1	1.4	15.4	788	335
1 x 95	rmc	min. 15	1.1	1.5	17.1	1041	430
1 x 120	rmc	min. 18/15	1.2	1.5	18.8	1292	531
1 x 150	rmc	min. 18/15	1.4	1.6	21.0	1611	640
1 x 185	rmc	min. 30	1.6	1.6	23.0	1976	775
1 x 240	rmc	min. 34/30	1.7	1.7	25.6	2528	985
1 x 300	rmc	min. 34/30	1.8	1.8	28.3	3136	1210
1 x 400	rmc	min. 53	2.0	1.9	32.0	4130	1525
1 x 500	rmc	min. 53	2.2	2.0	35.4	5134	1890
1 x 630	rmc	min. 53	2.4	2.2	39.5	6415	2420
1 x 800	rmc	min. 53	2.6	2.3	45.0	8116	3000
1 x 1000	rmc	min. 53	2.8	2.4	50.0	10096	3650

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature · Maximum Short Circuit 250°C · Rigid · Meter Marking · Flame Retardant · Lead free · Test 3.5kV

Installation condition

Industrial Use · Outdoor Installation · Open air · Buried · In Duct · In water

MEGHNA Cables
Committed to Quality & Safety

2xY/A2xY-LF FR or N2xY/NA2xY-LF FR

Single Core (Cu or Al/XLPE/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Natural)

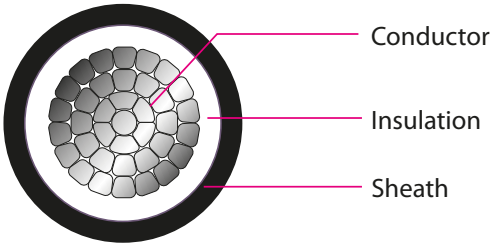
Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Compacted, Plain annealed Copper or Aluminium, Class 1 or Class-2 to IEC 60228

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Sheath: PVC- LF FR, ST-2 to IEC 60502-1



ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
1 x 1.5	re	12.1	18.1	36	27	-		30	22	-	
1 x 1.5	rm	12.1	18.1	36	27	-		30	22	-	
1 x 2.5	re	7.41	12.1	47	36	-		39	27	-	
1 x 2.5	rm	7.41	12.1	47	36	-		39	27	-	
1 x 4.0	rm	4.61	7.41	59	45	47	33	50	35	39	24
1 x 6.0	rm	3.08	4.61	78	60	64	46	69	49	56	36
1 x 10	rm	1.83	3.08	100	76	77	53	94	66	72	44
1 x 16	rm	1.15	1.91	130	100	101	71	125	86	97	58
1 x 25	rm	0.727	1.20	155	116	120	81	160	107	125	72
1 x 35	rmc	0.524	0.868	185	140	144	99	195	129	150	84
1 x 50	rmc	0.387	0.641	225	172	175	122	245	161	190	106
1 x 70	rmc	0.268	0.443	270	206	210	146	300	191	233	124
1 x 95	rmc	0.193	0.320	310	234	240	164	350	232	272	154
1 x 120	rmc	0.153	0.253	350	263	272	185	405	267	315	177
1 x 150	rmc	0.124	0.206	390	295	302	207	460	299	357	196
1 x 185	rmc	0.0991	0.164	450	344	350	244	555	339	430	214
1 x 240	rmc	0.0754	0.125	515	390	400	275	640	393	498	251
1 x 300	rmc	0.0601	0.100	585	443	463	321	770	443	537	210
1 x 400	rmc	0.0470	0.0778	680	524	509	353	900	502	626	228
1 x 500	rmc	0.0366	0.0605	800	606	592	398	1030	566	731	267
1 x 630	rmc	0.0283	0.0469	945	713	696	464	1160	645	837	322
1 x 800	rmc	0.0221	0.0367	1095	847	821	573	1310	788	942	420
1 x 1000	rmc	0.0176	0.0291	1270	1010	952	692	1480	925	1064	509

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature 90°C; Maximum Short Circuit 250°C; Rigid; Meter Marking; Flame Retardant; Lead free; Test 3.5kV

Installation condition

Industrial Use; Outdoor Installation; Open air; Buried; In Duct; In water

2xY/A2xY-LF FR or N2xY/NA2xY-LF FR

2 Core (Cu or Al/XLPE/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red & Black)

Sheath : (Black or Other Colors available on request)

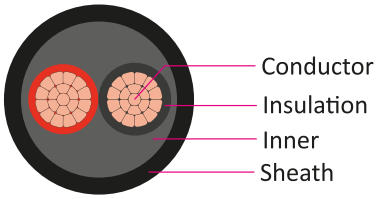
CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Compacted, Plain annealed Copper or Aluminium, Class 1 or Class-2 to IEC 60228

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Inner covering: PVC, ST-2 to IEC 60502-1

Sheath: PVC- LF FR, ST-2 to IEC 60502-1



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
						Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	kg/km
2 x 1.5	re	1/1.38	0.7	1.8	11.2	155	-
2 x 1.5	rm	7/0.52	0.7	1.8	11.6	162	-
2 x 2.5	re	1/1.78	0.7	1.8	12.0	185	-
2 x 2.5	rm	7/0.68	0.7	1.8	12.5	195	-
2 x 4	rm	7/0.85	0.7	1.8	13.6	276	187
2 x 6	rm	7/1.04	0.7	1.8	14.8	349	218
2 x 10	rm	7/1.35	0.7	1.8	16.6	478	271
2 x 16	rm	7/1.70	0.7	1.8	18.1	654	341
2 x 25	rm	7/2.14	0.9	1.8	21.5	996	457
2 x 35	rmc	min. 6	0.9	1.8	23.7	1274	576

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
2 x 1.5	re	12.1	18.1	34	25	-		27	19	-	
2 x 1.5	rm	12.1	18.1	34	25	-		27	19	-	
2 x 2.5	re	7.41	12.1	44	33	-		35	23	-	
2 x 2.5	rm	7.41	12.1	44	33	-		35	23	-	
2 x 4	rm	4.61	7.41	55	41	34	20	45	30	31	16
2 x 6	rm	3.08	4.61	74	56	40	22	62	42	40	20
2 x 10	rm	1.83	3.08	97	73	55	31	84	56	53	25
2 x 16	rm	1.15	1.91	125	95	73	43	110	71	70	31
2 x 25	rm	0.727	1.20	150	111	94	55	140	87	96	43
2 x 35	rmc	0.524	0.868	180	135	114	69	190	124	117	51

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature · Maximum Short Circuit 250°C · Rigid · Meter Marking · Flame Retardant · Lead free · Test 3.5kV

Installation condition

Industrial Use · Outdoor Installation · Open air · Buried · In Duct · In water

MEGHNA Cables
Committed to Quality & Safety

2xY/A2xY-LF FR or N2xY/NA2xY-LF FR

3 Core (Cu or Al/XLPE/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow & Blue)

Sheath : (Black or Other Colors available on request)

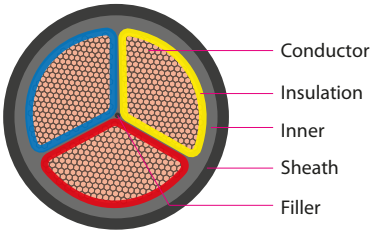
CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Sector Shaped, Plain annealed Copper or Aluminium, Class 1 or Class-2 to IEC 60228

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Inner covering: PVC, ST-2 to IEC 60502-1

Sheath: PVC- LF FR, ST-2 to IEC 60502-1



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
						Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	kg/km
3 x 1.5	re	1/1.38	0.7	1.8	11.8	182	-
3 x 1.5	rm	7/0.52	0.7	1.8	12.2	190	-
3 x 2.5	re	1/1.78	0.7	1.8	12.7	235	-
3 x 2.5	rm	7/0.68	0.7	1.8	12.3	246	-
3 x 4	rm	7/0.85	0.7	1.8	14.5	321	213
3 x 6	rm	7/1.04	0.7	1.8	15.6	421	252
3 x 10	rm	7/1.35	0.7	1.8	17.5	568	320
3 x 16	rm	7/1.7	0.7	1.8	19.6	805	410
3 x 25	rm	7/2.14	0.9	1.8	23.0	1100	500
3 x 35	sm	min. 6	0.9	1.8	22.3	1237	576
3 x 50	sm	min. 6	1.0	1.8	25.1	1694	778
3 x 70	sm	min. 12	1.1	1.9	28.4	2315	983
3 x 95	sm	min. 15	1.1	2.0	32.2	3161	1253
3 x 120	sm	min. 18/15	1.2	2.1	35.3	3915	1570
3 x 150	sm	min. 18/15	1.4	2.3	38.7	4866	2000
3 x 185	sm	min. 30	1.6	2.4	42.5	5978	2470
3 x 240	sm	min. 34/30	1.7	2.6	47.6	7534	3165
3 x 300	sm	min. 34/30	1.8	2.8	53.1	9541	3840

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
3 x 1.5	re	12.1	18.1	30	21	-		23	15	-	
3 x 1.5	rm	12.1	18.1	30	21	-		23	15	-	
3 x 2.5	re	7.41	12.1	38	27	-		32	20	-	
3 x 2.5	rm	7.41	12.1	38	27	-		32	20	-	
3 x 4	rm	4.61	7.41	48	34	34	20	41	26	31	16
3 x 6	rm	3.08	4.61	64	46	40	22	56	36	40	20
3 x 10	rm	1.83	3.08	83	59	55	31	75	47	53	25
3 x 16	rm	1.15	1.91	110	80	73	43	98	59	70	31
3 x 25	rm	0.727	1.20	130	91	94	55	120	67	96	43
3 x 35	sm	0.524	0.868	155	110	114	69	150	84	117	51
3 x 50	sm	0.387	0.641	190	137	133	80	190	106	142	58
3 x 70	sm	0.268	0.443	225	161	164	100	230	121	179	70
3 x 95	sm	0.193	0.320	260	184	196	120	270	152	221	103
3 x 120	sm	0.153	0.253	295	208	223	136	305	167	257	119
3 x 150	sm	0.124	0.206	330	235	249	154	350	189	292	131
3 x 185	sm	0.0991	0.164	385	279	282	176	410	194	337	121
3 x 240	sm	0.0754	0.125	425	300	327	202	470	223	400	153
3 x 300	sm	0.0601	0.100	478	336	368	226	564	237	455	128

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

2xY/A2xY-LF FR or N2xY/NA2xY-LF FR

3 & half Core (Cu or Al/XLPE/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

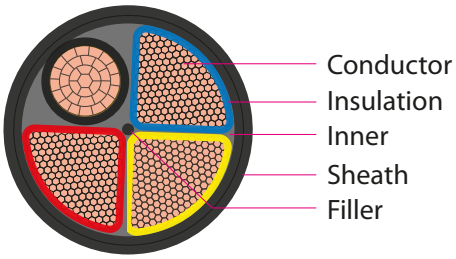
CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Sector Shaped, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Inner covering: PVC, ST-2 to IEC 60502-1

Sheath: PVC- LF FR, ST-2 to IEC 60502-1



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
						Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	kg/km
3 x 25+16	rm/rm	7/2.14	0.9	1.8	21.7	1110	637
		7/1.70	0.7				
3 x 35+16	sm/rm	min. 6	0.9	1.8	24.0	1412	702
		7/1.70	0.7				
3 x 50+25	sm/rm	min. 6	1.0	1.8	27.0	2035	946
		7/2.14	0.9				
3 x 70+35	sm/rmc	min. 12	1.1	1.9	30.5	2753	1201
		min. 6	0.9				
3 x 95+50	sm/rmc	min. 15	1.1	2.1	34.9	3721	1553
		min. 6	1.0				
3 x 120+70	sm/rmc	min. 18/15	1.2	2.2	38.2	4912	1898
		min. 12	1.1				
3 x 150+70	sm/rmc	min. 18/15	1.4	2.3	42.1	5673	2334
		min. 12	1.1				
3 x 185+95	sm/rmc	min. 30	1.6	2.5	47.3	7105	2831
		min.15	1.1				
3 x 240+120	sm/rmc	min. 34/30	1.7	2.7	53.8	9219	3601
		min.18/15	1.2				
3 x 300+150	sm/rmc	min. 34/30	1.8	2.9	58.6	11563	4387
		min. 18/15	1.4				

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
3 x 25+16	rm/rm	0.727/1.15	1.20/1.91	130	91	94	55	120	67	96	43
3 x 35+16	sm/rm	0.524/1.15	0.868/1.91	155	110	114	69	150	84	117	51
3 x 50+25	sm/rm	0.387/0.727	0.641/1.20	190	137	133	80	190	106	142	58
3 x 70+35	sm/rm	0.268/0.524	0.443/0.868	225	161	164	100	230	121	179	70
3 x 95+50	sm/rm	0.193/0.387	0.320/0.641	260	184	196	120	270	152	221	103
3 x 120+70	sm/rm	0.153/0.268	0.253/0.443	295	208	223	136	305	167	257	119
3 x 150+70	sm/rm	0.124/0.268	0.206/0.443	330	235	249	154	350	189	292	131
3 x 185+95	sm/rm	0.0991/0.193	0.164/0.320	385	279	282	176	410	194	337	121
3 x 240+120	sm/rm	0.0754/0.153	0.125/0.253	425	300	327	202	470	223	400	153
3 x 300+150	sm/rm	0.0601/0.124	0.100/0.206	478	336	368	226	564	237	455	128

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

MEGHNA Cables
Committed to Quality & Safety

2xY/A2xY-LF FR or N2xY/NA2xY-LF FR

4 Core (Cu or Al/XLPE/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

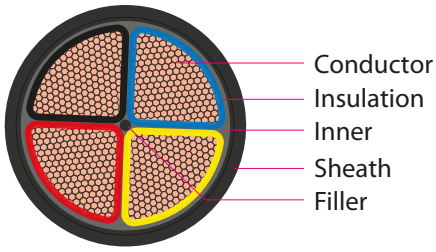
CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Compacted, Plain annealed Copper or Aluminium, Class 1 or Class-2 to IEC 60228

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Inner covering: PVC, ST-2 to IEC 60502-1

Sheath: PVC- LF FR, ST-2 to IEC 60502-1



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
						Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	kg/km
4 x 1.5	re	1/1.38	0.7	1.8	12.1	212	-
4 x 1.5	rm	7/0.52	0.7	1.8	12.4	220	-
4 x 2.5	re	1/1.78	0.7	1.8	13.6	280	-
4 x 2.5	rm	7/0.68	0.7	1.8	14.1	288	-
4 x 4	rm	7/0.85	0.7	1.8	15.4	385	246
4 x 6	rm	7/1.04	0.7	1.8	16.8	488	295
4 x 10	rm	7/1.35	0.7	1.8	19.2	690	378
4 x 16	rm	7/1.7	0.7	1.8	21.5	1060	493
4 x 25	rm	7/2.14	0.9	1.8	23.4	1388	516
4 x 35	sm	min. 6	0.9	1.8	24.5	1624	735
4 x 50	sm	min. 6	1.0	1.9	27.3	2224	970
4 x 70	sm	min. 12	1.1	2.0	30.7	3078	1250
4 x 95	sm	min. 15	1.1	2.1	35.8	4068	1641
4 x 120	sm	min. 18/15	1.2	2.3	38.4	5090	1992
4 x 150	sm	min. 18/15	1.4	2.4	42.3	6308	2488
4 x 185	sm	min. 30	1.6	2.6	48.0	7974	3042
4 x 240	sm	min. 34/30	1.7	2.8	53.6	10212	3917
4 x 300	sm	min. 34/30	1.8	3.0	59.6	12588	4705

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
4 x 1.5	re	12.1	18.1	30	21	-		23	15	-	
4 x 1.5	rm	12.1	18.1	30	21	-		23	15	-	
4 x 2.5	re	7.41	12.1	38	27	-		32	20	-	
4 x 2.5	rm	7.41	12.1	38	27	-		32	20	-	
4 x 4	rm	4.61	7.41	48	34	34	20	41	26	31	16
4 x 6	rm	3.08	4.61	64	46	40	22	56	36	40	20
4 x 10	rm	1.83	3.08	83	59	55	31	75	47	53	25
4 x 16	rm	1.15	1.91	110	80	73	43	98	59	70	31
4 x 25	rm	0.727	1.20	130	91	94	55	120	67	96	43
4 x 35	sm	0.524	0.868	155	110	114	69	150	84	117	51
4 x 50	sm	0.387	0.641	190	137	133	80	190	106	142	58
4 x 70	sm	0.268	0.443	225	161	164	100	230	121	179	70
4 x 95	sm	0.193	0.320	260	184	196	120	270	152	221	103
4 x 120	sm	0.153	0.253	295	208	223	136	305	167	257	119
4 x 150	sm	0.124	0.206	330	235	249	154	350	189	292	131
4 x 185	sm	0.0991	0.164	385	279	282	176	410	194	337	121
4 x 240	sm	0.0754	0.125	425	300	327	202	470	223	400	153
4 x 300	sm	0.0601	0.100	578	436	368	226	564	237	455	128

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

2xRaY/A2xRaY-LF FR or N2xRaY/NA2xRaY-LF FR

Single Core (Cu or Al/XLPE/AWA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Natural)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

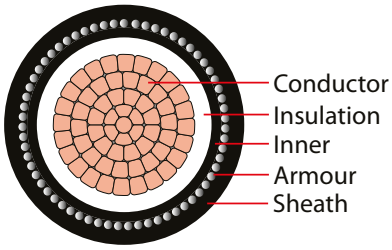
Conductor: Stranded Compacted, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Inner covering: PVC, ST-2 to IEC 60502-1

Armour: Round Aluminium wire to IEC 60502-1

Sheath: PVC- LF FR, ST-2 to IEC 60502-1



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal diameter of round aluminium wire armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
1 x 35	rmc	min. 6	0.9	1.8	1.4	17.3	587	370
1 x 50	rmc	min. 6	1.0	1.8	1.4	19.3	730	456
1 x 70	rmc	min. 12	1.1	1.8	1.4	20.8	957	550
1 x 95	rmc	min. 15	1.1	1.8	1.4	23.3	1202	655
1 x 120	rmc	min. 18/15	1.2	1.8	1.6	25.5	1510	790
1 x 150	rmc	min. 18/15	1.4	1.8	1.6	27.5	1837	930
1 x 185	rmc	min. 30	1.6	1.8	1.6	29.5	2231	1085
1 x 240	rmc	min. 34/30	1.7	1.9	1.6	32.3	2798	1335
1 x 300	rmc	min. 34/30	1.8	1.9	1.6	36.0	3467	1625
1 x 400	rmc	min. 53	2.0	2.1	2.0	40.1	4491	2080
1 x 500	rmc	min. 53	2.2	2.2	2.0	43.6	5509	2505
1 x 630	rmc	min. 53	2.4	2.3	2.0	47.2	6809	3100
1 x 800	rmc	min. 53	2.6	2.5	2.5	54.0	8695	3875
1 x 1000	rmc	min. 53	2.8	2.7	2.5	58.9	10754	4735

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
1 x 35	rmc	0.524	0.868	185	140	144	99	195	129	150	84
1 x 50	rmc	0.387	0.641	225	172	175	122	245	161	190	106
1 x 70	rmc	0.268	0.443	270	206	210	146	300	191	233	124
1 x 95	rmc	0.193	0.320	310	234	240	164	350	232	272	154
1 x 120	rmc	0.153	0.253	350	263	272	185	405	267	315	177
1 x 150	rmc	0.124	0.206	390	295	302	207	460	299	357	196
1 x 185	rmc	0.0991	0.164	450	344	350	244	555	339	430	214
1 x 240	rmc	0.0754	0.125	515	390	400	275	640	393	498	251
1 x 300	rmc	0.0601	0.100	585	443	463	321	770	443	537	210
1 x 400	rmc	0.0470	0.0778	680	524	509	353	900	502	686	288
1 x 500	rmc	0.0366	0.0605	800	606	592	398	1030	566	785	321
1 x 630	rmc	0.0283	0.0469	945	713	696	464	1160	645	855	340
1 x 800	rmc	0.0221	0.0367	1095	847	821	573	1310	788	925	403
1 x 1000	rmc	0.0176	0.0291	1270	1010	952	692	1480	925	1092	537

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

MEGHNA Cables
Committed to Quality & Safety

2xFGY/A2xFGY-LF FR or N2xFGY/NA2xFGY-LF FR

3 Core (Cu or Al/XLPE/FSA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow & Blue)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Sector shaped, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

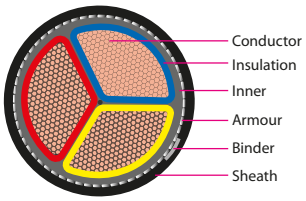
Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Inner covering: PVC, ST-2 to IEC 60502-1

Armour: Flat Galvanized Steel strip to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath: PVC- LF FR, ST-2 to IEC 60502-1



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of flat steel strip armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
3 x 25	rm	7/2.14	0.9	0.8	1.8	24.8	1487	1071
3 x 35	sm	min. 6	0.9	0.8	1.8	25.4	1757	1117
3 x 50	sm	min. 6	1.0	0.8	1.9	27.2	2329	1394
3 x 70	sm	min. 12	1.1	0.8	2.0	30.4	2986	1690
3 x 95	sm	min.15	1.1	0.8	2.1	35.2	4136	2053
3 x 120	sm	min. 18/15	1.2	0.8	2.2	38.0	5025	2410
3 x 150	sm	min. 18/15	1.4	0.8	2.4	42.2	6141	2862
3 x 185	sm	min. 30	1.6	0.8	2.5	46.0	7368	3398
3 x 240	sm	min. 34/30	1.7	0.8	2.7	51.8	9584	4147
3 x 300	sm	min. 34/30	1.8	0.8	2.9	56.5	11621	4900

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
3 x 25	rm	0.727	1.20	130	91	94	55	120	67	96	43
3 x 35	sm	0.524	0.868	155	110	114	69	150	84	117	51
3 x 50	sm	0.387	0.641	190	137	133	80	190	106	142	58
3 x 70	sm	0.268	0.443	225	161	164	100	230	121	179	70
3 x 95	sm	0.193	0.320	260	184	196	120	270	152	221	103
3 x 120	sm	0.153	0.253	295	208	223	136	305	167	257	119
3 x 150	sm	0.124	0.206	330	235	249	154	350	189	292	131
3 x 185	sm	0.0991	0.164	385	279	282	176	410	194	337	121
3 x 240	sm	0.0754	0.125	425	300	327	202	490	243	400	153
3 x 300	sm	0.0601	0.100	578	436	368	226	664	337	455	128

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature 90°C; Maximum Short Circuit 250°C; Rigid; Meter Marking; Flame Retardant; Lead free; Test 3.5kV

Installation condition

Industrial Use; Outdoor Installation; Open air; Buried; In Duct; In water

2xFGY/A2xFGY-LF FR or N2xFGY/NA2xFGY-LF FR

3 & half Core (Cu or Al/XLPE/FSA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Sector shaped/ Compacted, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

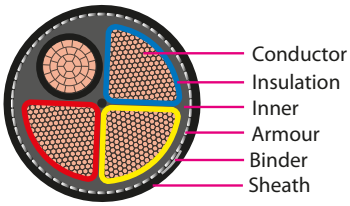
Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Inner covering: PVC, ST-2 to IEC 60502-1

Armour: Flat Galvanized Steel strip to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath: PVC- LF FR, ST-2 to IEC 60502-1



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of flat steel strip armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
3 x 25+16	rm/rm	7/2.14	0.9	0.8	1.8	25.9	1744	1299
		7/1.70	0.7					
3 x 35+16	sm/rm	min. 6	0.9	0.8	1.8	27.7	2028	1236
		7/1.70	0.7					
3 x 50+25	sm/rm	min. 6	1.0	0.8	1.9	31.2	2915	1507
		7/2.14	0.9					
3 x 70+35	sm/rmc	min. 12	1.1	0.8	2.0	35.3	3793	1823
		min. 6	0.9					
3 x 95+50	sm/rmc	min. 15	1.1	0.8	2.2	40.0	4881	2262
		min. 6	1.0					
3 x 120+70	sm/rmc	min. 18/15	1.2	0.8	2.3	43.4	6252	2698
		min. 12	1.1					
3 x 150+70	sm/rmc	min. 18/15	1.4	0.8	2.4	47.3	7023	3205
		min. 12	1.1					
3 x 185+95	sm/rmc	min. 30	1.6	0.8	2.6	52.7	8975	3808
		min.15	1.1					
3 x 240+120	sm/rmc	min. 34/30	1.7	0.8	2.8	58.5	10669	4500
		min.18/15	1.2					
3 x 300+150	sm/rmc	min. 34/30	1.8	0.8	2.9	66.6	13863	5435
		min. 18/15	1.4					

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
3 x 25+16	rm/rm	0.727/1.15	1.20/1.91	130	91	94	55	120	67	96	43
3 x 35+16	sm/rm	0.524/1.15	0.868/1.91	155	110	114	69	150	84	117	51
3 x 50+25	sm/rm	0.387/0.727	0.641/1.20	190	137	133	80	190	106	142	58
3 x 70+35	sm/rmc	0.268/0.524	0.443/0.868	225	161	164	100	230	121	179	70
3 x 95+50	sm/rmc	0.193/0.387	0.320/0.641	260	184	196	120	270	152	221	103
3 x 120+70	sm/rmc	0.153/0.268	0.253/0.443	295	208	223	136	305	167	257	119
3 x 150+70	sm/rmc	0.124/0.268	0.206/0.443	330	235	249	154	350	189	292	131
3 x 185+95	sm/rmc	0.0991/0.193	0.164/0.320	385	279	282	176	410	194	337	121
3 x 240+120	sm/rmc	0.0754/0.153	0.125/0.253	425	300	327	202	490	243	400	153
3 x 300+150	sm/rmc	0.0601/0.124	0.100/0.206	578	436	368	226	664	337	455	128

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

MEGHNA Cables
Committed to Quality & Safety

2xFGY/A2xFGY-LF FR or N2xFGY/NA2xFGY-LF FR

4 Core (Cu or Al/XLPE/FSA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Sector shaped, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

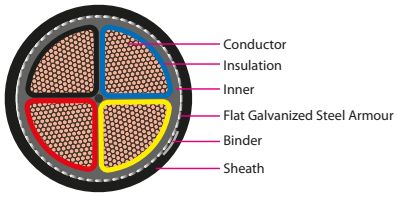
Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Inner covering: PVC, ST-2 to IEC 60502-1

Armour: Flat Galvanized Steel strip to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath: PVC- LF FR, ST-2 to IEC 60502-1



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of flat steel strip armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
4 x 25	rm	7/2.14	0.9	0.8	1.8	25.3	1903	1415
4 x 35	sm	min. 6	0.9	0.8	1.8	27.1	2219	1475
4 x 50	sm	min. 6	1.0	0.8	2.0	32.0	3119	1822
4 x 70	sm	min. 12	1.1	0.8	2.1	35.5	4113	2227
4 x 95	sm	min. 15	1.1	0.8	2.2	39.7	5378	2702
4 x 120	sm	min. 18/15	1.2	0.8	2.4	43.6	7140	3168
4 x 150	sm	min. 18/15	1.4	0.8	2.5	47.5	7868	3720
4 x 185	sm	min. 30	1.6	0.8	2.7	53.0	9874	4408
4 x 240	sm	min. 34/30	1.7	0.8	2.9	59.8	12412	5347
4 x 300	sm	min. 34/30	1.8	0.8	3.1	66.1	14788	6281

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
4 x 25	rm	0.727	1.20	130	91	94	55	120	67	96	43
4 x 35	sm	0.524	0.868	155	110	114	69	150	84	117	51
4 x 50	sm	0.387	0.641	190	137	133	80	190	106	142	58
4 x 70	sm	0.268	0.443	225	161	164	100	230	121	179	70
4 x 95	sm	0.193	0.320	260	184	196	120	270	152	221	103
4 x 120	sm	0.153	0.253	295	208	223	136	305	167	257	119
4 x 150	sm	0.124	0.206	330	235	249	154	350	189	292	131
4 x 185	sm	0.0991	0.164	385	279	282	176	410	194	337	121
4 x 240	sm	0.0754	0.125	425	300	327	202	490	243	400	153
4 x 300	sm	0.0601	0.100	578	436	368	226	664	337	445	118

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature
Maximum Short Circuit 250°C
Rigid
Meter Marking
Flame Retardant
Lead free
Test 3.5kV

Installation condition

Industrial Use
Outdoor Installation
Open air
Buried
In Duct
In water

2xRGY/A2xRGY-LF FR or N2xRGY/NA2xRGY-LF FR

3 Core (Cu or Al/XLPE/SWA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow & Blue)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Sector shaped, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

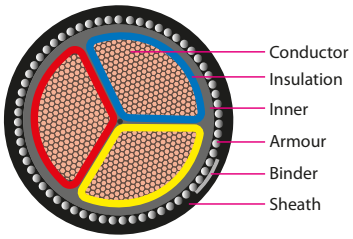
Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Inner covering: PVC, ST-2 to IEC 60502-1

Armour: Round Galvanized Steel wire to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath: PVC- LF FR, ST-2 to IEC 60502-1



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal diameter of round steel armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
3 x 25	rm	7/2.14	0.9	1.6	1.8	26.4	1682	1203
3 x 35	sm	min. 6	0.9	1.6	1.8	27.0	1991	1332
3 x 50	sm	min. 6	1.0	1.6	1.9	29.7	2529	1577
3 x 70	sm	min. 12	1.1	2.0	2.1	34.0	3571	2233
3 x 95	sm	min.15	1.1	2.0	2.2	36.8	4561	2756
3 x 120	sm	min. 18/15	1.2	2.0	2.3	41.1	5465	3186
3 x 150	sm	min. 18/15	1.4	2.5	2.5	46.5	7031	4179
3 x 185	sm	min. 30	1.6	2.5	2.6	49.5	8378	4867
3 x 240	sm	min. 34/30	1.7	2.5	2.8	55.8	10453	5879
3 x 300	sm	min. 34/30	1.8	2.5	3.0	59.6	12534	6745

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
3 x 25	rm	0.727	1.200	130	91	94	55	120	67	96	43
3 x 35	sm	0.524	0.868	155	110	114	69	150	84	117	51
3 x 50	sm	0.387	0.641	190	137	133	80	190	106	142	58
3 x 70	sm	0.268	0.443	225	161	164	100	230	121	179	70
3 x 95	sm	0.193	0.320	260	184	196	120	270	152	221	103
3 x 120	sm	0.153	0.253	295	208	223	136	305	167	257	119
3 x 150	sm	0.124	0.206	330	235	249	154	350	189	292	131
3 x 185	sm	0.0991	0.164	385	279	282	176	410	194	337	121
3 x 240	sm	0.0754	0.125	425	300	327	202	490	243	400	153
3 x 300	sm	0.0601	0.100	578	436	368	226	664	337	455	128

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature · Maximum Short Circuit 250°C · Rigid · Meter Marking · Flame Retardant · Lead free · Test 3.5kV

Installation condition

Industrial Use · Outdoor Installation · Open air · Buried · In Duct · In water

MEGHNA Cables
Committed to Quality & Safety

2xRGY/A2xRGY-LF FR or N2xRGY/NA2xRGY-LF FR

3 & half Core (Cu or Al/XLPE/SWA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Sector shaped/ Compacted, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

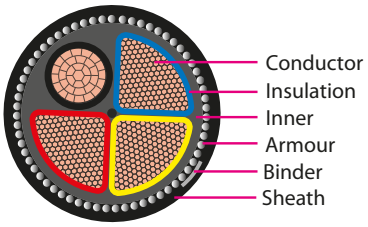
Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Inner covering: PVC, ST-2 to IEC 60502-1

Armour: Round Galvanized Steel wire to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath: PVC- LF FR, ST-2 to IEC 60502-1



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal diameter of round steel armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
3 x 25+16	rm/rm	7/2.14	0.9	1.6	1.8	27.5	1919	1337
		7/1.70	0.7					
3 x 35+16	sm/rm	min. 6	0.9	1.6	1.8	29.3	2363	1596
		7/1.70	0.7					
3 x 50+25	sm/rm	min. 6	1.0	1.6	2.0	31.9	3105	1995
		7/2.14	0.9					
3 x 70+35	sm/rmc	min. 12	1.1	2.0	2.1	37.9	4153	2595
		min. 6	0.9					
3 x 95+50	sm/rmc	min. 15	1.1	2.0	2.2	42.1	5372	3251
		min. 6	1.0					
3 x 120+70	sm/rmc	min. 18/15	1.2	2.0	2.4	45.8	6921	4197
		min. 12	1.1					
3 x 150+70	sm/rmc	min. 18/15	1.4	2.5	2.5	50.2	8070	4772
		min. 12	1.1					
3 x 185+95	sm/rmc	min. 30	1.6	2.5	2.7	55.1	9655	5543
		min.15	1.1					
3 x 240+120	sm/rmc	min. 34/30	1.7	2.5	2.9	61.1	11952	6618
		min.18/15	1.2					
3 x 300+150	sm/rmc	min. 34/30	1.8	2.5	3.0	67.0	14563	7837
		min. 18/15	1.4					

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
3 x 25+16	rm/rm	0.727/1.15	1.20/1.91	130	91	94	55	120	67	96	43
3 x 35+16	sm/rm	0.524/1.15	0.868/1.91	155	110	114	69	150	84	117	51
3 x 50+25	sm/rm	0.387/0.727	0.641/1.20	190	137	133	80	190	106	142	58
3 x 70+35	sm/rmc	0.268/0.524	0.443/0.868	225	161	164	100	230	121	179	70
3 x 95+50	sm/rmc	0.193/0.387	0.320/0.641	260	184	196	120	270	152	221	103
3 x 120+70	sm/rmc	0.153/0.268	0.253/0.443	295	208	223	136	305	167	257	119
3 x 150+70	sm/rmc	0.124/0.268	0.206/0.443	330	235	249	154	350	189	292	131
3 x 185+95	sm/rmc	0.0991/0.193	0.164/0.320	385	279	282	176	410	194	337	121
3 x 240+120	sm/rmc	0.0754/0.153	0.125/0.253	425	300	327	202	490	243	400	153
3 x 300+150	sm/rmc	0.0601/0.124	0.100/0.206	578	436	368	226	664	337	455	128

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

2xRGY/A2xRGY-LF FR or N2xRGY/NA2xRGY-LF FR

4 Core (Cu or Al/XLPE/SWA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Sector shaped, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

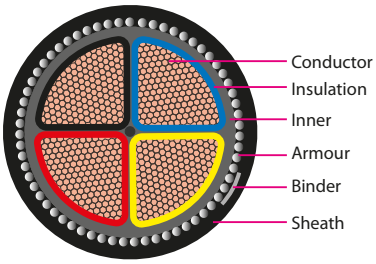
Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Inner covering: PVC, ST-2 to IEC 60502-1

Armour: Round Galvanized Steel wire to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath: PVC- LF FR, ST-2 to IEC 60502-1



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal diameter of round steel armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
4 x 25	rm	7/2.14	0.9	1.6	1.8	28.4	2038	1400
4 x 35	sm	min. 6	0.9	1.6	1.9	29.4	2509	1622
4 x 50	sm	min. 6	1.0	1.6	2.0	33.9	3364	2096
4 x 70	sm	min. 12	1.1	2.0	2.2	38.9	4503	2720
4 x 95	sm	min. 15	1.1	2.0	2.3	43.2	6198	3791
4 x 120	sm	min. 18/15	1.2	2.0	2.5	47.8	7380	4341
4 x 150	sm	min. 18/15	1.4	2.5	2.6	51.2	8838	5036
4 x 185	sm	min. 30	1.6	2.5	2.8	57.5	10674	5993
4 x 240	sm	min. 34/30	1.7	2.5	3.0	62.4	13362	7263
4 x 300	sm	min. 34/30	1.8	2.5	3.2	68.9	16888	8969

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
4 x 25	rm	0.727	1.20	130	91	94	55	120	67	96	43
4 x 35	sm	0.524	0.868	155	110	114	69	150	84	117	51
4 x 50	sm	0.387	0.641	190	137	133	80	190	106	142	58
4 x 70	sm	0.268	0.443	225	161	164	100	230	121	179	70
4 x 95	sm	0.193	0.320	260	184	196	120	270	152	221	103
4 x 120	sm	0.153	0.253	295	208	223	136	305	167	257	119
4 x 150	sm	0.124	0.206	330	235	249	154	350	189	292	131
4 x 185	sm	0.0991	0.164	385	279	282	176	410	194	337	121
4 x 240	sm	0.0754	0.125	425	300	327	202	490	243	400	153
4 x 300	sm	0.0601	0.100	578	436	368	226	664	337	445	118

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature 90°C, 20°C — Maximum Short Circuit 250°C — Rigid — Meter Marking

Flame Retardant — Lead free — Test 3.5kV

Installation condition

Industrial Use — Outdoor Installation — Open air

Buried — In Duct — In water

MEGHNA Cables
Committed to Quality & Safety

NYY-1 LF FR / YY-1 LF FR

Multi Core (Cu/PVC/PVC)

APPLICATION

The auxiliary cable is used in supervisory electrical equipment and station control circuits, in light, ordinary or heavy duty industry where power distribution device is needed to transmit control signals or measure signal operations.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : 1 (Black with number print)

Sheath : (Black or Other Colors available on request)

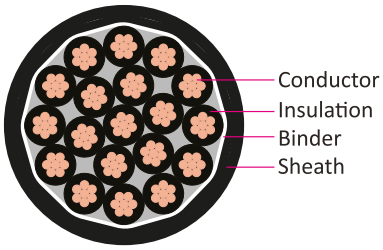
CONSTRUCTION

Conductor: Solid or Stranded Circular, Plain annealed Copper, Class 1 or Class-2 to IEC 60228

Insulation: PVC- LF FR, PVC/A to IEC 60502-1

Binder: Polyester or PVC tape

Sheath: PVC- LF FR, ST-1 to IEC 60502-1



PHYSICAL DATA & ELECTRICAL DATA						ELECTRICAL DATA				
Nominal cross sectional area	No. of strands & diameter of wire	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Ground at 30 °C		Current Carrying Capacity in Air at 35 °C	
							Direct laid	In duct	Open	In pipes
Core x mm²	no./mm	mm	mm	mm	kg/km	Ω/km	amp	amp	amp	amp
5 x 1.5 re	1/1.38	0.8	1.8	12.6	206	12.1	18	14	13	9
7 x 1.5 re	1/1.38	0.8	1.8	13.5	258	12.1	16	12	12	9
10 x 1.5 re	1/1.38	0.8	1.8	16.4	351	12.1	13	10	10	7
12 x 1.5 re	1/1.38	0.8	1.8	16.9	399	12.1	12	9	9	6
16 x 1.5 re	1/1.38	0.8	1.8	18.5	507	12.1	11	8	8	5
21 x 1.5 re	1/1.38	0.8	1.8	20.3	635	12.1	9	6	7	4
24 x 1.5 re	1/1.38	0.8	1.8	22.4	712	12.1	9	6	7	4
30 x 1.5 re	1/1.38	0.8	1.8	23.6	851	12.1	8	5	6	3
5 x 2.5 re	1/1.78	0.8	1.8	14.2	289	7.41	24	19	19	14
7 x 2.5 re	1/1.78	0.8	1.8	15.3	360	7.41	21	16	17	12
10 x 2.5 re	1/1.78	0.8	1.8	18.8	490	7.41	18	14	14	10
12 x 2.5 re	1/1.78	0.8	1.8	19.4	567	7.41	16	12	13	9
16 x 2.5 re	1/1.78	0.8	1.8	21.3	727	7.41	14	10	11	8
21 x 2.5 re	1/1.78	0.8	1.8	23.5	920	7.41	13	9	10	7
24 x 2.5 re	1/1.78	0.8	1.8	26.4	1059	7.41	12	8	9	6
30 x 2.5 re	1/1.78	0.8	1.8	27.8	1274	7.41	10	7	8	5
5 x 4 rm	7/0.85	1.0	1.8	16.8	402	4.61	31	25	25	19
7 x 4 rm	7/0.85	1.0	1.8	18.2	544	4.61	27	22	22	17
10 x 4 rm	7/0.85	1.0	1.8	22.7	708	4.61	23	18	19	15
12 x 4 rm	7/0.85	1.0	1.8	22.4	837	4.61	21	16	17	13

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature -20°C to 70°C
Maximum Short Circuit 160°C
Rigid
Meter Marking
Flame Retardant
Lead free
Test 3.5kV

Installation condition

Industrial Use
Outdoor Installation
Open air
Buried
In Duct
In water

MEGHNA Cables
Committed to Quality & Safety

NYY-1 Flexible LF FR / YY-1 Flexible LF FR

Multi Core (Cu/PVC/PVC)

APPLICATION

The auxiliary cable is used in supervisory electrical equipment and station control circuits, in light, ordinary or heavy duty industry where power distribution device is needed to transmit control signals or measure signal operations.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : 1 (Black with number print)

Sheath : (Black or Other Colors available on request)

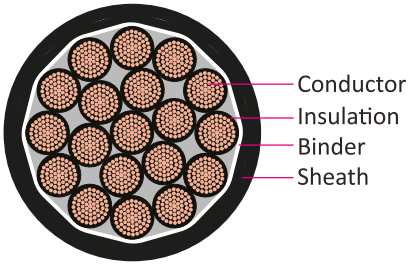
CONSTRUCTION

Conductor: Flexible, Plain annealed Copper, Class 5 to IEC 60228

Insulation: PVC- LF FR, PVC/A to IEC 60502-1

Binder: Polyester or PVC tape

Sheath: PVC- LF FR, ST-1 to IEC 60502-1



PHYSICAL DATA & ELECTRICAL DATA						ELECTRICAL DATA				
Nominal cross sectional area	No. of strands & diameter of wire	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Ground at 30 °C		Current Carrying Capacity in Air at 35 °C	
							Direct laid	In duct	Open	In pipes
Core x mm²	no./mm	mm	mm	mm	kg/km	Ω/km	amp	amp	amp	amp
5 x 1.5 rm	30/0.25	0.8	1.8	12.8	220	13.3	20	16	15	11
7 x 1.5 rm	30/0.25	0.8	1.8	13.8	270	13.3	18	14	14	11
10 x 1.5 rm	30/0.25	0.8	1.8	16.7	372	13.3	15	12	12	9
12 x 1.5 rm	30/0.25	0.8	1.8	17.4	420	13.3	14	11	11	8
16 x 1.5 rm	30/0.25	0.8	1.8	19.2	518	13.3	13	10	10	7
21 x 1.5 rm	30/0.25	0.8	1.8	20.6	655	13.3	11	8	9	6
24 x 1.5 rm	30/0.25	0.8	1.8	23.0	750	13.3	10	8	9	6
30 x 1.5 rm	30/0.25	0.8	1.8	24.2	900	13.3	9	7	8	5
5 x 2.5 rm	50/0.25	0.8	1.8	14.4	295	7.98	26	21	21	16
7 x 2.5 rm	50/0.25	0.8	1.8	15.4	370	7.98	23	18	19	14
10 x 2.5 rm	50/0.25	0.8	1.8	19.1	505	7.98	20	16	16	12
12 x 2.5 rm	50/0.25	0.8	1.8	19.8	580	7.98	18	14	15	11
16 x 2.5 rm	50/0.25	0.8	1.8	21.7	740	7.98	16	12	13	10
21 x 2.5 rm	50/0.25	0.8	1.8	24.2	935	7.98	15	11	12	9
24 x 2.5 rm	50/0.25	0.8	1.8	26.8	1070	7.98	14	10	11	8
30 x 2.5 rm	50/0.25	0.8	1.8	28.2	1290	7.98	12	9	10	7
5 x 4 rm	56/0.30	1.0	1.8	16.9	410	4.95	33	27	27	21
7 x 4 rm	56/0.30	1.0	1.8	18.3	550	4.95	29	24	24	19
10 x 4 rm	56/0.30	1.0	1.8	23.0	730	4.95	25	20	21	17
12 x 4 rm	56/0.30	1.0	1.8	33.4	850	4.95	23	18	19	15

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature -20°C to 70°C
Maximum Short Circuit 160°C
Flexible
Meter Marking
Flame Retardant
Lead free
Test 3.5kV

Installation condition

Industrial Use
Outdoor Installation
Open air
Buried
In Duct
In water

MEGHNA Cables
Committed to Quality & Safety

MEDIUM VOLTAGE CABLES

MEGHNA STAR CABLES is recognized as a world leader in the development and design of medium voltage industrial cables. With its extensive technical design of medium voltage industrial cables. With its extensive technical and engineering expertise and a state-of-the-art compound facility, MEGHNA STAR CABLES is committed to use materials with the best overall properties to create the most omprehensive line of industrial power cables to meet your design requirements – no matter what the challenge is.

As a result, MEGHNA STAR CABLES offers a wide range of medium voltage industrial cables from 3.6 kV to 36 kV that are ideally suited for performance-demanding applications and provide you with a proven record of reliable performance. This cable is designed to be used extensively in pulp and paper mills, sewage treatment facilities, water treatment plants, environmental protection systems, power generating stations and other industrial applications.

2xHSYRaY/A2xHSYRaY-LF FR

Single Core (Cu or Al/XLPE/CTS or CWS/PVC/AWA/PVC)

APPLICATION

The single core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 6/10 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_0/U (Um) : 6/10 (12) kV

Permissible Service Voltage: 6.35/11 kV

COLOR

Insulated core : (Natural)

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: XLPE to IEC 60502-2

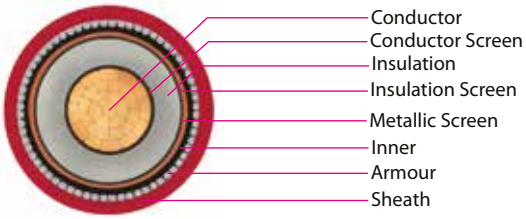
Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Armour: Round Aluminium wire to IEC 60502-2

Sheath: PVC- LF FR, ST-2 to IEC 60502-1



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal diameter of Al wire armour	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum				thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
1 x 25	rmc	5.6	6.5	3.4	1.6	1.8	0.06	16	26.4	1000	840
1 x 35	rmc	6.6	7.5	3.4	1.6	1.8	0.06	16	27.5	1130	900
1 x 50	rmc	7.7	8.6	3.4	1.6	1.8	0.06	16	28.5	1305	980
1 x 70	rmc	9.3	10.2	3.4	1.6	1.9	0.06	16	30.3	1580	1120
1 x 95	rmc	11.0	12.0	3.4	1.6	1.9	0.06	16	32.1	1890	1280
1 x 120	rmc	12.3	13.5	3.4	1.6	2.0	0.06	16	33.8	2200	1440
1 x 150	rmc	13.7	15.0	3.4	2.0	2.0	0.06	25	35.2	2530	1600
1 x 185	rmc	15.3	16.8	3.4	2.0	2.0	0.06	25	38.2	3050	1900
1 x 240	rmc	17.6	19.2	3.4	2.0	2.1	0.06	25	40.8	3690	2180
1 x 300	rmc	19.7	21.6	3.4	2.0	2.2	0.06	25	43.3	4360	2490
1 x 400	rmc	22.3	24.6	3.4	2.0	2.3	0.06	35	46.5	5440	2940
1 x 500	rmc	25.3	27.6	3.4	2.5	2.5	0.06	35	50.6	6660	3560
1 x 630	rmc	28.7	32.5	3.4	2.5	2.6	0.06	35	55.2	8100	4220
1 x 800	rmc	32.6	36.7	3.4	2.5	2.7	0.06	50	59.0	10000	4950
1 x 1000	rmc	36.3	40.5	3.4	2.5	2.9	0.06	50	64.4	12300	5920

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											Laid direct in flat spaced		Laid in single duct flat touching		Laid direct in flat touching	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	µF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
25	0.727	1.20	0.927	1.53	3.6	2.4	0.39	2.40	0.208	0.501	144	112	133	103	167	130
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.229	0.478	172	134	159	123	203	157
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.252	0.446	203	157	188	146	243	189
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.288	0.422	246	192	229	178	303	236
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.323	0.400	293	229	274	213	369	287
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.353	0.384	332	260	311	242	426	332
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.380	0.378	366	288	347	271	481	376
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.416	0.364	410	324	391	307	550	432
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.460	0.350	470	373	453	356	647	511
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.506	0.336	524	419	510	402	739	586
400	0.0470	0.0778	0.063	0.102	57.2	37.6	0.62	5.25	0.561	0.323	572	466	571	457	837	676
500	0.0366	0.0605	0.050	0.080	71.5	47.0	0.62	5.25	0.619	0.319	672	546	661	537	938	776
630	0.0283	0.0469	0.041	0.064	90.1	59.2	0.62	5.25	0.698	0.308	882	646	771	617	1048	886
800	0.0221	0.0367	0.039	0.051	115.0	75.2	0.62	7.50	0.780	0.299	1002	756	871	717	1148	986
1000	0.0176	0.0291	0.029	0.043	143.0	94.0	0.62	7.50	0.860	0.292	1112	856	971	807	1238	1086

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

MEGHNA Cables
Committed to Quality & Safety

2xSEYRGY/A2xSEYRGY-LF FR

Three Core (Cu or Al/XLPE/CTS or CWS/PVC/SWA/PVC)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 6/10 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_0/U (Um) : 6/10 (12) kV

Permissible Service Voltage: 6.35/11 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: XLPE to IEC 60502-2

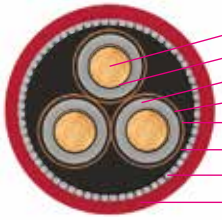
Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Armour: Round Galvanized Steel wire to IEC 60502-2

Binder: Steel tape (Optional), **Sheath:** PVC- LF FR, ST-2 to IEC 60502-2



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal diameter of steel wire armour	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum				thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
3 x 25	rmc	5.6	6.5	3.4	2.0	2.3	0.06	16	46.3	4150	3660
3 x 35	rmc	6.6	7.5	3.4	2.5	2.4	0.06	16	48.5	5200	4520
3 x 50	rmc	7.7	8.6	3.4	2.5	2.5	0.06	16	52.5	5820	4950
3 x 70	rmc	9.3	10.2	3.4	2.5	2.5	0.06	16	56.5	6900	5620
3 x 95	rmc	11.0	12.0	3.4	2.5	2.8	0.06	16	61.0	8150	6350
3 x 120	rmc	12.3	13.5	3.4	2.5	2.9	0.06	16	64.3	9100	6860
3 x 150	rmc	13.7	15.0	3.4	2.5	3.0	0.06	25	68.0	10350	7540
3 x 185	rmc	15.3	16.8	3.4	2.5	3.1	0.06	25	72.1	11950	8450
3 x 240	rmc	17.6	19.2	3.4	3.15	3.3	0.06	25	78.0	15050	10470
3 x 300	rmc	19.7	21.6	3.4	3.15	3.5	0.06	25	86.0	17700	11900

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 °C		Maximum A.C resistance of conductor at 90 °C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 °C				Current rating in air at 30 °C	
											In a buried direct		In a buried duct		In air	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	μF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
25	0.727	1.20	0.927	1.53	3.6	2.4	0.39	2.40	0.262	0.387	129	100	112	87	143	111
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.291	0.369	154	119	134	104	172	133
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.321	0.343	181	140	158	123	205	159
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.371	0.325	220	171	194	150	253	196
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.417	0.309	263	204	232	180	307	238
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.459	0.297	298	232	264	206	352	274
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.494	0.289	332	259	296	231	397	309
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.543	0.28	374	293	335	262	453	354
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.583	0.273	431	338	387	304	529	415
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.602	0.267	482	380	435	343	599	472

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Operating Temperature · Maximum Short Circuit 250°C · Flame Retardant · Meter Marking · Test 21kV · Lead free · Resistance to Solar Radiation · Rigid

Installation condition

Power Station Use · Industrial Use · Outdoor Installation · Buried · In Duct · Open air · In water

MEGHNA Cables
Committed to Quality & Safety

2xSEYRGY/A2xSEYRGY-LF FR

Three Core (Cu or Al/XLPE/CTS or CWS/PVC/SWA/PVC)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 8.7/15 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_0/U (Um) : 8.7/15 (17.5) kV

Permissible Service Voltage: 9.2/16.3 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: XLPE to IEC 60502-2

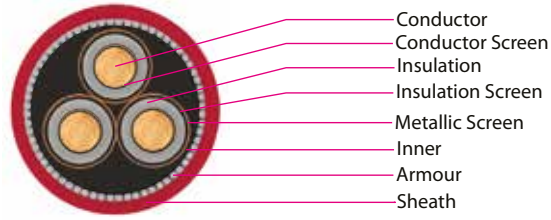
Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Armour: Round Galvanized Steel wire to IEC 60502-2

Binder: Steel tape (Optional). **Sheath:** PVC- LF FR, ST-2 to IEC 60502-2



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal diameter of steel wire armour	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum				thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
3 x 25	rmc	5.6	6.5	4.5	2.5	2.5	0.06	16	58.0	5300	4830
3 x 35	rmc	6.6	7.5	4.5	2.5	2.6	0.06	16	60.0	5880	5220
3 x 50	rmc	7.7	8.6	4.5	2.5	2.7	0.06	16	63.0	6590	5690
3 x 70	rmc	9.3	10.2	4.5	2.5	2.8	0.06	16	67.0	7720	6450
3 x 95	rmc	11.0	12.0	4.5	2.5	3.0	0.06	16	71.5	9020	7230
3 x 120	rmc	12.3	13.5	4.5	2.5	3.1	0.06	16	74.5	9990	7720
3 x 150	rmc	13.7	15.0	4.5	2.5	3.2	0.06	25	78.0	11220	8450
3 x 185	rmc	15.3	16.8	4.5	3.15	3.3	0.06	25	83.4	13740	10240
3 x 240	rmc	17.6	19.2	4.5	3.15	3.5	0.06	25	89.2	16180	11600
3 x 300	rmc	19.7	21.6	4.5	3.15	3.6	0.06	25	94.3	18700	12950

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											In a buried direct		In a buried duct		In air	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	μF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
25	0.727	1.20	0.927	1.53	3.6	2.4	0.39	2.40	0.171	0.436	129	100	112	87	143	111
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.187	0.415	154	119	134	104	172	133
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.204	0.386		140	158	123	205	159
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.232	0.365	220	171	194	150	253	196
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.258	0.346	263	204	232	180	307	238
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.281	0.332	298	232	264	206	352	274
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.301	0.322	332	259	296	231	397	309
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.329	0.311	374	293	335	262	453	354
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.363	0.299	431	338	387	304	529	415
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.398	0.289	482	380	435	343	599	472

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Operating Temperature · Maximum Short Circuit 250˚C · Flame Retardant · Meter Marking · Test 30.5kV · Lead free · Resistance to Solar Radiation · Rigid

Installation condition

Power Station Use · Industrial Use · Outdoor Installation · Buried · In Duct · Open air · In water

2xSEYFGY/A2xSEYFGY-LF FR

Three Core (Cu or Al/XLPE/CTS or CWS/PVC/FSA/PVC)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 6/10 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 6/10 (12) kV

Permissible Service Voltage: 6.35/11 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: XLPE to IEC 60502-2

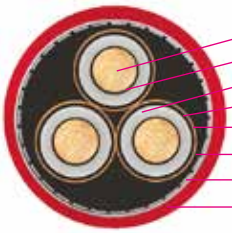
Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Armour: Flat Galvanized Steel wire to IEC 60502-2

Binder: Steel tape (Optional). **Sheath:** PVC- LF FR, ST-2 to IEC 60502-2



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal thickness of flat steel armour	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum				thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
3 x 25	rmc	5.6	6.5	3.4	0.8	2.2	0.06	16	47.5	3460	2940
3 x 35	rmc	6.6	7.5	3.4	0.8	2.3	0.06	16	50.5	4020	3350
3 x 50	rmc	7.7	8.6	3.4	0.8	2.4	0.06	16	53.5	4630	3870
3 x 70	rmc	9.3	10.2	3.4	0.8	2.6	0.06	16	57.0	5570	4430
3 x 95	rmc	11.0	12.0	3.4	0.8	2.7	0.06	16	61.5	6600	5180
3 x 120	rmc	12.3	13.5	3.4	0.8	2.8	0.06	16	65.0	7750	5700
3 x 150	rmc	13.7	15.0	3.4	0.8	2.9	0.06	25	68.0	8830	6360
3 x 185	rmc	15.3	16.8	3.4	0.8	3.0	0.06	25	72.5	10320	7200
3 x 240	rmc	17.6	19.2	3.4	0.8	3.2	0.06	25	77.5	12470	8250
3 x 300	rmc	19.7	21.6	3.4	0.8	3.3	0.06	25	83.0	14900	9500

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 °C		Maximum A.C resistance of conductor at 90 °C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 °C				Current rating in air at 30 °C	
											In a buried direct		In a buried duct		In air	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	μF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
25	0.727	1.20	0.927	1.53	3.6	2.4	0.39	2.40	0.262	0.410	129	100	112	87	143	111
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.291	0.391	154	119	134	104	172	133
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.321	0,363	181	140	158	123	205	159
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.371	0.344	220	171	194	150	253	196
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.417	0.327	263	204	232	180	307	238
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.459	0.313	298	232	264	206	352	274
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.494	0.304	332	259	296	231	397	309
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.543	0.294	374	293	335	262	453	354
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.583	0.284	431	338	387	304	529	415
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.602	0.275	482	380	435	343	599	472

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Operating Temperature, Maximum Short Circuit 250°C, Flame Retardant, Meter Marking, Test 21kV, Lead free, Resistance to Solar Radiation, Rigid

Installation condition

Power Station Use, Industrial Use, Outdoor Installation, Buried, In Duct, Open air, In water

MEGHNA Cables
Committed to Quality & Safety

2xSEYFGY/A2xSEYFGY-LF FR

Three Core (Cu or Al/XLPE/CTS or CWS/PVC/FSA/PVC)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 8.7/15 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_0/U (Um) : 8.7/15 (17.5) kV

Permissible Service Voltage: 9.2/16.3 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: XLPE to IEC 60502-2

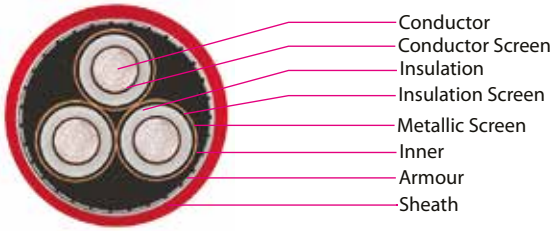
Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Armour: Flat Galvanized Steel wire to IEC 60502-2

Binder: Steel tape (Optional) **Sheath:** PVC- LF FR, ST-2 to IEC 60502-2



PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal thickness of flat steel armour	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum				thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
3 x 25	rmc	5.6	6.5	4.5	0.8	2.4	0.06	16	54.0	4100	3680
3 x 35	rmc	6.6	7.5	4.5	0.8	2.5	0.06	16	56.0	4620	4000
3 x 50	rmc	7.7	8.6	4.5	0.8	2.6	0.06	16	59.0	5250	4500
3 x 70	rmc	9.3	10.2	4.5	0.8	2.7	0.06	16	63.0	6280	5160
3 x 95	rmc	11.0	12.0	4.5	0.8	2.8	0.06	16	67.0	7500	5930
3 x 120	rmc	12.3	13.5	4.5	0.8	2.9	0.06	16	70.5	8420	6400
3 x 150	rmc	13.7	15.0	4.5	0.8	3.0	0.06	25	73.5	9550	7060
3 x 185	rmc	15.3	16.8	4.5	0.8	3.2	0.06	25	78.0	11100	8000
3 x 240	rmc	17.6	19.2	4.5	0.8	3.3	0.06	25	83.5	13400	9200
3 x 300	rmc	19.7	21.6	4.5	0.8	3.5	0.06	25	89.0	15700	10400

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											In a buried direct		In a buried duct		In air	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	μF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
25	0.727	1.20	0.927	1.53	3.6	2.4	0.39	2.40	0.171	0.436	129	100	112	87	143	111
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.187	0.416	154	119	134	104	172	133
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.204	0.387	181	140	158	123	205	159
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.232	0.366	220	171	194	150	253	196
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.258	0.347	263	204	232	180	307	238
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.281	0.332	298	232	264	206	352	274
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.301	0.322	332	259	296	231	397	309
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.329	0.311	374	293	335	262	453	354
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.363	0.300	431	338	387	304	529	415
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.398	0.289	482	380	435	343	599	472

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Operating Temperature, Maximum Short Circuit 250°C, Flame Retardant, Meter Marking, Test 30.5kV, Lead free, Resistance to Solar Radiation, Rigid

Installation condition

Power Station Use, Industrial Use, Outdoor Installation, Buried, In Duct, Open air, In water

FIRE ALARM-FiR (SHIELD)

2 Core (Cu/Mica Tape/PVC-FR/CAM+ATC Drain wire/PVC-FRLS)

APPLICATION

These cables are designed for emergency lighting, fire alarms, fire detection, audio circuits, control circuits and essential equipment in fire situations where an uninterrupted power supply has to be guaranteed. For fixed installation typically in fire alarm and emergency lighting circuits where circuit integrity must be maintained.

STANDARD

BS 5308-2 & BS 7629-1

BS 6387

IEC 60331-21

VOLTAGE GRADE

U_0/U (Um) : 300/500 (550) V

COLOR

Insulated core : or (Red & Black or Brown & Blue)

Sheath : or (Red or Orange or Other

Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular, Plain annealed copper, Class-1 or Class-2 to IEC 60228

Fire barrier: Mica tape (Synthetic or Glass)

Insulation: Flame retardant (FR) PVC, TI1-FR to BS 7655

Drain wire: Annealed Tinned Copper, Class 1 to IEC 60228

Collective Shield: Aluminium Mylar Tape

Sheath: Flame retardant (FR) PVC, TM1-FRLS to BS 7655

PHYSICAL DATA									ELECTRICAL DATA		
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Thickness of Mica tape	Nominal thickness of insulation	Nominal size of circuit protective conductor	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. DC resistance of conductor at 20 °C	Current Carrying Capacity in conduit at 30 °C	Current Carrying Capacity in air at 35 °C
Core x mm²	-	no./mm	mm	mm	mm²	mm	mm	kg/km	Ω/Km	amps	amps
2 x 1.5	re	1/1.38	0.11	0.7	1.5 re	0.9	9.2	125	12.1	14	22
2 x 1.5	rm	7/0.52	0.11	0.7	1.5 re	0.9	9.5	130	12.1	14	22
2 x 2.5	re	1/1.78	0.11	0.8	2.5 re	1.0	10.5	175	7.41	18	30
2 x 2.5	rm	7/0.67	0.11	0.8	2.5 re	1.0	11.0	182	7.41	18	30

FIRE ALARM-FiR-LSZH (UN-SHIELD)

2 Core (Cu/Mica Tape/XLPE/LSZH)

APPLICATION

These cables are designed for emergency lighting, fire alarms, fire detection, audio circuits, control circuits and essential equipment in fire situations where an uninterrupted power supply has to be guaranteed.

For fixed installation typically in fire alarm and emergency lighting circuits where circuit integrity must be maintained.

STANDARD

BS 7629-1

BS 6387

IEC 60331

VOLTAGE GRADE

U_0/U (Um) : 300/500 (550) V

COLOR

Insulated core : or (Red & Black or Brown & Blue)

Sheath : or (Red or Orange or Other

Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular, Plain annealed copper, Class-1 or Class-2 To IEC 60228

Fire barrier: Mica tape (Synthetic or Glass)

Insulation: Cross-linked Polyethylene (XLPE), GP-8 to BS 7655

Drain wire: Annealed Tinned Copper, Class 1 to IEC 60228

Collective Shield: Aluminium Mylar Tape

Sheath: Low Smoke Zero Halogen (LSZH) Polyolefin, LTS-3 to BS 7655

PHYSICAL DATA									ELECTRICAL DATA		
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Thickness of Mica tape	Nominal thickness of insulation	Nominal size of circuit protective conductor	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. DC resistance of conductor at 20 °C	Current Carrying Capacity in conduit at 30 °C	Current Carrying Capacity in air at 35 °C
Core x mm²	-	no./mm	mm	mm	mm²	mm	mm	kg/km	Ω/Km	amps	amps
2 x 1.5	re	1/1.38	0.11	0.7	1.5 re	0.9	9.2	120	12.1	16	25
2 x 1.5	rm	7/0.52	0.11	0.7	1.5 re	0.9	9.5	125	12.1	16	25
2 x 2.5	re	1/1.78	0.11	0.8	2.5 re	1.0	10.5	170	7.41	20	33
2 x 2.5	rm	7/0.67	0.11	0.8	2.5 re	1.0	11.0	175	7.41	20	33

Characteristics

Operating Temperature 90°C

Maximum Short Circuit 750°C

Fire Resistant IEC 60331 BS 6387

Flames don't Spread IEC 60332-3-24

Lead free

Rigid

Flame Retardant IEC 60332-1-2

Test 1.5-2kV

Installation condition

Industrial Use

Home Use

Fire Fighting Use

Open air

In Duct

In Conduit

MEGHNA Cables
Committed to Quality & Safety

TELEPHONE CABLE-LF FR

Multipair (Cu/PE/PVC)
PE Insulated PVC Sheathed Cable

APPLICATION

Suitable for telecommunication and signal circuits. They are suitable for exposed or concealed conductor installation permissible voltage 200 V.

STANDARD

VDE 0815

VOLTAGE GRADE

200V

COLOR

Insulated core Individual Pair color

Sheath : ■ or ■ (Grey or Black)

CONSTRUCTION

Conductor: Solid Plain annealed copper to ASTM B3

Insulation: Polyethylene (PE) to BS 6234

Sheath: PVC- LF FR, TM1 to BS 7655

PHYSICAL DATA							ELECTRICAL DATA
Number of pair (core)	Nominal cross-sectional area	No. of strands & diameter of wire	Nominal thickness of Insulation	Nominal thickness of Sheath	Approx. Overall diameter	Approx. weight of cable	Max. DC resistance of conductor at 20 °C
	mm^2	no./mm	mm	mm	mm	Kg/Km	ohm/Km
1 Pair (2 core)	0.125	1/0.4	0.25	0.8	4.0	18	150
2 Pair (4 core)	0.125	1/0.4	0.25	0.8	4.3	24	150
3 Pair (6 core)	0.125	1/0.4	0.25	1.0	5.4	35	150
4 Pair (8 core)	0.125	1/0.4	0.25	1.2	6.5	47	150
5 Pair (10 core)	0.125	1/0.4	0.25	1.2	7.0	53	150
6 Pair (12 core)	0.125	1/0.4	0.25	1.4	7.7	67	150
7 Pair(14 core)	0.125	1/0.4	0.25	1.4	8.1	74	150
8 Pair (16 core)	0.125	1/0.4	0.25	1.4	8.3	80	150
10 Pair(20 core)	0.125	1/0.4	0.25	1.4	9.3	97	150
15 Pair (30 core)	0.125	1/0.4	0.25	1.4	11.0	130	150
20 Pair (40 core)	0.125	1/0.4	0.25	1.6	13.0	170	150
30 Pair (60 core)	0.125	1/0.4	0.25	1.6	14.5	228	150
1 Pair (2 core)	0.282	1/0.6	0.25	0.8	4.3	22	66.6
2 Pair (4 core)	0.282	1/0.6	0.25	0.8	4.6	31	66.6
3 Pair (6 core)	0.282	1/0.6	0.25	1.0	5.7	44	66.6
4 Pair (8 core)	0.282	1/0.6	0.25	1.2	6.8	70	66.6
5 Pair (10 core)	0.282	1/0.6	0.25	1.2	7.2	75	66.6
6 Pair (12 core)	0.282	1/0.6	0.25	1.4	8.2	90	66.6
7 Pair (14 core)	0.282	1/0.6	0.25	1.4	8.5	99	66.6
8 Pair (16 core)	0.282	1/0.6	0.25	1.4	9.5	105	66.6
10 Pair (20 core)	0.282	1/0.6	0.25	1.4	10.4	132	66.6
15 Pair (30 core)	0.282	1/0.6	0.25	1.4	12.0	185	66.6
20 Pair (40 core)	0.282	1/0.6	0.25	1.6	14.2	245	66.6
25 Pair (50 core)	0.282	1/0.6	0.25	1.6	15.7	300	66.6
30 Pair (60 core)	0.282	1/0.6	0.25	1.6	16.8	352	66.6
40 Pair (80 core)	0.282	1/0.6	0.25	1.6	18.3	438	66.6
50 Pair (100 core)	0.282	1/0.6	0.25	1.6	20.0	525	66.6
100 Pair (200 core)	0.282	1/0.6	0.25	1.6	26.6	935	66.6

Characteristics

Operating Temperature · Maximum Short circuit · Lead free · Rigid

Installation condition

Household Wiring · Outdoor Installation · In conduit · Open air

CO-AXIAL CABLE

(Cu/Foam PE/SC/PVC)
Foam PE Insulated, Cu Braided screen, PVC Sheathed Cable

APPLICATION

The tried and true coaxial cable can transmit all kinds of signals - HDTV, digital video, composite video, component video, S-video, FM, and more. We have several options of coax to choose from for wherever you need to use them: schools, hospitals, security systems, or even just connecting your home cable TV indoor & outdoor.

STANDARD

MIL C17

COLOR

Insulation: (Natural)

Sheath: (Black)

CONSTRUCTION

Conductor: Solid Plain annealed copper to ASTM B3

Insulation: Foamed Polyethylene (PE) to BS 6234

Wrapped: Copolymer Al foil

Screen: Copper or Tinned Copper Braided

Sheath: Special PVC, ST5 to IEC 60227

PHYSICAL DATA									ELECTRICAL DATA	
Code name	Nominal cross sectional area of conductor	No. of strands & diameter of wire	Approx. diameter of insulated core	Nominal thickness of sheath	Shield materials	Shield coverage factor	Approx. Overall diameter	Approx. weight of cable	Max. D.C. resistance of conductor at 20 °C	Impedance
	mm^2	mm	mm	mm	–	%	mm	Kg/Km	ohm/Km	ohm
Low Loss 50 Ohm Wireless RF Transmission Cable										
RG 174	0.16	1/0.45	1.55	0.8	Al Mylar+ATC	85	2.90	24	110.99	50
RG 58	0.65	1/0.91	2.95	0.9	Al Mylar+ATC	85	5.00	50	27.32	50
RG 8X	1.65	1/1.45	3.81	1.0	Al Mylar+ATC	85	6.20	90	10.76	50
75 Ohm analog and digital video cable										
3/C	0.2	1/0.5	3.00	0.9	PAC	60	5.40	34	88.79	75
4/C	0.42	1/0.73	3.81	1.0	PAC	60	6.35	50	42.28	75
5/C	0.64	1/0.9	4.20	1.2	PAC	60	7.20	62	27.75	75
6/C	1.23	1/1.25	5.46	1.2	PAC	60	8.20	67	14.44	75
RG 59/U	0.52	1/0.81	3.68	1.0	Al Mylar+PAC	60	6.15	55	34.15	75
RG 6/U	0.78	1/1.02	4.30	1.2	Al Mylar+PAC	60	7.50	80	22.77	75
RG 11/U	2.09	1/1.63	6.65	1.2	Al Mylar+PAC	60	9.80	110	8.50	75

Characteristics

Operating Temperature · Maximum Short circuit · Lead free · Rigid

Installation condition

Household Wiring · Outdoor Installation · In conduit · Open air

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UTP CAT. 6

4 Pair x 23 AWG (Cu/HDPE/PVC-FR)
HDPE Insulated, FR-PVC Sheathed Cable

APPLICATION

This cable is used for the high-speed transmission of voice and data between central and peripheral systems for frequencies up to 200 MHz, for E Class applications in structured cabling systems for buildings. Specifications checked up to 300 MHz.

STANDARD

IEC 11801

BS EN 50288-5-1

COLOR

Insulated core: W-Bl, W-Or, W-Br, W-G

Sheath: (Grey)

CONSTRUCTION

Conductor: Solid Plain annealed copper to ASTM B3

Insulation: High Density Polyethylene (HDPE) to EN 50290

Separator: Polyethylene

Sheath: FR-PVC, TM2 to EN 50290

PHYSICAL DATA					
Number of pair x Size	Number & diameter of wire	Approx. Core diameter	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable
no. x AWG	no./mm	mm	mm	mm	Kg/Km
4x2x23 AWG	1/0.57	1.0	0.8	6.50	38

TECHNICAL DATA					
Conductor resistance	Max. ring resistance	Max. mutual capacitance	Min. Insulation resistance	Standard imped-ance	Min. bending radius
ohm/km	ohm/100m	pF/100m	M.ohm.km	ohm	mm
71.03	14.5	48.0	500	100 ±15	25

TRANSMISSION SPECIFICATIONS						
Frequency	Attenuation Minimum value of EN 50288-3-1	NEXT Minimum value of EN 50288-3-1	PS NEXT Minimum value of EN 50288-3-1	ELFEXT Minimum value of EN 50288-3-1	PS ELFEXT Minimum value of EN 50288-3-1	Return loss
MHz	dB/100m	dB	dB		dB/100m	dB
1	2.10	66.00	64.00	66.00	64.00	-
10	6.00	59.30	57.30	50.00	47.00	25.00
16	7.60	56.20	54.20	45.90	43.00	25.00
31.25	10.80	51.90	49.90	40.10	37.10	23.60
62.5	15.50	47.40	45.40	34.10	31.10	21.50
100	19.90	44.30	42.30	30.00	27.00	20.10
155	25.30	41.40	39.40	26.20	23.20	18.80
200	29.10	39.80	37.80	24.00	21.00	18.00
250	33.00	38.30	36.30	22.00	19.00	17.30

Characteristics

Operating Temperature · Maximum Short circuit · Lead free · Flame don't Spread IEC 60332-3-24

Installation condition

Household Wiring · Outdoor Installation · In conduit · Open air

FLEXIBLE CONTROL

Multi-Core (Cu/PVC/PVC)

APPLICATION

The auxiliary cable is used in supervisory electrical equipment and station control circuits, in light, ordinary or heavy duty industry where power distribution device is needed to transmit control signals or measure signal operations

STANDARD

IEC 60227-7

VOLTAGE GRADE

U_0/U : 300/500 V

COLOR

Insulated core : 1 (Black with number print)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Flexible, Plain annealed Copper, Class 5 to IEC 60228

Insulation: PVC, PVC/D to IEC 60227-1

Binder: Polyester or Non-woven tape

Sheath: PVC, ST-9 to IEC 60227-1

PHYSICAL DATA & ELECTRICAL DATA							ELECTRICAL DATA	
Number of core & Nominal cross sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter		Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Air at 35 °C ambient temp.
				Lower limit	Upper limit			
Core x mm²	no./mm	mm	mm	mm	mm	kg/km	Ω/km	amp
2 x 0.5 rm	16/0.2	0.6	0.7	5.2	6.6	35	39.0	7
3 x 0.5 rm	16/0.2	0.6	0.7	5.5	7.0	46	39.0	7
5 x 0.5 rm	16/0.2	0.6	0.8	6.8	8.6	75	39.0	5
7 x 0.5 rm	16/0.2	0.6	0.9	8.3	10.4	95	39.0	4
12 x 0.5 rm	16/0.2	0.6	1.1	10.4	12.9	168	39.0	4
18 x 0.5 rm	16/0.2	0.6	1.2	12.3	15.3	240	39.0	3
36 x 0.5 rm	16/0.2	0.6	1.5	17.0	20.9	472	39.0	2
48 x 0.5 rm	16/0.2	0.6	1.7	19.8	24.3	630	39.0	2
2 x 0.75 rm	24/0.2	0.6	0.8	5.7	7.2	48	26.0	11
3 x 0.75 rm	24/0.2	0.6	0.8	6.0	7.6	60	26.0	11
5 x 0.75 rm	24/0.2	0.6	0.9	7.4	9.3	99	26.0	8
7 x 0.75 rm	24/0.2	0.6	1.0	9.0	11.3	120	26.0	7
12 x 0.75 rm	24/0.2	0.6	1.1	11.0	13.7	208	26.0	5
18 x 0.75 rm	24/0.2	0.6	1.3	13.2	16.4	310	26.0	4
36 x 0.75 rm	24/0.2	0.6	1.6	18.2	22.4	598	26.0	3
48 x 0.75 rm	24/0.2	0.6	1.8	21.2	25.9	800	26.0	3
2 x 1.0 rm	32/0.2	0.6	0.8	5.9	7.5	54	19.5	14
3 x 1.0 rm	32/0.2	0.6	0.8	6.3	8.0	70	19.5	14
5 x 1.0 rm	32/0.2	0.6	0.9	7.8	9.8	110	19.5	11
7 x 1.0 rm	32/0.2	0.6	1.0	9.5	11.8	144	19.5	9
12 x 1.0 rm	32/0.2	0.6	1.2	11.8	14.6	248	19.5	8
18 x 1.0 rm	32/0.2	0.6	1.3	14.0	17.2	360	19.5	6
36 x 1.0 rm	32/0.2	0.6	1.7	19.4	23.8	728	19.5	5
48 x 1.0 rm	32/0.2	0.6	1.9	22.5	27.6	960	19.5	5

Current ratings are valid for cables laid under defined conditions at page no. For current ratings at deviated conditions apply correction factor as given on page no.

Characteristics

Operating Temperature -20°C to 70°C

Maximum Short Circuit 160°C

Meter Marking

Lead free

Flame Retardant IEC 60332-1-2

Test 1.5-2kV

Installation condition

Industrial Use

Outdo Instal or lation

Open air

In Du ct

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FLEXIBLE CONTROL

Multi-Core (Cu/PVC/PVC)

APPLICATION

The auxiliary cable is used in supervisory electrical equipment and station control circuits, in light, ordinary or heavy duty industry where power distribution device is needed to transmit control signals or measure signal operations

STANDARD

IEC 60227-7

VOLTAGE GRADE

U_0/U : 300/500 V

COLOR

Insulated core : 1 (Black with number print)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Flexible, Plain annealed Copper, Class 5 to IEC 60228

Insulation: PVC, PVC/D to IEC 60227-1

Binder: Polyester or Non-woven tape

Sheath: PVC, ST-9 to IEC 60227-1

PHYSICAL DATA & ELECTRICAL DATA							ELECTRICAL DATA	
Number of core & Nominal cross sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter		Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Air at 35 °C ambient temp.
				Lower limit	Upper limit			
Core x mm²	no./mm	mm	mm	mm	mm	kg/km	Ω/km	amp
2 x 1.5 rm	30/0.25	0.7	0.8	6.8	8.6	73	13.3	17
3 x 1.5 rm	30/0.25	0.7	0.9	7.4	9.4	97	13.3	17
5 x 1.5 rm	30/0.25	0.7	1.0	9.1	11.4	160	13.3	13
7 x 1.5 rm	30/0.25	0.7	1.2	11.3	14.1	205	13.3	11
12 x 1.5 rm	30/0.25	0.7	1.3	13.8	17.0	352	13.3	9
18 x 1.5 rm	30/0.25	0.7	1.5	16.5	20.3	520	13.3	8
36 x 1.5 rm	30/0.25	0.7	2.0	23.0	28.2	1036	13.3	6
48 x 1.5 rm	30/0.25	0.7	2.2	26.2	32.5	1370	13.3	6
2 x 2.5 rm	50/0.25	0.8	0.9	8.2	10.3	102	7.98	24
3 x 2.5 rm	50/0.25	0.8	1.0	9.0	11.2	148	7.98	24
5 x 2.5 rm	50/0.25	0.8	1.1	11.0	13.7	244	7.98	18
7 x 2.5 rm	50/0.25	0.8	1.3	13.6	16.8	315	7.98	16
12 x 2.5 rm	50/0.25	0.8	1.5	16.8	20.6	550	7.98	13
18 x 2.5 rm	50/0.25	0.8	1.8	20.2	24.8	820	7.98	11
36 x 2.5 rm	50/0.25	0.8	2.3	28.0	34.2	1630	7.98	8
48 x 2.5 rm	50/0.25	0.8	2.4	32.1	39.1	2135	7.98	8

Current ratings are valid for cables laid under defined conditions at page no. For current ratings at deviated conditions apply correction factor as given on page no.

Characteristics

Operating Temperature -20°C to 70°C
Maximum Short Circuit 160°C
Meter Marking
Lead free
Flame Retardant IEC 60332-1-2
Test 1.5-2kV

Installation condition

Industrial Use
Outdoor Installation
Open air
In Duct

FLEXIBLE CONTROL SHIELD

Multi-Core (Cu/PVC/CWS/PVC)

APPLICATION

The auxiliary cable is used in supervisory electrical equipment and station control circuits, in light, ordinary or heavy duty industry where power distribution device is needed to transmit control signals or measure signal operations

STANDARD

IEC 60227-7

VOLTAGE GRADE

U_0/U : 300/500 V

COLOR

Insulated core : 1 (Black with number print)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Flexible, Plain annealed Copper, Class 5 to IEC 60228

Insulation: PVC, PVC/D to IEC 60227-1

Binder (Optional): Polyester or Non-woven tape

Inner sheath: PVC, ST-5 to IEC 60227-1

Shielded: Plain annealed Copper or Tinned Copper, Braided

Sheath: PVC, ST-9 to IEC 60227-1

PHYSICAL DATA & ELECTRICAL DATA								ELECTRICAL DATA	
Number of core & Nominal cross sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of insulation	Diameter of braided wire	Nominal thickness of sheath	Approx. Overall diameter		Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Air at 35 °C ambient temp.
					Lower limit	Upper limit			
Core x mm²	no./mm	mm	mm	mm	mm	mm	kg/km	Ω/km	amp
2 x 0.5 rm	16/0.2	0.6	0.15	0.9	7.7	9.6	96	39.0	7
3 x 0.5 rm	16/0.2	0.6	0.15	0.9	8.0	10.0	105	39.0	7
5 x 0.5 rm	16/0.2	0.6	0.15	1.0	9.3	11.6	142	39.0	5
7 x 0.5 rm	16/0.2	0.6	0.15	1.1	10.8	13.5	165	39.0	4
12 x 0.5 rm	16/0.2	0.6	0.2	1.3	13.3	16.5	288	39.0	4
18 x 0.5 rm	16/0.2	0.6	0.2	1.3	15.1	18.6	375	39.0	3
2 x 0.75 rm	24/0.2	0.6	0.15	0.9	8.0	10.0	101	26.0	11
3 x 0.75 rm	24/0.2	0.6	0.15	0.9	8.3	10.4	118	26.0	11
5 x 0.75 rm	24/0.2	0.6	0.15	1.0	9.7	12.1	160	26.0	8
7 x 0.75 rm	24/0.2	0.6	0.15	1.2	11.5	14.3	208	26.0	7
12 x 0.75 rm	24/0.2	0.6	0.2	1.3	13.9	17.2	332	26.0	5
18 x 0.75 rm	24/0.2	0.6	0.2	1.5	16.2	19.9	468	26.0	4
2 x 1.0 rm	32/0.2	0.6	0.15	0.9	8.2	10.3	116	19.5	14
3 x 1.0 rm	32/0.2	0.6	0.15	1.0	8.8	11.0	136	19.5	14
5 x 1.0 rm	32/0.2	0.6	0.15	1.1	10.3	12.8	184	19.5	11
7 x 1.0 rm	32/0.2	0.6	0.15	1.2	12.2	15.1	238	19.5	9
12 x 1.0 rm	32/0.2	0.6	0.2	1.4	14.7	18.1	388	19.5	8
18 x 1.0 rm	32/0.2	0.6	0.2	1.5	16.9	20.8	535	19.5	6
2 x 1.5 rm	30/0.25	0.7	0.15	1.0	9.3	11.6	148	13.3	17
3 x 1.5 rm	30/0.25	0.7	0.15	1.0	9.7	12.1	170	13.3	17
5 x 1.5 rm	30/0.25	0.7	0.15	1.2	11.8	14.7	255	13.3	13
7 x 1.5 rm	30/0.25	0.7	0.2	1.3	14.1	17.4	326	13.3	11
12 x 1.5 rm	30/0.25	0.7	0.2	1.5	16.7	20.5	510	13.3	9
18 x 1.5 rm	30/0.25	0.7	0.2	1.7	19.6	24.1	720	13.3	8
2 x 2.5 rm	50/0.25	0.8	0.15	1.1	10.7	13.3	196	7.98	24
3 x 2.5 rm	50/0.25	0.8	0.15	1.1	11.3	14.0	235	7.98	24
5 x 2.5 rm	50/0.25	0.8	0.2	1.3	13.9	17.2	370	7.98	18
7 x 2.5 rm	50/0.25	0.8	0.2	1.5	16.5	20.3	460	7.98	16
12 x 2.5 rm	50/0.25	0.8	0.2	1.7	19.9	24.4	745	7.98	13
18 x 2.5 rm	50/0.25	0.8	0.2	2.0	23.3	28.5	1060	7.98	11

Current ratings are valid for cables laid under defined conditions at page no. For current ratings at deviated conditions apply correction factor as given on page no.

Characteristics

Operating Temperature -20°C to 70°C
Maximum Short Circuit 160°C
Meter Marking
Lead free
Flame Retardant IEC 60332-1-2
Test 1.5-2kV

Installation condition

Industrial Use
Outdoor Installation
In Duct
Open air
Buried
In water

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OVERHEAD CONDUCTOR

"The Overhead Conductor Manual is a guide or road map for designing transmission and distribution lines. It is not a substitute for good engineering practices" says Thrash. "It must be used in conjunction with applicable local, state and federal codes and design standards, some of which may supersede recommendations in the manual."

ALL ALUMINIUM CONDUCTOR (AAC)

APPLICATION

All Aluminium Conductor are the favoured type for use on relatively short spans, particularly low and medium voltage distribution lines.

STANDARD

BS 215 part-1

BDS 1036

IEC 61089

CONSTRUCTION

Conductor: Stranded Aluminium wire to BS 2627

PHYSICAL DATA						TECHNICAL DATA		
Code Name	Nominal Aluminium Area	Total Area	No. of Strands & Diameter of Wire	Approx. Overall Diameter	Approx. weight of cable	Nominal Breaking Load	Maximum D.C resistance of conductor at 20 ˚C	Current rating at 35 ˚C ambient temp.
	mm^2	mm^2	no./mm	mm	Kg/Km	kgf	Ω/km	Amp
MIDG	22	23.3	7/2.06	6.2	64	408	1.227	114
APHIS	25	26.4	3/3.35	7.2	73	419	1.081	139
GNAT	25	26.9	7/2.21	6.6	74	468	1.068	124
WEEVIA	30	31.6	3/3.66	7.8	87	496	0.9082	144
MOSQUITO	35	36.9	7/2.59	7.8	102	617	0.7731	147
LADYBIRD	40	42.8	7/2.79	8.4	118	701	0.6694	159
ANT	50	52.8	7/3.10	9.3	145	846	0.5419	181
FLY	60	63.6	7/3.40	10.2	174	1010	0.4505	199
BLUEBOTTLE	70	73.6	7/3.66	11.0	203	1156	0.3884	219
EARWIG	75	78.6	7/3.78	11.4	216	1218	0.3645	227
GRASSHOPPER	80	84.1	7/3.91	11.7	232	1303	0.3405	238
CLEGG	90	95.6	7/4.17	12.5	264	1482	0.2994	256
WASP	100	106.0	7/4.39	13.2	290	1632	0.2702	271
BEETLE	100	106.4	19/ 2.67	13.4	293.3	1776	0.2699	274
BEE	125	132.0	7/4.90	14.7	363.9	2033	0.2169	308
CRICKET	150	157.9	7/5.36	16.1	435.5	2632	0.1814	342
HORNET	150	157.6	19/3.25	16.3	434.6	2519	0.1825	346
CATERPILLER	175	185.9	19/3.53	17.7	412.7	2920	0.1547	380
CHAFER	200	213.2	19/3.78	18.9	578.9	3304	0.1349	414
SPIDER	225	237.0	19/3.99	20.0	655	3672	0.1214	439
COCKROACH	250	265.7	19/4.22	21.1	732.7	4120	0.1083	470
BUTTERFLY	300	322.7	19/4.65	23.3	889.6	4966	0.08916	528
MOTH	350	373.1	19/5.00	25.0	1028.6	5748	0.07709	572
DRONE	350	372.4	37/3.58	25.1	1026.8	5858	0.07723	572
LOCUST	400	428.7	19/5.36	26.8	1182	6601	0.06714	626
CENTIPED	400	415.2	37/3.78	26.5	1144.8	6434	0.06944	619
MAYBUG	450	486.1	37/4.09	28.6	1340.2	7547	0.05921	676
SCORPION	500	529.8	37/4.27	29.9	1460.8	8156	0.05445	710
CICADA	600	628.3	37/4.65	32.6	1732.4	9682	0.04587	784
TARANTULA	750	793.9	37/5.23	36.6	2191.5	12247	0.03628	899

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ALL ALUMINIUM CONDUCTOR (AAC)

APPLICATION

All Aluminium Conductor are the favoured type for use on relatively short spans, particularly low and medium voltage distribution lines.

STANDARD

ASTM B 231

BDS 1036

IEC 61089

CONSTRUCTION

Conductor: Stranded Aluminium H14 to ASTM B 231

PHYSICAL DATA						TECHNICAL DATA		
Code Name	Total Area		No. of Strands & Diameter of Wire	Approx. Overall Diameter	Approx. weight of cable	Nominal Breaking Load	Maximum D.C resistance of conductor at 20 ˚C	Current rating at 35 ˚C ambient temp.
	AWG/MCM	mm^2	no./mm	mm	Kg/Km	Kgf	Ω/km	Amp
ROSE	4	21.16	7/1.96	5.9	58	375	1.362	104
IRIS	2	33.61	7/2.47	7.4	92	574	0.8574	136
POPPY	1/0	53.48	7/3.12	9.4	148	846	0.539	180
ASTER	2/0	67.42	7/3.50	10.5	186	1066	0.4276	207
PHLOX	3/0	85.03	7/3.93	11.8	234	1291	0.339	237
OXLIP	4/0	107.2	7/4.42	13.3	296	1628	0.2688	273
VALERIAN	250	126.7	19/2.91	14.6	348	2044	0.2275	305
DAISY	266.8	135.2	7/4.96	14.9	373	2053	0.2133	313
PEONY	300	152	19/3.19	16.0	419	2404	0.1896	340
TULIP	336.4	170.5	19/3.38	16.9	470	2697	0.1692	364
DAFFODIL	350	177.4	19/3.45	17.3	490	2805	0.1625	373
GOLDENTUFT	450	228	19/3.91	19.6	629	3462	0.1264	432
COSMOS	477	242	19/4.02	20.1	665	3670	0.1193	447
ZINNIA	500	253	19/4.12	20.6	698	3847	0.1137	459
DAHLIA	556.5	282	19/4.35	21.8	779	4282	0.1023	489

ALL ALUMINIUM CONDUCTOR (AAC-Insulated)

APPLICATION

All Aluminium Conductor are the favoured type for use on relatively short spans, particularly low and medium voltage distribution lines.

STANDARD

BS 215 part-1

BDS 1036

BS 6485

CONSTRUCTION

Conductor: Stranded Aluminium wire to BS 2627

Insulation: PVC, TI1 to BS 7655

PHYSICAL DATA									TECHNICAL DATA		
Code Name	Nominal Aluminium Area	Cross sectional area of conductor	Number of strands & diameter of wire	Approx. Diameter of bare conductor	Approx. weight of bare conductor	Minimum thickness of insulation	Approximate overall diameter	Approx. weight of insulated conductor	Minimum breaking load	Maximum D.C resistance of conductor at 20 ˚C	Current rating at 35 ˚C ambient temp.
	mm^2	mm^2	no./mm	mm	kg/km	mm	mm	kg/km	kgf	Ω/km	Amp
MIDGE	22	23.3	7/2.06	6.18	64	0.8	8.2	98	408	1.227	106
GNAT	25	26.9	7/2.21	6.6	74	0.8	8.6	110	468	1.068	115
MOSQUITO	35	36.9	7/2.59	7.8	102	0.8	9.8	143	617	0.7731	134
ANT	5	52.8	7/3.10	9.3	145	0.8	11.3	192	846	0.5419	172
FLY	60	63.6	7/3.40	10.2	174	0.8	12.2	230	1010	0.4505	191
BLUEBOTTELE	70	73.6	7/3.66	11.0	203	0.8	13.0	261	1156	0.3884	210
EARWISE	75	78.6	7/3.78	11.4	216	0.8	13.4	275	1218	0.3645	218
GRASSHOPPER	80	84.1	7/3.91	11.7	232	0.8	13.8	292	1303	0.3405	228
CLEGG	90	95.6	7/4.17	12.5	264	0.8	14.6	330	1482	0.2994	245
WASP	100	106.0	7/4.39	13.2	290	0.8	15.6	372	1632	0.2702	260

ALUMINIUM CONDUCTOR STEEL REINFORCED (ACSR)

APPLICATION

ACSR is recommended for use as a transmission cable between the power station and substations and as primary and secondary distribution cable.

STANDARD

BS 215 part-2

BDS 1037

IEC 61089

CONSTRUCTION

Conductor:

Stranded Galvanized Steel wire to BS 4565

Stranded Aluminium wire to BS 2627

PHYSICAL DATA									TECHNICAL DATA		
Code name	Nominal Aluminium area	Area of conductor			Number of strands & diameter of wire		Approx. Overall diameter of conductor	Approx. Weight of conductor	Minimum breaking load of conductor	Maximum D.C resistance of conductor at 20 ˚C	Current rating at 35 ˚C ambient temp.
		Al	Steel	Total	Al	Steel					
	mm^2	mm^2	mm^2	mm^2	no./mm	no./mm	mm	kg/km	kgf	Ω/km	Amp
SQIRREL	20	20.98	3.50	24.48	6/2.11	1/2.11	6.33	85	806	1.37	109
GOPHER	25	26.25	4.37	30.62	6/2.36	1/2.36	7.08	106	979	1.093	126
WEASEL	30	31.61	5.27	36.88	6/2.59	1/2.59	7.77	128	1163	0.9077	134
FOX	35	36.68	6.11	42.79	6/2.79	1/2.79	8.37	149	1346	0.7827	147
FERRET	40	42.41	7.07	49.48	6/3.00	1/3.00	9.00	172	1550	0.6766	161
RABBIT	50	52.88	8.81	61.69	6/3.35	1/3.35	10.05	215	1876	0.5426	185
HORESE	70	73.36	42.80	116.16	12/2.79	7/2.79	13.95	538	6241	0.3936	268
RACOON	75	79.22	13.20	92.42	6/4.10	1/4.10	12.30	321	2774	0.3623	231
CAT	90	95.43	15.90	111.33	6/4.50	1/4.50	13.50	387	3335	0.3008	248
HARE	100	104.98	17.50	122.48	6/4.72	1/4.72	14.16	425	3671	0.2733	273
DOG	100	104.98	13.55	118.53	6/4.72	7/1.57	14.15	395	6665	0.2733	273
TIGER	125	131.1	30.62	161.85	30/2.36	7/2.36	16.52	603	5914	0.2204	323
WOLF	150	158.06	36.88	194.94	30/2.59	7/2.59	18.13	726	7056	0.1828	355
DINGO	150	158.65	8.81	167.46	18/3.35	1/3.35	16.75	506	3640	0.1815	349
CARACAL	175	184.24	10.24	194.48	18/3.61	1/3.61	18.05	588	4181	0.1563	383
PANTHER	200	212.06	49.48	261.54	30/3.00	7/3.00	21.00	974	9402	0.1363	421
LION	225	238.27	55.60	293.87	30/3.18	7/3.18	22.26	1094	10258	0.1212	448
ELK	450	477.13	111.33	588.46	30/4.50	7/4.50	31.50	2190	20211	0.06058	679

ALUMINIUM CONDUCTOR STEEL REINFORCED (ACSR)

APPLICATION

ACSR is recommended for use as a transmission cable between the power station and substations and as primary and secondary distribution cable.

STANDARD

ASTM B-232

BDS 1037

IEC 61089

CONSTRUCTION

Conductor:

Stranded Galvanized Steel wire, Class-A to ASTM B-498

Stranded Aluminium wire, 1350-H19 to ASTM B-232

PHYSICAL DATA								TECHNICAL DATA			
Code Name	Nominal cross sectional area of conductor				Number of strands & diameter of wire		Approx. Overall diameter of conductor	Approx. weight of conductor	Minimum breaking load of conductor	Maximum D.C resistance of conductor at 20 ˚C	Current rating at 35 ˚C ambient temp.
	Aluminium		Steel	Total	Aluminium	Steel					
	AWG or MCM	mm²	mm²	mm²	no./mm	no./mm	mm	kg/km	kgf	Ω/km	Amp
Swan	4	21.16	3.55	24.71	6/2.12	1/2.12	6.36	85	848	1.356	105
Swallow	3	26.65	4.45	31.1	6/2.38	1/2.38	7.14	108	1040	1.076	121
Sparrow	2	33.61	5.61	39.22	6/2.67	1/2.67	8.01	136	1290	0.853	139
Robin	1	42.39	7.10	49.49	6/3.00	1/3.00	9.00	171	1620	0.6765	160
Raven	1/0	53.48	8.90	62.38	6/3.37	1/3.37	10.11	216	1990	0.5364	183
Quail	2/0	67.42	11.23	78.65	6/3.78	1/3.78	11.34	272	2400	0.4255	210
Pigeon	3/0	85.03	14.19	99.22	6/4.25	1/4.25	12.75	345	3010	0.3373	241
Penguin	4/0	107.23	17.87	125.1	6/4.77	1/4.77	14.31	433	3790	0.2676	276
Waxwing	266.8	135.16	7.48	142.64	18/3.09	1/3.09	15.45	430	3120	0.2133	319
Ostrich	300	152.00	24.77	176.77	26/2.73	1/2.12	17.28	614	5760	0.1906	346
Merlin	336.4	170.45	9.48	179.93	18/3.47	1/3.47	17.35	543	3940	0.1692	366
Chickadee	397.5	201.42	11.16	212.58	18/3.77	1/3.77	18.85	642	4510	0.1432	403
Pelican	477	241.68	13.42	255.1	18/4.14	1/4.14	20.70	774	5330	0.1193	449
Hawk	477	241.68	39.35	281.03	26/3.44	7/2.68	21.80	977	8870	0.1168	455
Hen	477	241.68	56.39	298.07	30/3.20	7/3.20	22.40	1109	10800	0.1202	457
Grosbeak	636	322.26	52.52	374.78	26/3.97	7/3.09	25.15	1302	11400	0.08989	538

MEGHNA Cables
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ALL ALUMINIUM ALLOY CONDUCTOR (AAAC)

APPLICATION

AAAC is recommended for use as bare overhead conductor for primary and secondary distribution and in cases where high strength-to-weight ratio is required.

STANDARD

ASTM B-398 & B-399

IEC 61089

BS EN 50182

CONSTRUCTION

Conductor: Stranded Aluminium Alloy wire, T81 to ASTM B-398

PHYSICAL DATA							TECHNICAL DATA	
REB Item Code	Code Name	Size	Nominal Area of conductor	Number of strands & diameter of wire	Approx. diameter of conductor	Approx. weight of conductor	Minimum breaking load of conductor	Max. D.C resistance of conductor at 20 ˚C
		kcmil	mm^2	no./mm	mm	kg/km	kgf	Ω/km
D-29	AMES	77.47	40	7/2.67208	8.0264	108.5	1270	0.8532
D-30	AZUSA	123.3	60	7/3.37058	10.1092	172.5	2023	0.535
D-31	ALLIANCE	246.9	125	7/4.77012	14.3002	345.7	3883	0.2678
D-32	DARIEN	559.5	280	19/4.35864	21.7932	783.2	8528	0.118
D-33	GREELY	927.2	470	37/4.02082	28.1432	1289	13800	0.0715

WATER BLOCKED CONCENTRIC CABLES

APPLICATION

Split concentric cables are predominantly used by Distribution Network Operators (DNO's) when providing the final service connection to domestic properties.

Split concentric cables are also suitable for sub main distribution and have been found to be particularly useful within high rise buildings and street lighting systems.

These cables are designed to be installed in air or for burial in free draining soil conditions.

STANDARD

IEC 60502-1

VOLTAGE GRADE

600/1000 V

CONSTRUCTION

Phase Conductor: Circular, Plain hard copper to ASTM B-1

Phase Insulation: XLPE to IEC 60502-1

Neutral conductor: Solid, Plain annealed copper to ASTM B-3

Neutral Insulation: Polyethylene to IEC 60502-1

Earth conductor: Solid, Plain annealed copper to ASTM B-3

Filler: Polyethylene

Binder: Polyester Tape

Sheath: Polyethylene to IEC 60502-1

PHYSICAL DATA									TECHNICAL DATA
Nominal cross section area of conductor	No. of strands & diameter of wires	Nominal cross sectional area of neutral conductor	No. of strands & diameter of wires	Nominal cross sectional area of earth conductor	No. of strands & diameter of wires	Nominal thickness of insulation	Approx. Overall diameter of cable	Approx. weight of cable	Maximum D.C resistance of conductor at 20 ˚C
no. x mm^2	no./mm	mm^2	no./mm	mm^2	no./mm	mm	mm	kg/km	Ω/km
1x6 rm	7/1.04	6	7/1.05	4.5	3/1.4	1.0	11.2	225	3.08
1x16 rm	7/1.67	16	7/1.76	10.5	3/2.2	1.0	15.3	505	1.19

GROUND WIRE & TIE WIRE

APPLICATION

Hard Drawn Bare Aluminium wire suitable for use as grounding wire/ jumper wire on electric distribution lines.

Soft bare aluminium wire suitable for use as tie wire on electric distribution lines.

STANDARD

ASTM B-233 & B-609

ASTM B-531 & B-396

CONSTRUCTION

Conductor:

Hard Drawn Bare Aluminium wire, H14 to ASTM B-233

Soft Drawn Bare Aluminium wire, 1350-0 to ASTM B-609

PHYSICAL DATA							TECHNICAL DATA	
REB Item Code	Code Name	Size of conductor	Nominal Area of conductor	Number of strands	Diameter of wire	Approx. weight of conductor	Breaking Strength	Maximum D.C resistance of conductor at 20 ˚C
		AWG	mm^2	no.	mm	kg/km	kgf	Ω/km
D-4	Ground wire	4	21.15	1	5.189	57.2	342 (min)	1.3363
D-5	Tie Wire	4	21.15	1	5.189	57.2	167 (Max)	1.3251

JUMPER WIRE

APPLICATION

Soft Bare Copper wire for use as Jumper on electric distribution lines.

STANDARD

ASTM B-3 & B-193

CONSTRUCTION

Conductor: Soft Bare Copper wire to ASTM B-3

PHYSICAL DATA							TECHNICAL DATA	
REB Item Code	Code Name	Size of conductor	Nominal Area of conductor	Number of strands	Diameter of wire	Approx. weight of conductor	Maximum breaking load	Maximum D.C resistance of conductor at 25 ˚C
		AWG	mm^2	no.	mm	kg/km	kgf	Ω/km
D-6	Jumper Wire	6	13.30	1	4.1148	118.4	346	1.404

MEGHNA Cables
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STRANDED GALVANIZED GUY WIRE

APPLICATION

Guy Wire is composed of galvanized steel wires in various strengths and zinc coatings. Messenger Wire, Overhead Ground or Static Wire, Guy Wire.

STANDARD

ASTM A-475 & ASTM B-498

BS 183

CONSTRUCTION

Conductor: Stranded Galvanized Steel wire to Class-A to ASTM B-498

PHYSICAL DATA					TECHNICAL DATA
Name of item	Nominal cross sectional area of conductor	Number of strands & diameter of wire	Overall diameter	Approx. Weight of cable	Minimum breaking load
	mm^2	no./mm	mm	kg/km	kgf
Guy wire	30.62	7/2.36	7.1	240	3885
Guy wire	54.55	7/3.15	9.5	430	6400

HDPE INSULATED ACSR CONDUCTOR

APPLICATION

High density polyethylene covered steel reinforced concentric-lay-stranded aluminium conductors (ACSR), to be used as 15 kV insulated tree wire on distribution lines.

STANDARD

ASTM B-230, B- 232, B-498

NEMA WC-7

ICEA S-66-524

CONSTRUCTION

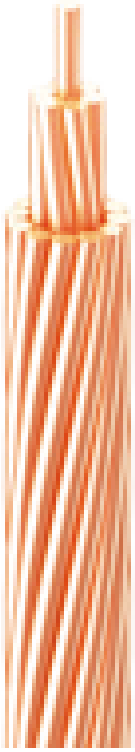
Conductor:

Stranded Galvanized Steel wire, Class-A to ASTM B-498
Stranded Aluminium wire, 1350-H19 to ASTM B-232

Insulation: HDPE, NEMA WC-7

PHYSICAL DATA							TECHNICAL DATA		
REB Item Code	Conductor Size	Number of Strands & Diameter of wire		Insulation Thickness	Approx. Overall diameter of conductor	Approx. Weight of conductor	Minimum breaking strength	Maximum D.C resistance of conductor at 20 ˚C	Current rating at 35 ˚C ambient temp.
		Al	Steel						
	AWG	no./mm	no./mm	mm	mm	kg/km	kgf	Ω/km	Amp
D-59	2	6/2.67	1/2.67	3.81	15.646	274	1228	0.853	126
D-61	1/0	6/3.37	1/3.37	3.81	17.729	370	1887	0.535	168
D-62	4/0	6/4.77	1/4.77	3.81	21.92	634	3598	0.2672	260

MEDIUM HARD DRAWN COPPER CONDUCTOR



APPLICATION

Medium Hard Drawn (MHD) bare copper conductor are to be used on electric distribution systems.

STANDARD

ASTM B-2 & B-193

CONSTRUCTION

Conductor: MHD Bare Copper conductor to ASTM B-2

PHYSICAL DATA						TECHNICAL DATA		
REB Item Code	Name of conductor	Size of conductor	Nominal Area of conductor	Number of strand & diameter of wire	Conductor diameter	Approx. weight of conductor	Minimum breaking load of conductor	Maximum D.C resistance of conductor at 25 ˚C
		AWG or MCM	mm^2	no./mm	mm	kg/km	kgf	Ω/km
D-7	MHD Copper Conductor	3	26.688	3/3.360	7.254	240	1070	0.683
D-8	MHD Copper Conductor	1/0	53.488	7/3.119	9.347	486	2155	0.344
D-9	MHD Copper Conductor	4/0	107.264	7/4.417	13.259	956	3694	0.166
D-10	MHD Copper Conductor	2/0	67.425	7/3.502	10.510	616	2694	0.275
DS-9	MHD Copper Conductor	4/0	107.156	19/2.679	13.410	973	4371	0.173
DS-10	MHD Copper Conductor	2/0	67.766	19/2.131	10.655	613	2166	0.271
DS-37	MHD Copper Conductor	350	177.291	37/2.470	17.290	1620	5662	0.101
DS-38	MHD Copper Conductor	500	253.064	37/2.951	20.657	2297	10231	0.070

XLPE INSULATED MHD COPPER CONDUCTOR

APPLICATION

Cross-linked Polyethylene insulated medium hard drawn copper conductors are to be used as jumper on electric distribution system.

STANDARD

ASTM B-2 & B-8

NEMA WC-7

ICEA S-66-524

CONSTRUCTION

Conductor: MHD Copper conductor to ASTM B-2

Insulation: XLPE to NEMA WC-7

PHYSICAL DATA						TECHNICAL DATA	
REB Item Code	Size of conductor	No. of Strand & diameter of wire	Nominal thickness of insulation	Approx. Overall diameter	Approx. weight of conductor	Minimum breaking load	Maximum D.C resistance of conductor at 25 ˚C
	AWG	no./mm	mills/mm	mills/mm	kg/km	kgf	Ω/km
D-16	3	3/3.36	60/1.52	405/10.29	283	1070	0.683
D-17	1/0	7/3.12	62/1.57	481/12.22	541	2155	0.344
D-18	4/0	7/4.42	62/1.57	630/16.00	1050	3694	0.166
D-19	1000 MCM	61/3.25	94/2.38	1339/34.01	4830	17570	0.0356

XLPE INSULATED AERIAL CABLE

APPLICATION

Pre-assembled cross-linked polyethylene insulated aluminium cables supported by a bare ACSR messenger wire shall be used as aerial single phase and three phase service drop cable.

STANDARD

ASTM B-230, B-231, B-232 & B-498

NEMA WC-7

ICEA S-66-524

CONSTRUCTION

Phase

Conductor: Stranded Aluminium wire to ASTM B-231

Insulation: XLPE to NEMA WC-7

Messenger

Conductor:

Stranded Galvanized Steel wire, Class-A to ASTM B-498

Stranded Aluminium wire, 1350-H19 to ASTM B-232

PHYSICAL DATA									TECHNICAL DATA		
REB Item Code	Conductor assembly	Phase Conductor (AAC)			Messenger conductor (ACSR)			Approx. Weight of conductor	Max. D.C resistance of conductor at 20 ˚C		Current rating at 35 ˚C ambient temp.
		Size of conductor	No. of Strand & diameter of wire	Nominal thickness of insulation	Size of conductor	No. of Strand & diameter of wire					
						Aluminium	Steel		Phase	Messenger	
		AWG	no./mm	mils/mm	AWG	no./mm	no./mm	kg/km	Ω/km	Ω/km	Amp
D-11	DUPLEX	6	7/1.56	45/1.143	6	6/1.68	1/1.68	114	2.169	2.157	70
D-12	DUPLEX	3	7/2.20	45/1.143	3	6/2.38	1/2.38	212	1.076	1.074	98
D-14	QUADRUPLEX	3	7/2.20	45/1.143	3	6/2.38	1/2.38	420	1.076	1.074	86
D-15	QUADRUPLEX	1/0	7/3.12	60/1.524	1/0	6/3.37	1/3.37	835	0.5372	0.535	165
D-20	QUADRUPLEX	4	7/1.96	45/1.143	4	6/2.12	1/2.12	340	1.632	1.35	92
D-24	QUADRUPLEX	4/0	7/4.42	60/1.524	4/0	6/4.77	1/4.77	1580	0.2688	0.2676	198
D-25	QUADRUPLEX	6	7/1.56	45/1.143	6	6/1.68	1/1.68	230	2.169	2.157	60

PVC INSULATED AERIAL CABLE

APPLICATION

Pre-assembled cross-linked polyethylene insulated aluminium cables supported by a bare ACSR messenger wire shall be used as aerial single phase and three phase service drop cable

STANDARD

ASTM B-230, B-231, B-232 & B-498

NEMA WC-7

ICEA S-66-524

CONSTRUCTION

Phase

Conductor: Stranded Aluminium wire to ASTM B-231

Insulation: XLPE to NEMA WC-7

Messenger

Conductor:

Stranded Galvanized Steel wire, Class-A to ASTM B-498

Stranded Aluminium wire, 1350-H19 to ASTM B-232

PHYSICAL DATA									TECHNICAL DATA		
REB Item Code	Conductor assembly	Phase Conductor (AAC)			Messenger conductor (ACSR)			Approx. Weight of conductor	Max. D.C resistance of conductor at 20 ˚C		Current rating at 35 ˚C ambient temp.
		Size of conductor	No. of Strand & diameter of wire	Nominal thickness of insulation	Size of conductor	No. of Strand & diameter of wire					
						Aluminium	Steel		Phase	Messenger	
		AWG	no./mm	mils/mm	AWG	no./mm	no./mm	kg/km	Ω/km	Ω/km	Amp
D-63	DUPLEX	6	7/1.56	60/1.524	6	6/1.68	1/1.68	140	2.169	2.157	58

PVC INSULATED SERVICE DROP CABLE

APPLICATION

PVC insulated copper cables supported by a PVC insulated copper messenger wire. Suitable for used in electricity supply in low voltage installation system for service voltage 600/1000 volts shall be used as aerial single phase and three phase service drop cable.

STANDARD

ASTM B-230, B-231, B-232 & B-498

NEMA WC-7

ICEA S-66-524

VOLTAGE GRADE

600/1000 V

COLOR

Duplex :

Insulation: Phase (Black) Messenger (Green)

Quadruplex

Insulation: Phase 1 2 3 (Black with number print)

Messenger (Green)

CONSTRUCTION

Phase

Conductor: Stranded Copper wire to ASTM B-3

Insulation: PVC, PVC/A to IEC 60502-1

Messenger

Conductor: Stranded Copper wire to ASTM B-1

Insulation: PVC, PVC/A to IEC 60502-1

DUPLEX CABLE

PHYSICAL DATA				TECHNICAL DATA					
Nominal cross sectional area of conductor	No. of strands & diameter of wires	Nominal thickness of insulation	Approx. Overall diameter of cable	Approx. weight of cable		Max. D.C resistance of conductor at 20 ˚C		Current rating at 35 ˚C ambient temp.	
				Cu	Al	Cu	Al	Cu	Al
no. x mm²	no. x mm	mm	mm	kg/km	kg/km	Ω/km	Ω/km	amp	amp
2.5 re x 2.5 re	1x1.78 / 1x1.78	1.6	10.0	95	70	7.41/7.41	12.10/ 12.10	27	21
2.5 rm x2.5 rm	7x0.67 / 7x0.67	1.6	10.6	100	71	7.41/7.41	12.10/ 12.10	27	21
4 rm x 4 re	7x0.85 / 1x2.26	1.6	11.6	135	90	4.61/4.61	7.41/7.41	35	29
4 rm x 4 rm	7x0.85 /7x0.85	1.6	11.8	140	91	4.61/4.61	7.41/7.41	35	29
6 rm x 6 re	7x1.05 /1x2.77	1.6	12.6	182	103	3.08/3.08	4.61/4.61	45	37
6 rm x 6 rm	7x1.05 / 1x1.05	1.6	13.0	186	105	3.08/3.08	4.61/4.61	45	37
10 rm x 10 rm	7x1.53 / 7x1.35	1.6	14.5	270	136	1.83/1.83	3.08/3.08	62	47
16 rm x 16 rm	7x1.71 / 7x1.71	1.6	16.6	396	180	1.15/1.15	1.91/ 1.91	84	65
25 rm x25 rm	7x2.14 / 7x2.14	1.6	19.2	595	244	0.727/0.727	1.20/ 1.20	110	85

QUADRUPLEX CABLE

PHYSICAL DATA				TECHNICAL DATA					
Nominal cross sectional area of conductor	No. of strands & diameter of wires	Nominal thickness of insulation	Approx. Overall diameter of cable	Approx. weight of cable		Max. D.C resistance of conductor at 20 ˚C		Current rating at 35 ˚C ambient temp.	
				Cu	Al	Cu	Al	Cu	Al
no. x mm2	no. x mm	mm	mm	kg/km	kg/km	Ω/km	Ω/km	amp	amp
3x4 rm/1x4 re	7x0.85 / 1x2.26	1.6	15.0	275	180	4.16/4.61	7.41/7.41	32	27
3x4 rm/1x4 rm	7x0.85 / 1x0.85	1.6	15.5	290	182	4.16/4.61	7.41/7.41	32	27
3x6 rm/1x6 rm	7x1.05 / 7x1.05	1.6	16.0	370	205	3.08/3.08	4.61/4.61	41	34
3x10 rm/1x10 rm	7x1.35 / 7x1.35	1.6	18.5	538	270	1.83/1.83	3.08/3.08	56	43
3x16 rm/1x16 rm	7x1.71 / 7x1.71	1.6	21.0	792	360	1.15/1.15	1.91/ 1.91	75	58
3x25 rm/1x25 rm	7x2.14 / 7x1.24	1.6	24.5	1180	488	0.727/0.727	1.20/ 1.20	98	76

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MATERIALS USED FOR CABLES

CONDUCTOR MATERIALS

ELECTRICAL PROPERTIES

Metal	Relative Conductivity Copper 100%	Electrical Resistivity at 20 °C Ohm.mm²/m	Temperature Coefficient of Resistance per °C
Copper (annealed)	100	0.017241	0.00393
Copper (hard drawn)	97	0.01777	0.00393
Tinned copper	95-97	0.01741-0.01814	0.00393
Aluminium	61	0.028264	0.00403
Lead	8	0.02140	0.00400

PHYSICAL PROPERTIES

Property	Unit	Copper	Aluminium	Lead
Density at 20 °C	gm / cm³	8.89	2.703	11.340
Coeff, thermal expansion	Per °C x 10^{-6}	17.0	23.0	29.0
Melting point	°C	1083.0	659.0	327.0
Thermal conductivity	W/cm °C	3.8	2.4	0.34
Tensile strength				
Annealed	kgf/mm²	20-28	7-14	
Hard	kgf/mm²	34-47	15-20	

INSULATION MATERIALS

Materials	Permissible Operating Temperature (°C)	Electrical Properties		
		Specific Volume Resistance (Ω-cm)	Permittivity Constant (ε_r)	Factor of Loss
Poly Vinyl Chloride (PVC)	70-105	10^{12}-10^{15}	4.0-6.5	10^{-2}-10^{-3}
Cross-Linked Polyethylene (XLPE)	90	~10^{16}	2.3-2.6	~10^{-4}
Low Density Polyethylene (LDPE)	70	>10^{16}	2.25-2.6	~10^{-4}
Hi-Density Polyethylene (HDPE)	90	>10^{16}	2.4-2.5	~10^{-4}
Foamed Polyethylene (PE Foam)	70	~10^{17}	~1.6	~10^{-4}
Low Smoke Zero Halogen-LSZH (Thermoplastic)	70-90	10^{12}-10^{14}	~4	~10^{-3}
LSZH (Thermosetting)	70-90	10^{13}-10^{14}	~4	10^{-2}-10^{-3}
Ethylene Propylene Rubber (EPR)	90	~10^{12}-10^{15}	3.0-3.8	~10^{-2}-10^{-3}

Materials	Mechanical Properties			Thermical Properties		
	Tensile Strength (N/mm²)	Elongation (%)	Resistance to absorbtion	Behaviour at low temperature	Flame resistance	Emission of corrosive gases during a combustion
Poly Vinyl Chloride (PVC)	12.5-25	125-350	avg. to good	mod. to good	avg. to good	hydrogen chloride
Cross-Linked Polyethylene (XLPE)	12.5-20	300-450	avg. to good	good	bad	-
Low Density Polyethylene (LDPE)	10-20	400-600	avg. to good	good	bad	-
Hi-Density Polyethylene (HDPE)	25-40	500-1000	good	good	bad	-
Foamed Polyethylene (PE Foam)	8-12	350-500	-	good	bad	-
Low Smoke Zero Halogen-LSZH (Thermoplastic)	5-12	>125	moderate to average	average	good	-
LSZH (Thermosetting)	5-12	>125	mod. to avg.	average	very good	-
Ethylene Propylene Rubber (EPR)	5-10	300-500	mod. to avg.	good	mod. - bad	-

MEGHNA Cables
Committed to Quality & Safety

INSTALLATION CONDITIONS FOR CABLES IN DUCTS

A duct is an enclosure of metal or insulating material other than conduits or cable trunking, intended for the protection of cables which are drawn in after erection of the ducting. The recommended relation between the cable size and duct size is as in table bellow:

RECOMMENDED DUCT DIMENSIONS AND CABLE SIZES

Number of cables in group	Duct	
	Inside diameter (mm)	Outside diameter (mm)
Up to and including 65	100	130
Above 65 up to and including 90	125	160

As the same principal of cables installed in direct burial methods above, the current carrying capacities of cables depends on the installed condition.

The de-rating factors of other conditions should be considered to calculate the actual possible maximum current carrying capacity of the cables. Below tables for the factors to be multiplied by the tabulated current:

RATING FACTORS FOR GROUND TEMPERATURE VARIATION

Ground Temperature	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C
Cable Type								
PVC Insulated	1.18	1.15	1.10	1.00	0.95	0.88	0.80	0.71
XLPE Insulated	1.16	1.13	1.09	1.00	0.95	0.89	0.82	0.73

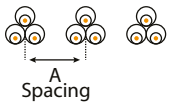
RATING FACTORS FOR VARIATION IN THERMAL RESISTIVITY OF SOIL (AVERAGE VALUES)

Size of cables mm²	Soil thermal resistivity (°C.m/W)							
	0.8	0.9	1.0	1.2	1.5	2.0	2.5	3.0
Single core cables								
Up to 150	1.10	1.07	1.04	1.0	0.94	0.86	0.80	0.76
From 185 to 300	1.11	1.08	1.05	1.0	0.93	0.85	0.79	0.75
From 400 to 1000	1.12	1.08	1.05	1.0	0.93	0.84	0.78	0.74
Multi-core cables								
Up to 16	1.04	1.03	1.02	1.0	0.97	0.92	0.88	0.86
From 25 to 150	1.06	1.04	1.03	1.0	0.95	0.90	0.85	0.81
From 185 to 500	1.07	1.05	1.03	1.0	0.95	0.88	0.83	0.78

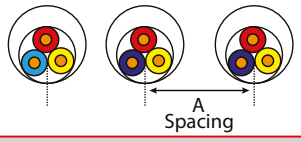
RATING FACTORS OF DEPTH OF LAYING (TO CENTER OF DUCT OR TREFOIL GROUP OF DUCTS)

Depth of laying (m)	Single core	Multi-core
0.50	1.00	1.00
0.60	0.98	0.99
0.80	0.95	0.98
1.00	0.93	0.96
1.25	0.91	0.95
1.50	0.89	0.94
1.75	0.88	0.94
2.00	0.87	0.93
2.50	0.86	0.92
3.00 or more	0.85	0.91

GROUP RATING FACTORS FOR SINGLE CORE CABLES IN TREFOIL SINGLE WAY DUCTS, HORIZONTAL (AVERAGE VALUES)

Number of circuits			
	Cable to cable clearance A		
	Touching	0.45m	0.60m
2	0.87	0.91	0.93
3	0.78	0.84	0.87
4	0.74	0.81	0.85
5	0.70	0.79	0.83
6	0.69	0.78	0.82

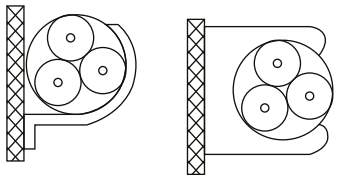
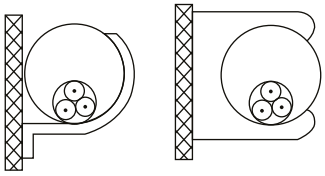
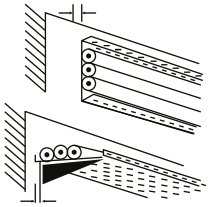
GROUP RATING FACTORS FOR MULTI-CORE CABLES IN SINGLE WAY DUCTS HORIZONTAL FORMATION (AVERAGE VALUES)

Number of cables in group				
	Cable to cable clearance A			
	Nil cables Touching	0.30 m	0.45 m	0.60 m
2	0.90	0.93	0.95	0.96
3	0.83	0.88	0.91	0.93
4	0.79	0.85	0.89	0.92
5	0.75	0.83	0.88	0.91
6	0.73	0.82	0.87	0.90
2	0.88	0.91	0.93	0.94
3	0.80	0.85	0.88	0.90
4	0.76	0.81	0.85	0.88
5	0.72	0.78	0.83	0.86
6	0.69	0.76	0.81	0.85

INSTALLATION CONDITIONS FOR CABLES IN AIR

Cables Installed in air could have many forms of installation methods as described in BS7671 IEE wiring regulation 17th edition. Some of these methods are like C or B below table (for cable on trefoil format laying as below table) or like E or F (for cable laid flat vertically or horizontally as in table). It is assumed that the cables are not exposed to the direct sunlight and away from any external heat source. The de-rating factors for cables laid in free air are as in other tables in next pages.

INSTALLATION METHODS FOR CABLES

Installation method	Description	Current carrying capacity reference
	Single core or multi-core cables: Fixed on (clipped direct) or spaced less than 0.3 times the cable diameter from a wall.	C
	Multi-core cable in conduit, spaced less than 0.3 x conduit diameter.	B
	Cables run horizontally or vertically flat on perforated tray for multi-core cable De = Cable diameter, And for 3 single core cables De = 3x cable diameter.	E or F

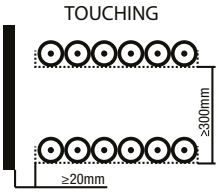
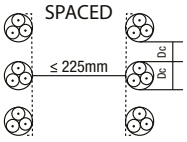
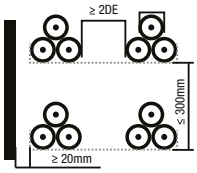
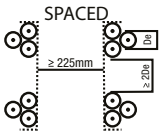
IMPORTANT NOTE FOR SINGLE CORE CABLES:

The conductors of an A.C. circuit installed in a ferromagnetic enclosure shall be arranged so that all line conductors and the neutral conductor, if any, and the appropriate protective conductor are contained in the same enclosure. When such conductors enter a ferrous enclosure, they shall be arranged in such a way that the conductors are only collectively surrounded by ferrous material.

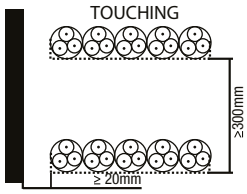
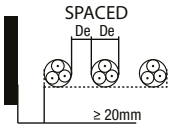
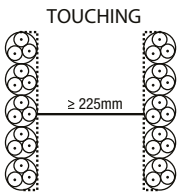
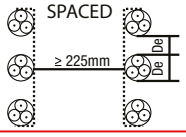
RATING FACTORS FOR OTHER AMBIENT AIR TEMPERATURES

Air temperature	25°C	30°C	35°C	40°C	45°C	50°C	55°C
Cable type							
PVC Insulated	1.13	1.06	1.0	0.93	0.84	0.76	0.65
XLPE Insulated	1.06	1.01	1.0	0.96	0.88	0.80	0.72

RATING FACTORS OF ONE OR MORE CIRCUITS OF SINGLE CORE CABLES LAID IN FREE AIR

Number of trays	Number of 3 phase circuits			Installation form	Type
	1	2	3		
1	0.98	0.91	0.87		Three cables in horizontal formation
2	0.96	0.87	0.81		
3	0.95	0.85	0.78		
1	0.96	0.86	-		Three cables in vertical formation
2	0.95	0.84	-		
1	1.00	0.98	0.96		Three cables in trefoil formation
2	0.97	0.93	0.89		
3	0.96	0.92	0.86		
1	1.00	0.91	0.89		
2	1.00	0.90	0.86		

RATING FACTORS FOR GROUPS OF MORE THAN ONE MULTI CORE CABLE LAID IN FREE AIR

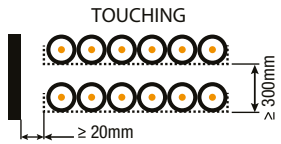
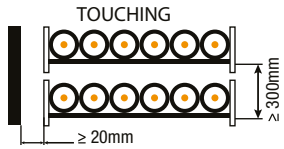
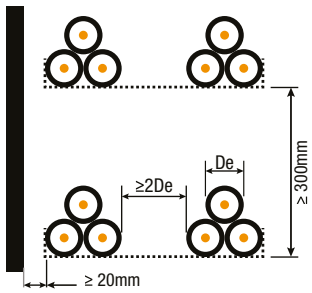
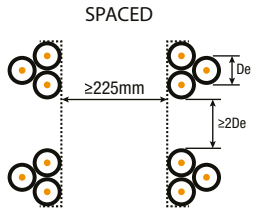
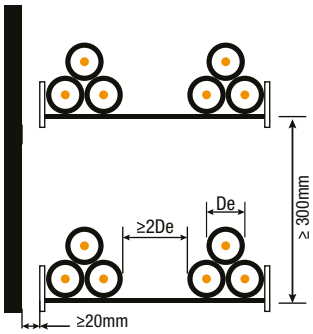
Number of trays	Number of cables			Installation form	Type
	1	2	3		
1	1.00	0.88	0.82		Cables in horizontal formation
2	1.00	0.87	0.80		
3	1.00	0.86	0.79		
1	1.00	1.00	0.98		
2	1.00	0.99	0.96		
1	1.00	0.98	0.95		Cables in vertical formation
2	1.00	0.88	0.82		
3	1.00	0.88	0.81		
1	1.00	0.91	0.89		
2	1.00	0.91	0.88		

CABLES LAID ON RACKS IN AIR:

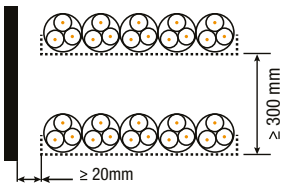
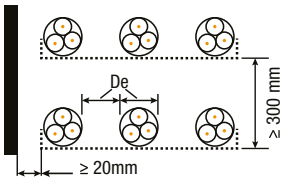
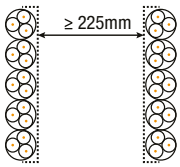
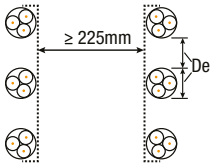
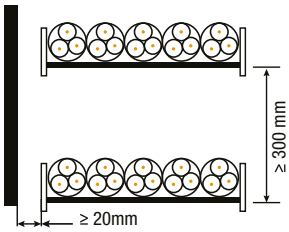
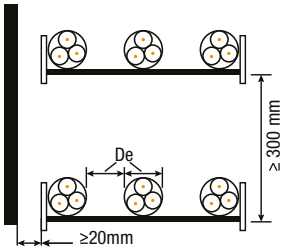
Correction factors for variation in ambient air temperature.

Ambient Air temperature(°C)	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C
Rating factor	1.08	1.04	1.0	0.96	0.91	0.87	0.82	0.76

REDUCTION FACTORS FOR GROUPS OF MORE THAN ONE CIRCUIT OF SINGLE CORE CABLES IN FREE AIR.

Method of installation		Number of trays	Number of three phase circuits			Use of a multiplier to rating for
			1	2	3	
Perforated trays		1	0.98	0.91	0.87	Three cables in horizontal formation
		2	0.96	0.87	0.81	
		3	0.95	0.85	0.78	
Ladder supports, cleats etc.		1	1.00	0.97	0.96	
		2	0.98	0.93	0.89	
		3	0.97	0.90	0.86	
Perforated trays		1	1.00	0.98	0.96	Three cables in trefoil formation
		2	0.97	0.93	0.89	
		3	0.96	0.92	0.86	
Vertical perforated trays		1	1.00	0.91	0.89	
		2	1.00	0.90	0.86	
Ladder supports, cleats etc.		1	1.00	1.00	1.00	
		2	0.97	0.95	0.93	
		3	0.96	0.94	0.90	

REDUCTION FACTORS FOR GROUPS OF MORE THAN ONE MULTI-CORE CABLE IN AIR.

	Method of installation	Number of trays	Number of cables					
			1	2	3	4	6	9
Cables on horizontal perforated trays	TOUCHING 	1	1.00	0.88	0.82	0.79	0.76	0.73
		2	1.00	0.87	0.80	0.77	0.73	0.68
		3	1.00	0.86	0.79	0.76	0.71	0.66
	SPACED 	1	1.00	1.00	0.98	0.95	0.91	-
		2	1.00	0.99	0.96	0.92	0.87	-
		3	1.00	0.98	0.95	0.91	0.85	-
Cables on Vertical perforated trays	TOUCHING 	1	1.00	0.88	0.82	0.78	0.73	0.72
		2	1.00	0.88	0.81	0.76	0.71	0.70
	SPACED 	1	1.00	0.91	0.89	0.88	0.87	-
		2	1.00	0.91	0.88	0.87	0.85	-
Cables on ladder supports, cleats etc.	TOUCHING 	1	1.00	0.87	0.82	0.80	0.79	0.78
		2	1.00	0.86	0.80	0.78	0.76	0.73
		3	1.00	0.85	0.79	0.76	0.73	0.70
	SPACED 	1	1.00	1.00	1.00	1.00	1.00	-
		2	1.00	0.99	0.98	0.97	0.96	-
		3	1.00	0.98	0.97	0.96	0.93	-

SHORT CIRCUIT RATINGS FOR PVC INSULATED CABLES:

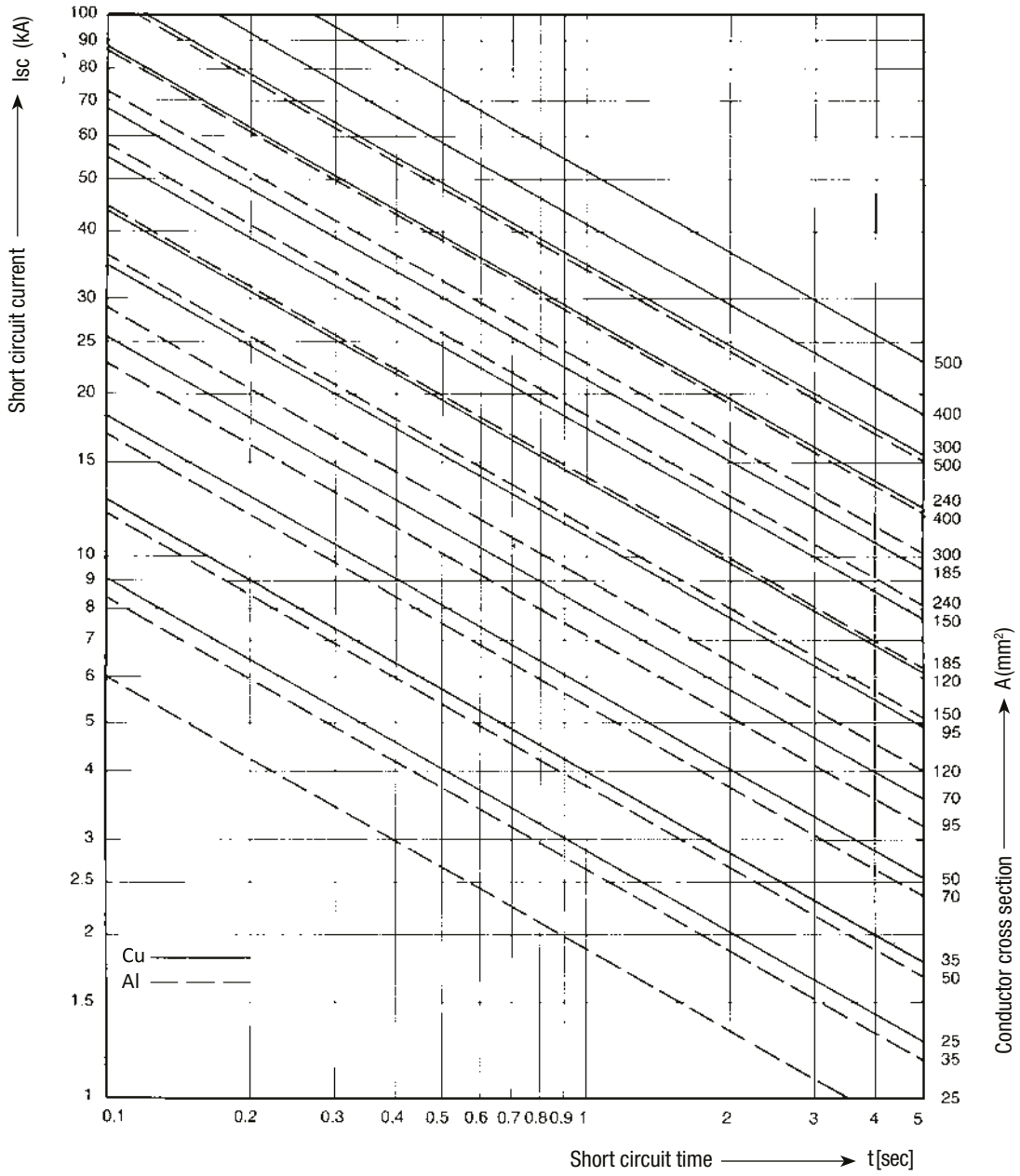
Copper conductor: $I_{SC} = 0.115 \frac{A}{\sqrt{t}}$ Aluminium conductor: $I_{SC} = 0.076 \frac{A}{\sqrt{t}}$

I_{SC} = Short Circuit Current in kA

A = Conductor Area in mm^2

t = Short Circuit Time in sec.

[Note: Maximum Permissible conductor temperature during short circuit = 160°C]

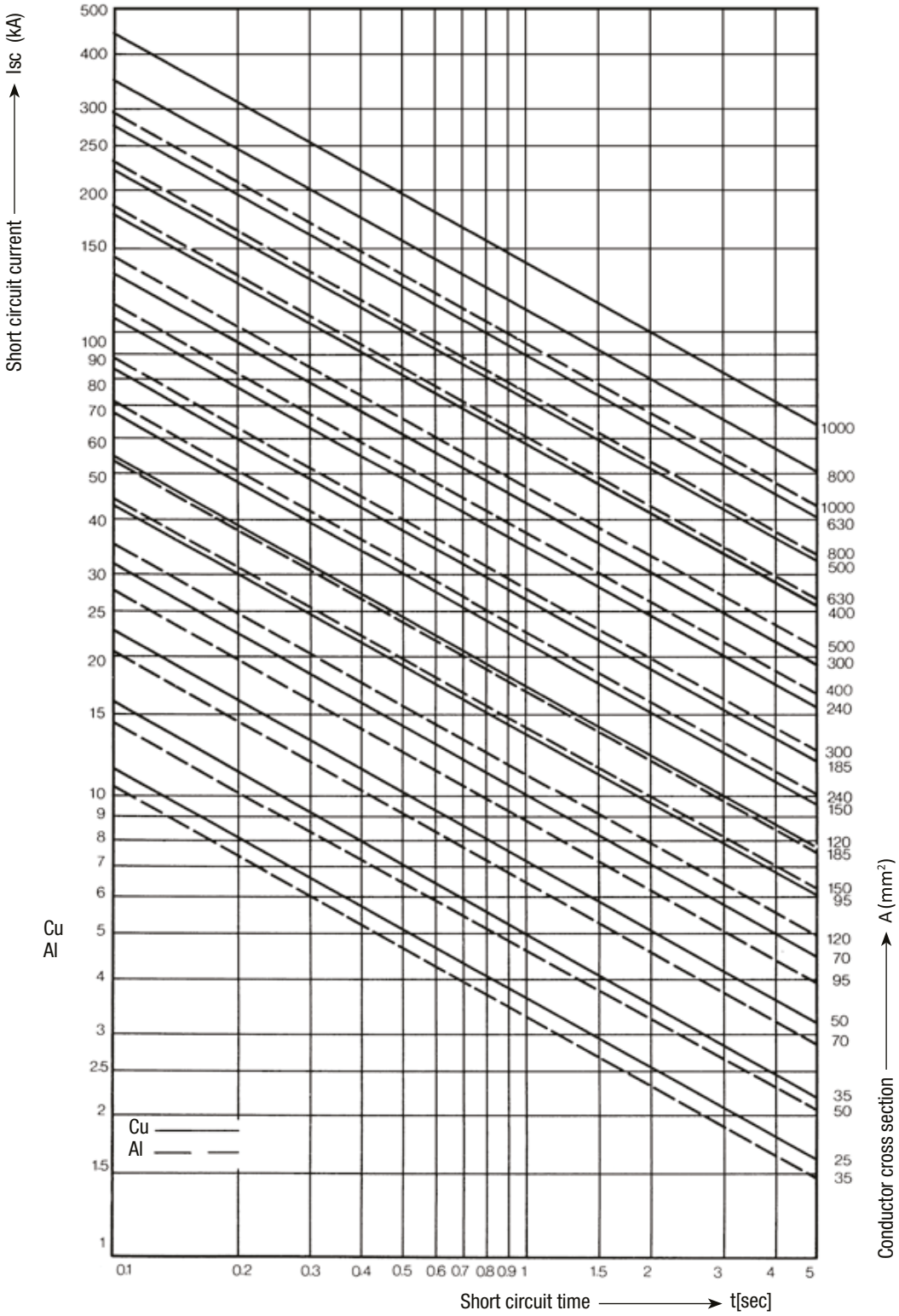


SHORT CIRCUIT RATINGS FOR XLPE INSULATED CABLES:

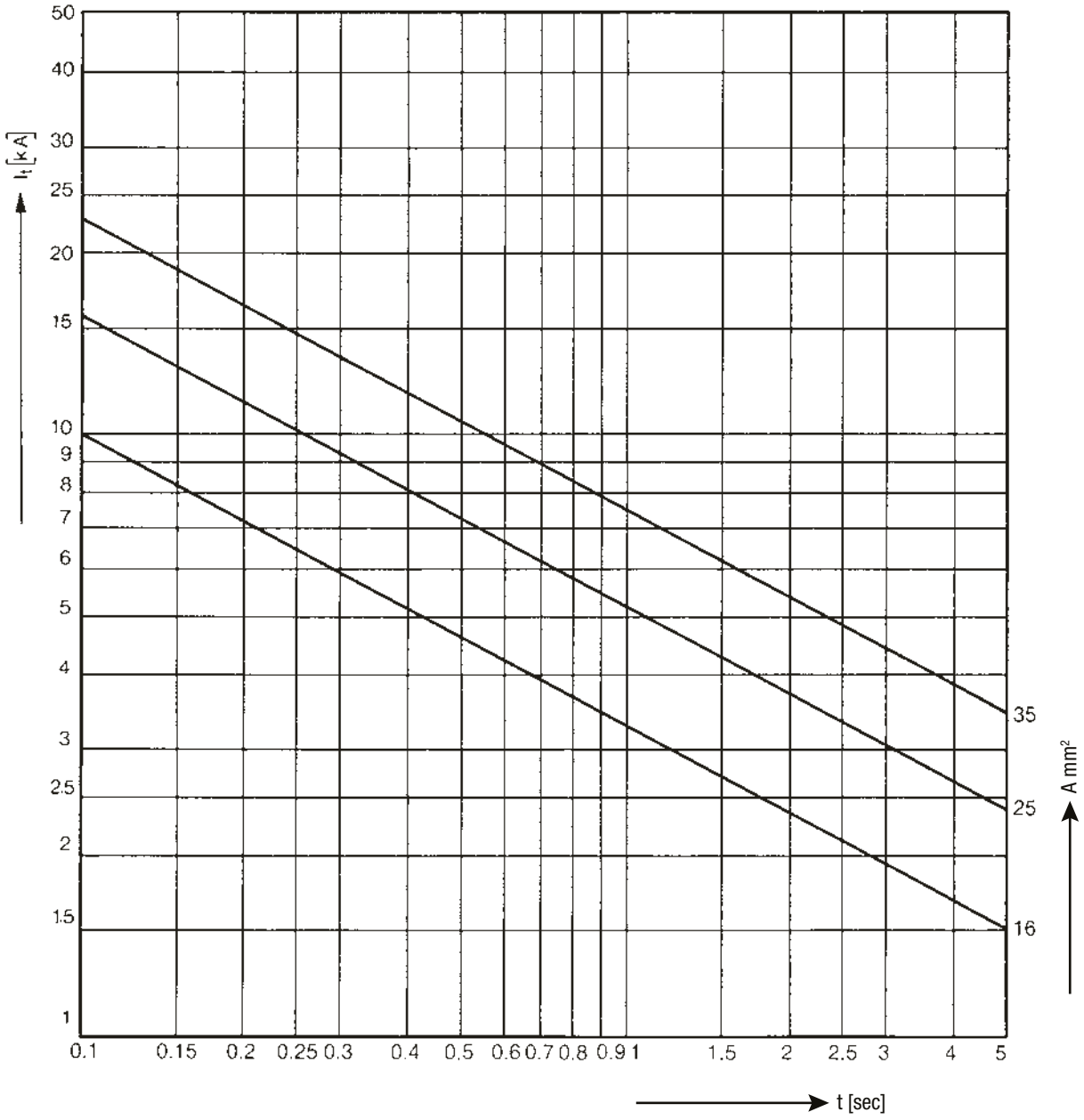
Copper conductor: $I_{SC} = 0.143 \frac{A}{\sqrt{t}}$ Aluminium conductor: $I_{SC} = 0.094 \frac{A}{\sqrt{t}}$

I_{SC} = Short Circuit Current in kA
A = Conductor Area in mm^2
t = Short Circuit Time in sec.

[Note: Maximum Permissible conductor temperature during short circuit = 250°C]

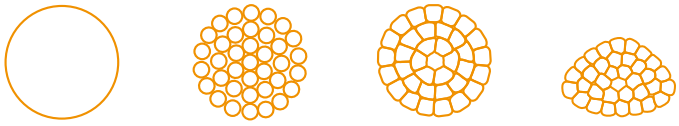


PERMISSIBLE SHORT-CIRCUIT CURRENT FOR VARIOUS CROSS SECTIONS OF SCREENS



cross sections of conductor mm²	screen mm²
35 ... 120	16
150 ... 300	25
400 ... 500	35

CONSTRUCTION FOR VARIOUS TYPES OF CONDUCTORS AS PER IEC 60228:2004



Circular Solid (re) | Circular Stranded (rm) | Circular Stranded Compacted (rmc) | Sector Shaped Stranded (sm)

Nominal Cross Sectional Area	Maximum D.C. Resistance of conductor at 20 °C		CIRCULAR CONDUCTOR		CIRCULAR COMPACTED CONDUCTOR			SECTOR SHAPED CONDUCTOR	
			No. & Diameter of wire	Max. Diameter of conductor	No. of wire in conductor (Cu/Al)	Diameter of Conductor		No. of wire in conductor (Cu/Al)	Conductor depth
	Cu	Al			Min.	Min.	Max.	Min.	3C/ 4C
mm²	Ohm/km	Ohm/km	no./mm	mm	no.	mm	mm	no.	mm
1.0	18.1	-	1/1.13	1.2	-	-	-	-	-
1.0	18.1	-	3/0.65	1.4	-	-	-	-	-
1.5	12.1	-	1/1.38	1.5	-	-	-	-	-
1.5	12.1	18.1	7/0.52	1.7	-	-	-	-	-
2.5	7.41	-	1/1.78	1.9	-	-	-	-	-
2.5	7.41	12.1	7/0.68	2.2	-	-	-	-	-
4	4.61	7.41	7/0.85	2.7	-	-	-	-	-
6	3.08	4.61	7/1.04	3.3	-	-	-	-	-
10	1.83	3.08	7/1.35	4.2	-	-	-	-	-
16	1.15	1.91	7/1.70	5.3	-	-	-	-	-
25	0.727	1.20	7/2.14	6.6	-	-	-	-	-
35	0.524	0.868	19/1.53	7.9	6	6.6	7.5	6	5.9/6.5
50	0.387	0.641	19/1.83	9.1	6	7.7	8.6	6	6.8/7.6
70	0.268	0.443	19/2.17	11.0	12	9.3	10.2	12	8.2/9.0
95	0.193	0.320	19/2.52	12.9	15	11.0	12.0	15	9.6/10.7
120	0.153	0.253	37/2.03	14.5	18/15	12.3	13.5	18/15	10.8/12.1
150	0.124	0.206	37/2.27	16.2	18/15	13.7	15.0	18/15	12.2/13.5
185	0.0991	0.164	37/2.52	18.0	30	15.3	16.8	30	13.6/15.1
240	0.0754	0.125	61/2.25	20.6	34/30	17.6	19.2	34/30	15.6/17.4
300	0.0601	0.100	61/2.52	23.1	34/30	19.7	21.6	34/30	17.4/19.4
400	0.0470	0.0778	61/2.89	26.1	53	22.3	24.6	53	18.8/20.2
500	0.0366	0.0605	61/3.23	29.2	53	25.3	27.6	-	-
630	0.0283	0.0469	127/2.52	33.2	53	28.7	32.5	-	-
800	0.0221	0.0367	127/2.85	37.6	53	32.6	36.7	-	-
1000	0.0176	0.0291	127/3.20	42.2	53	36.3	40.5	-	-

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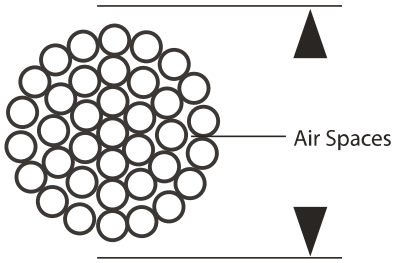
Difference Between Stranded Circular Conductor and Stranded Compact Circular Conductor

In the world of electrical conductors, there are several style that are used by electric utilities. The two common types of stranding that are using for power Cable. 1) Round wire conductor 2) Compact Conductor

Round wire conductor is the most common configuration that is used for bare conductor and insulated cable is made up of a number of the same size round wire that are cabled together (see Figure 1). This construction adds flexibility to the conductor, but the resulting air spaces that are introduced between the individual strands results in an overall increase in diameter of Cable.

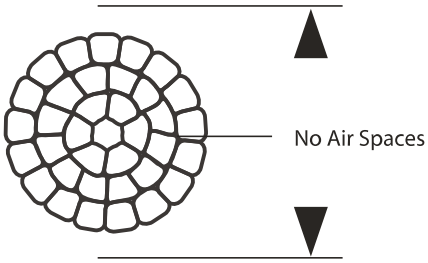
The first of the diameter reduction would be what is classified compact conductor. The individual strands of the conductor to reduce the total stranded diameter approximately 4% to 8% from the original diameter of the round wire conductor (see Figure 2). this type of conductor have no air spaces that are introduced between the individual strands. Compact conductor is made from EC grade scratch free and ensure excellent conductivity minimized electrical stress.

Figure 1



Concentric Round

Figure 2



Compact

ABOUT CABLE LUGS

Compacted Conductors have a smaller diameter compared to standard stranded conductors, but their nominal cross sectional area is equivalent and a lug designated for the same cross sectional area must be used on the compacted conductor. Even though the lug will appear to fit more loosely, when crimped in accordance with the lug manufacturer's recommendations, the end result is the equivalent to the crimping of a standard conductor. Compacting the conductor by the cable manufacturer is just the action of pushing all the wires together, getting rid of the air gaps, ahead of time.

The general practice is for lug manufacturer's to manufacture a range of lug sizes that suits both the compacted and standard conductors. However, if there are any concerns, please consult your lug manufacturer.

FLEXIBLE COPPER CONDUCTOR CONSTRUCTION AS PER IEC 60228:2004

Nominal cross sectional area	Max. diameter of wire in class 5 conductor	Max. diameter of wire in class 6 conductor	Max. DC resistance of conductor at 20 °C		Max. diameter of conductor class 5 & 6
			Plain wires	Metal coated wires	
mm^2	mm	mm	Ω/km	Ω/km	mm
0.5	0.21	0.16	39	40.1	1.1
0.75	0.21	0.16	26	26.7	1.3
1.0	0.21	0.16	19.5	20.0	1.5
1.5	0.26	0.16	13.3	13.7	1.8
2.5	0.26	0.16	7.98	8.21	2.4
4	0.31	0.16	4.95	5.09	3.0
6	0.31	0.21	3.30	3.39	3.9
10	0.41	0.21	1.91	1.95	5.1
16	0.41	0.21	1.21	1.24	6.3
25	0.41	0.21	0.780	0.795	7.8
35	0.41	0.21	0.554	0.565	9.2
50	0.41	0.31	0.386	0.393	11.0
70	0.51	0.31	0.272	0.277	13.1
95	0.51	0.31	0.206	0.210	15.1
120	0.51	0.31	0.161	0.164	17.0
150	0.51	0.31	0.129	0.132	19.0
185	0.51	0.41	0.106	0.108	21.0
240	0.51	0.41	0.0801	0.0817	24.0
300	0.51	0.41	0.0641	0.0654	27.0
400	0.51	-	0.0486	0.0495	31.0
500	0.61	-	0.0384	0.0391	35.0
630	0.61	-	0.0287	0.0292	39.0

MEASUREMENT COMPARISON IN VARUOUS SYSTEMS

Gauge system		Diameter		Cross sectional area		Approx. Weight (kg/km)	
S.W.G	A.W.G.	mm	inch	mm^2	$inch^2$	Copper	Aluminium
-	6/0	14.732	0.580	170.46	0.2642	1515.39	0.7141
-	5/0	13.119	0.516	135.17	0.2091	1201.66	0.5652
7/0	-	12.700	0.500	126.68	0.1964	1126.19	0.5309
6/0	-	11.786	0.464	109.10	0.1691	969.90	0.4571
-	4/0	11.684	0.460	107.22	0.1662	953.19	0.4492
5/0	-	10.973	0.432	94.57	0.3393	840.73	0.9171
-	3/0	10.405	0.409	85.03	0.1314	755.92	0.3552
4/0	-	10.160	0.400	81.07	0.1257	720.71	0.3398
3/0	-	9.449	0.372	70.12	0.1087	623.37	0.2938
-	2/0	9.266	0.365	67.43	0.1046	599.45	0.2827
2/0	-	8.839	0.348	61.36	0.09512	545.49	0.2571
-	1/0	8.251	0.325	53.47	0.08296	475.35	0.2242
0	-	8.230	0.324	53.20	0.08245	472.95	0.2229
1	-	7.620	0.300	45.60	0.07069	405.38	0.1911
-	1	7.348	0.289	42.41	0.06560	377.03	0.1773
2	-	7.010	0.276	38.59	0.05983	343.07	0.1617
-	2	6.544	0.257	33.63	0.05188	298.97	0.1402
3	-	6.401	0.252	32.18	0.04988	286.08	0.1348
4	-	5.893	0.232	27.27	0.04227	242.43	0.1143
-	3	5.827	0.229	26.67	0.04119	237.10	0.1113
5	-	5.385	0.212	22.77	0.03530	202.43	0.0954
-	4	5.189	0.204	21.15	0.03269	188.02	0.0884
6	-	4.877	0.192	18.68	0.02895	166.07	0.0783
-	5	4.621	0.182	16.77	0.02602	149.09	0.0703
7	-	4.470	0.176	15.69	0.02433	139.48	0.0658
-	6	4.115	0.162	13.30	0.02061	118.24	0.0557
8	-	4.064	0.160	12.97	0.02011	115.30	0.0544
9	7	3.658	0.144	10.51	0.01629	93.43	0.0440
10	8	3.251	0.128	8.301	0.01287	73.80	0.0348
11	-	2.946	0.116	6.816	0.01057	60.59	0.0286
-	9	2.906	0.114	6.633	0.01021	58.97	0.0276
12	-	2.642	0.104	5.482	0.008495	48.73	0.0230
-	10	2.588	0.102	5.260	0.008171	46.76	0.0221
13	-	2.337	0.092	4.289	0.006647	38.13	0.0180
-	11	2.305	0.091	4.173	0.006504	37.10	0.0176
-	12	2.053	0.081	3.310	0.005153	29.43	0.0139
14	-	2.032	0.080	3.243	0.005027	28.83	0.0136
15	13	1.829	0.072	2.627	0.004072	23.35	0.0110
16	14	1.626	0.064	2.076	0.003217	18.46	0.008696
-	15	1.450	0.057	1.651	0.002552	14.68	0.006898
17	-	1.422	0.056	1.588	0.002463	14.12	0.006657
-	16	1.291	0.051	1.014	0.002043	9.01	0.005522
18	-	1.219	0.048	1.167	0.001810	10.37	0.004892
-	17	1.150	0.0453	1.039	0.001612	9.24	0.004357
19	18	1.016	0.0403	0.811	0.001276	7.21	0.003449
20	19	0.914	0.0359	0.656	0.001012	5.83	0.002735
21	20	0.813	0.0320	0.519	0.0008042	4.61	0.002174
-	21	0.723	0.0285	0.411	0.0006379	3.65	0.001724
22	-	0.711	0.0280	0.397	0.0006158	3.53	0.001665
-	22	0.644	0.0253	0.326	0.0005027	2.90	0.001359
23	-	0.610	0.0240	0.292	0.0004524	2.60	0.001223
-	23	0.573	0.0226	0.258	0.0004012	2.29	0.001084
24	-	0.559	0.0220	0.245	0.0003801	2.18	0.001027
-	24	0.511	0.0201	0.205	0.0003173	1.82	0.0008577
25	-	0.508	0.0200	0.203	0.0003142	1.81	0.0008493

MEASUREMENT COMPARISON IN VARIOUS SYSTEMS

Gauge system		Diameter		Cross sectional area		Approx. Weight (kg/km)	
S.W.G	A.W.G.	mm	inch	mm^2	$inch^2$	Copper	Aluminium
26	-	0.457	0.0180	0.1640	0.000254	1.458	0.0006865
-	25	0.455	0.0179	0.1626	0.000252	1.445	0.0006812
-	26	0.404	0.0159	0.1288	0.000198	1.145	0.0005352
27	-	0.416	0.0164	0.1359	0.000211	1.208	0.0005703
28	-	0.375	0.0148	0.1104	0.000172	0.9814	0.0004649
-	27	0.361	0.0142	0.1023	0.000158	0.9094	0.0004271
29	-	0.345	0.0136	0.0935	0.000145	0.8312	0.0003919
-	28	0.321	0.0126	0.0809	0.000125	0.7192	0.0003379
30	-	0.315	0.0124	0.0779	0.000121	0.6925	0.0003271
31	-	0.294	0.0116	0.0679	0.000106	0.6036	0.0002865
-	29	0.286	0.0113	0.0642	0.0001003	0.5707	0.0002711
32	-	0.274	0.0108	0.0590	0.0000916	0.5245	0.0002476
33	30	0.254	0.0100	0.0507	0.0000785	0.4507	0.0002122
34	-	0.234	0.0092	0.0430	0.0000665	0.3823	0.0001797
-	31	0.227	0.00893	0.0405	0.0000626	0.3600	0.0001692
35	-	0.213	0.00840	0.0356	0.0000554	0.3165	0.0001497
-	32	0.202	0.00795	0.0320	0.0000496	0.2845	0.0001341
36	-	0.193	0.00760	0.0292	0.0000453	0.2596	0.0001224
-	33	0.180	0.00708	0.0254	0.0000393	0.2258	0.0001062
37	-	0.173	0.00680	0.0235	0.0000363	0.2089	0.00009812
-	34	0.160	0.00630	0.0201	0.0000312	0.1787	0.00008433
38	-	0.152	0.00600	0.0181	0.0000283	0.1609	0.00007649
-	35	0.143	0.00561	0.0160	0.0000247	0.1422	0.00006676
39	-	0.132	0.00520	0.0137	0.0000212	0.1218	0.00005730
-	36	0.127	0.00500	0.0127	0.0000196	0.1129	0.00005298
40	-	0.122	0.00480	0.0117	0.0000181	0.1040	0.00004892
-	37	0.113	0.00445	0.0100	0.0000155	0.0889	0.00004189
41	-	0.112	0.00440	0.00985	0.0000152	0.0876	0.00004108
42	38	0.101	0.00397	0.00801	0.0000124	0.0712	0.00003352
43	-	0.091	0.00360	0.00650	0.0000102	0.0578	0.00002757
-	39	0.090	0.00353	0.00636	0.00000978	0.0565	0.00002643
44	-	0.081	0.00320	0.00515	0.00000804	0.0458	0.00002173
-	40	0.080	0.00314	0.00503	0.00000774	0.0447	0.00002092
45	41	0.0711	0.00280	0.00397	0.00000616	0.0353	0.00001665
-	42	0.0635	0.00250	0.00317	0.00000491	0.0282	0.00001327
46	-	0.0610	0.00240	0.00292	0.00000452	0.0259	0.00001222
-	43	0.0559	0.00220	0.00245	0.00000380	0.0218	0.00001027
47	44	0.0508	0.00200	0.00203	0.00000314	0.01805	0.000008487
-	45	0.0447	0.00176	0.001569	0.00000243	0.01395	0.000006568
48	-	0.0406	0.00160	0.001295	0.00000201	0.01151	0.000005433
-	46	0.0398	0.00157	0.001244	0.00000193	0.01106	0.000005217
-	47	0.0355	0.00140	0.000989	0.00000154	0.008792	0.000004162
-	48	0.0316	0.00124	0.000784	0.00000121	0.006969	0.000003271
49	-	0.0305	0.00120	0.000731	0.00000113	0.006499	0.000003054
-	49	0.0281	0.00111	0.000620	0.000000967	0.005512	0.000002614
50	-	0.0254	0.00100	0.000507	0.000000785	0.004507	0.000002122
-	50	0.0251	0.00099	0.000495	0.000000770	0.004401	0.000002081

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USER GUIDELINES

(Packaging, transport, storage, laying and installation)

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PACKAGING, TRANSPORT AND STORAGE

a) Cables are generally received wound on wooden drums, both the ends of the cable being easily accessible for inspection and testing. However, short lengths may be transported without drums.

b) In case of PVC and XLPE cables sealed plastic caps should be used.

c) The cable drums or coils must not be dropped or thrown from railway wagons or trucks during unloading operations. A ramp or crane may be used for unloading cable drums. If neither of those is available, a temporary ramp with inclination 1:3 to 1:4 approximately should be constructed. The cable drum should then be rolled over the ramp by means of ropes and winches. Additionally a sand bed at the foot of the ramp may be made to break the rolling of cable drum.

d) The arrows painted on the flange of the drum indicate the direction in which the drum should be rolled. The cable will unwind and become loose if the drum is rolled in the opposite direction.

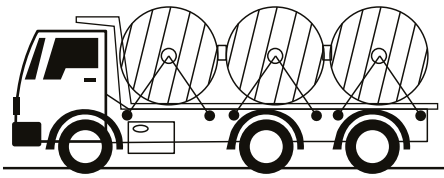
e) The site chosen for storage of cable drums should be well-drained and should preferably have a concrete surface/ firm which will not cause the drums to sink and thus lead to flange rot and extreme difficulty in moving the drums.

f) All drums should be stored in such a manner as to leave sufficient space between them for air circulation. It is desirable for the drums to stand on battens placed directly under the flanges. During storage, the drum should be rolled to an angle of 90° once every three months.

g) In no case should the drums be stored 'on the flat'; that is, with flange horizontal.

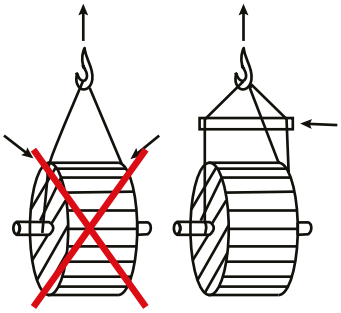
h) Overhead covering is not essential unless the storage is for a very long period. The cable should, however, be protected from direct rays of the sun by leaving the battes on or by providing some from the sun shielding.

i) When for any reason, it is necessary to rewind a cable on to another drum, the barrel of the drum should have a diameter not less that that of the original drum.

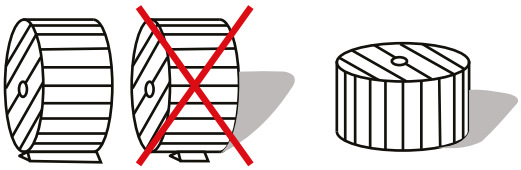


Secure drums adequately before transportation.

Roll in the direction shown by the arrow.



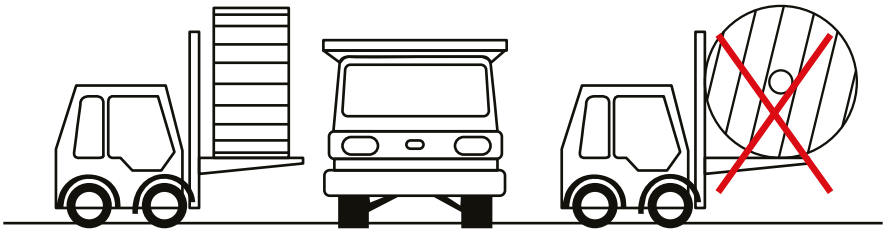
Lifting cable drum using crane



Do not lay cable drums on flat on their sides, use proper stops to prevent drums rolling.

DRUM HANDLING INSTRUCTIONS

Cables and Conductors should be installed by trained personnel in accordance with good engineering practice, recognized codes of practice, statutory local requirements, IEE wiring regulations and where relevant, in accordance with any specific instructions issued by the company. Cables are often supplied in heavy cable reels and handling these reels can constitute a safety hazard. In particular, dangers may arise during the removal of steel binding straps and during the removal of retaining battens and timbers which may expose projecting nails. ***Lifting cable drums using crane . Lift drums on trucks correctly. Secure drums adequately before transportation. Roll in the direction shown by the arrow. Do not lay drums flat on their sides, use proper stops to prevent drums rolling.***



Lift drums on fork trucks correctly.

LAYING AND INSTALLATION

GENERAL

a) After the planking has been removed, the cable should be examined for exterior damage, if any. To avoid damage to the protective covering and the insulation the cable must not be pulled across hard and sharp objects and must not be bent in an inadmissible way.

b) The leading end of the cable is untied from the cable drum and a cable stocking placed over it and secured firmly. A rope is attached to the cable stocking pulling eye. No pull should be exerted on the end of the cable.

c) Identification strips/ tags of metal or plastics should be attached to the cables, particularly if several are laud in parallel, 8 to 10m apart. Identification tags should also be attached at every point into the buildings and at the cable end termination.

d) A bedding of riddled earth or river sand should be provided and protective cable warning covers should be used. Instruction to back fill the trench should not be given until the entire length is protected by cable cover and checked.

SPECIAL NOTES FOR SINGLE CORE CABLES

1. The spacing between three cables laid in one plane should be not less than the cable diameter. When the cables are arranged in a duct or a rack in this way, each one should be secured either to be base or to the others by non-magnetic, non-corrosive clamps every 0.5 to 0.8m.

2. When the cable run is several kilometers long, the cables should be transposed at one-third and at two-thirds of the the total lengths.

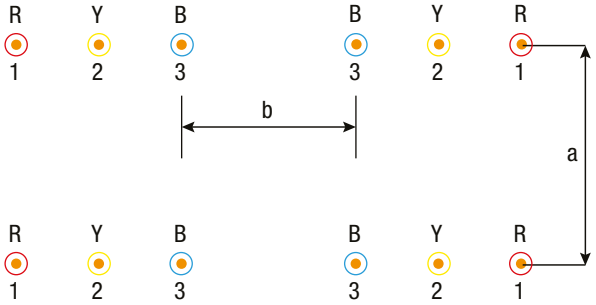
3. Cables can also be laid in trefoil arrangement in ducts or on racks which improves current distribution and reduce sheath losses. Non-magnetic clamps may not be essential in this case and it suffices to bind the cable with steel, copper, aluminium or plastics tapes every 0.5 to 0.6m.

4. The cables do not have to be bound/ clamped when laid in ground. Single core cables should not be installed individually in protective steel ducts; instead, all three should be laid together in one single duct.

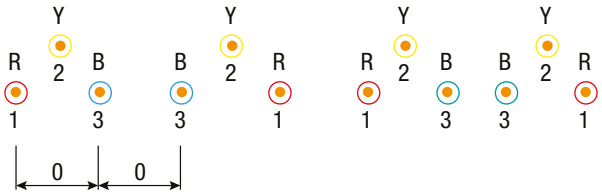
5. If several single core cables are laid per phase, these should be arranged as follows to ensure balanced current distribution:

and so on.

OR



OR WITH TREFOIL ARRANGEMENT



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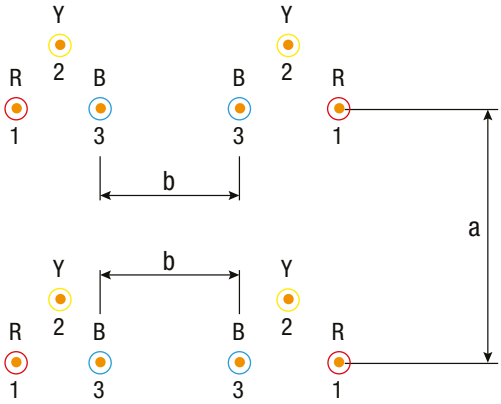

WHERE
a ≈ 6D
b ≈ 2D

DEFINITIONS OF SOME OF THE WORDS USED

A.C: Alternating current

Annealing: Annealing, in metallurgy and materials science, is a heat treatment that alters the physical and sometimes chemical properties of a material to increase its ductility and reduce its hardness, making it more workable.

Armoured Cable: A cable provided with a wrapping of metal, usually steel wires, flat tapes or interlocked tapes, primarily for the purpose of mechanical protection.

AWG: American Wire Gauge. A standard used to specify the physical size of a solid or stranded conductor primarily used in the United States. Originally called the Brown and Sharpe Gauge.

Approximate value: Value which is neither guaranteed nor checked; it is used- for example, for the calculation of other dimensional values.

Break Strength: The maximum load which a specimen attains when tested in tension to fracture.

Cable Core: The cable core must contain and maintain the electric field and carry the load current, while effectively dissipating the heating of the conductor.

Concentric neutral: Stranded conductor surrounding the insulation screen to carry the out-of-balance return current in a distribution system, as well as the earth leakage and fault currents during system disturbances.

Cooling: Cooling during manufacture by passing cooled water, under pressure, over the cable core just after the curing tube/Water Channel and before the cable is wound on to the take-up reel/drum.

Concentric Construction: A central wire surrounded by one or more layers of helically laid wires in a geometric pattern. Concentric constructions have 7, 19, 37, 61 etc. strands.

Conductivity: A term used in describing the capability of a material to carry an electrical charge. Usually expressed as a percentage of copper conductivity – copper being one hundred (100%) percent. Conductivity is expressed for a standard configuration of conductor.

Conductor: A wire or combination of wires not insulated from one another, suitable for carrying an electric current.

Conductor Core: The center strand or member about which one or more layers of wires or members are laid helically to form a concentric-lay or rope-lay conductor. Core –Any portion of a cable over which some other cable component, such as a shield, jacket, sheath or armor, is applied.

Creep age: Electrical leakage on a solid dielectric surface.

Cross Sectional Area of a Conductor: The sum of cross sectional areas of all the individual wires composing the conductor. It is generally expressed in circular mils.

Cross-linking: Formation of a permanent set of links between polymer chains (ERP, Semicon, XLPE). Once cross linked, the polymer becomes “unmelt able” or thermo set. Crosslinks may be formed by either thermal decomposition of organic peroxides or through the action of moisture with silence.

Currentcarrying Capacity: The maximum current an insulated conductor or cable can continuously carry without exceeding its temperature rating. It is also called ampacity.

Curing: The process of vulcanizing or cross linking a polymer. This process usually occurs in a vulcanizing tube at approximately 200^{0}C. Using dry nitrogen gas as the heat-transfer medium is referred to as the “dry curing” process.

D.C: Direct current.

Dielectric constant: Same as permittivity.

Dissipation factor: Tangent delta, loss angle or dissipation factor are all terms those refer to the amount of dielectric loss in a cable.

Electrical tree: Dendritic tree-like growth that produces partial discharges within cables and accessories. Partial discharges occur in voids and may eventually grow into permanent and conductive carbon-coated channels that can bridge the insulation wall and result in cable or accessory failures.

Density: The weight per unit volume of a substance. Dielectric Constant: hat property (K) of an insulating material which is the ratio of the parallel capacitance (C) of a given configuration of electrodes with the material as the dielectric, to the capacitance of the same electrode configuration with a vacuum as the dielectric.

Dielectric Strength: The voltage which an insulating material can withstand before breakdown occurs, usually expressed as a voltage gradient (such as volts per mil).

Direction of Lay: The lateral direction, designated as left-hand or right-hand, in which the wires of a member or units of a conductor run over the top of the member or conductor as they recede from an observer looking along the axis of the member or conductor.

Elongation: A measure of a material's ability to stretch or elongate prior to fracture. It is expressed as a percentage (increase in length) over a specified gauge length (typically 250mm for wire).

Equally Concentric: A central wire surrounded by one or more layers of helically laid wires in a geometric pattern, with alternately reversed lay direction and the same lay length.

Embossing: A means of marker identification by means of thermal indentation leaving raised lettering on the sheath material of cable.

Flame Resistance: The ability of a burning material to extinguish its own flame, once its flame-initiating heat source is removed.

Fire/FlameRetardant: Ability of a material to prevent the spread of combustion by a low rate of travel so the fire/flame will not be conveyed.

FRLS Insulation: Whenever a fire breaks-out in any building/complex, the burning of wire emits, toxic, black smoke which causes injury and subsequently becomes fatal to human life. FRLS PVC insulation provides better fire retardant properties than normal PVC & also emits less smoke in case of fire.

Flexibility: The capability of being bent when an external force is applied, its pliability or limberness. Low flexibility translates to being more rigid or stiff.

Fictitious value: The following fictitious method of calculating thicknesses of various coverings in a cable has been adopted to ensure that any differences which can arise in independent calculations. For example, due to the assumption of conductor dimensions and the unavoidable differences between nominal and actually achieved diameters are eliminated.

Hard Drawn: A term referring to the temper of conductors that are drawn without annealing to the finish temper.

HR PVC Insulation: Depending on where you live and how a structure is built, some wires may routinely be exposed to temperatures which would degrade wires made from the normal formulations of PVC. To counteract this, Meghna Star Cables has formulated Heat Resistant PVC insulation to specifically address situations where a heat resistant wire is needed. The HR PVC Insulation ensures stability at conductor temperatures of 90ºC and 105ºC and are designed to adhere to the standards set forth in HR90 and HR 105 PVC.

Heat Shock: A test to determine stability of a material by sudden exposure to a high temperature for a short period of time.

Impedance: The analog of resistance in an A.C (alternating current) circuit. Impedance depends upon the resistance, inductance, capacitance and frequency of the circuit. The unit of impedance is ohm.

Jacket: Same as outer or over sheath, the outermost polymeric protective layer of a cable.

Joint: Joints or splices are used to join two ends of a cable to extend the route length. The joint must provide continuity of the conductor and maintain insulation integrity of a cable.

Lay: The distance along a cable occupied by one complete helix of a strand or conductor. The direction of lay (left or right hand) is the direction of the helix looking away from an observer. Also to arrange the wires or members of a conductor either by twisting them or by forming them into one or more layers helically applied.

Lay Direction: The helical direction of the strands or members in any layer of a stranded construction. The two lay directions are usually denoted as "S" (left hand lay) or "Z" (right hand lay).

Length of Lay: The axial length of one turn of the helix of a wire or member.

Lay Factor: The ratio of the lay length to the external diameter of the corresponding layer of wires or members in the stranded conductor.

Lay Length (length of Lay): The axial length for one revolution of a strand or member in any layer of a stranded or rope stranded construction.

Metallic sheath: A metallic sheath is installed on a cable to protect the cable during installation and operation and to prevent moisture ingression into the insulation.

Median value: When several test results have been obtained and ordered in an increasing (or decreasing) succession, the median value is the middle value if the number of available values is odd and the mean of the two middle values if the number is even.

Milliken: Sectored conductor design usually used in HV and EHV cables with insulation in between sectors to reduce A.C losses in the conductor.

Messenger Wire: A metallic supporting member either solid or stranded which may also perform the function of a conductor.

Moisture-blocked conductor: Moisture blocking or strand sealing prevents moisture migration along a stranded conductor.

Mil: Unit of measure equal to 1/1000 of an inch.

Moisture Absorption: The amount of water that an insulation or jacket, which is initially dry, will absorb under specified conditions. It is expressed as the percentage ration of the absorbed water's weight to the weight of the jacket or insulation alone.

Nominal: Name or identifying value of a measurable property by which a conductor or component or property of a conductor is identified, and to which tolerances are applied.

Ohm: A unit of electrical resistance defined as the resistance necessary to produce 1 ampere of current to flow in a circuit with an applied potential of 1 volt.

Oil-filled cables: Cables insulated with tapes of paper or PPL which are held within a metallic and filled with oil. The impregnating oil may either be held at high (HPOF or pipe-type) or low (SCFF or LPOF) pressures.

Outer sheath: The cable outer sheath or jacket provides physical protection during installation and operation. It also limits the flow of corrosion currents and corrosion of the metallic sheath of a cable.

Partial discharge: Mini-sparks of electrical discharges that occur in gaps and voids within cables, accessories of the interfaces between them. Partial discharges weaken cable systems and often lead to failure via electrical tree growth.

Permittivity: Permittivity (ε') and loss factor (ε") both provide valuable information on molecular motions within a material.

Power factor: Cosine of the angle between the current and voltage vectors of an electrical load or device connected to a power system. The term is often used erroneously to describe the losses of a power cable instead of loss angle, dissipation factor or tangent delta.

Resistance: A measure of a component's opposition to the flow of electric current, specified in ohms.

Resistivity: Resistivity is the reciprocal of conductivity.

Routine tests: Tests made by the manufacturer on each manufactured length of cable to check that each length meets the specified requirements.

Sample tests: Tests made by the manufacturer on samples of completed cable or components taken from a completed cable, at a specified frequency, so as to verify that the finished product meets the specified requirements.

Screen (Shield): Screens or shields used in cables to maintain a uniformly divergent electric field and to smooth out any asperities on the conductor and insulation surfaces.

Semiconductor: A solid substance that has conductivity between that of an insulator and that of most metals, either due to the addition of an impurity or because of temperature effects. Devices made of semiconductors, notably silicon, are essential components of most electronic circuits.

Specific Gravity: The density (mass per unit volume) of any material divided by that of water at a standard temperature.

Stranding Factor: The increase in weight and electrical resistance of a conductor due to the lay length of the strands or members.

Temperature Coefficient of Resistance: The change in a material's electrical resistance (resistivity) due to a change of one degree in temperature. It is expressed in units per °C (or units per °F).

Temperature Rating: The maximum temperature at which a given insulation or jacket may be safely maintained during continuous use, without incurring any thermally-induced deterioration.

Tensile Strength: The resistance of a material to breaking under tension, calculated to a reference unit (lbs/in2, kg/mm^2, etc.) by dividing die breaking load by the cross-sectional area.

Tensile Stress: Tensile stress (or tension) is the stress state leading to expansion; that is, the length of a material tends to increase in the tensile direction. The volume of the material stays constant. When equal and opposite forces are applied on a body, then the stress due to this force is called tensile stress.

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True Concentric: A central wire surrounded by one or more layers of helically laid wires in a geometric pattern, wide alternately reversed lay direction and increasing lay length.

Triple extrusion: Extrusion process where all three layers of the cable core are added in one pass through a group of extruders. The term "true triple" refers to the case where the three layers are extruded within a single head.

Type tests: Tests made before supplying, on a general commercial basis, a type of cable covered by this standard, in order to demonstrate satisfactory performance characteristics to meet the intended application.

Unilay (Unidirectional Equally Concentric): A central wire surrounded by one or more layers of helically laid wires in a geometric pattern, with the same lay direction and the same lay length.

Volt: Unit of electromotive force. It is the difference of potential required to make a current of one ampere flow through resistance of one ohm.

Voltage Drop: The voltage developed between the terminals of a circuit component by the flow of current through the resistance or impedance of that part.

Voltage Rating: The maximum voltage at which a given cable or insulated conductor may be safely maintained during continuous use in a normal manner. It is also called working voltage.

Wire Gauge: Any of several standard systems for designating wire sizes. As an example, see American Wire Gauge.

XLPE: Cross-linked Polyethylene.

ZERO HALOGEN Insulation: For extreme uses, Meghna Star Cables ZERO HALOGEN insulation holds the highest heat resistance, making it the best flame retardant insulation. This is critical for certain uses, including buildings which would routinely house large numbers of people or critical infrastructure.

MEGHNA Cables™

Committed to Quality & Safety

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