Caledonian

AIRPORT FLAME RETARDANT AND FIRE RESISTANT POWER CABLES

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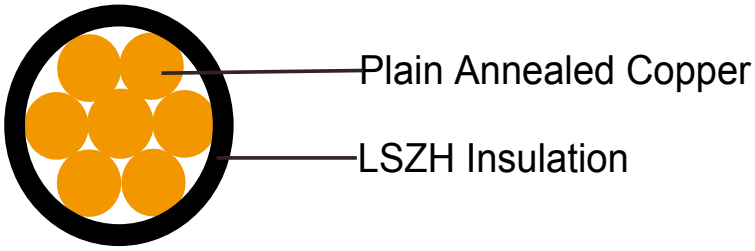
450/750V LSZH Insulated, Non-sheathed Power Cables (Single Core)

FTX100 07Z1-R (CU/LSZH 450/750V Class 2)



APPLICATION

This cables are mainly used in power stations, mass transit underground passenger systems, airports, petrochemical plants, hotels, hospitals, and high-rise buildings.

STANDARDS

Basic design to BS 7211

FIRE PERFORMANCE

Flame Retardance (Single Vertical Wire Test)	EN 60332-1-2; IEC 60332-1-2; BS EN 60332-1-2; VDE 0482-332-1 ; NBN C 30-004 (cat. F1); NF C32-070-2.1(C2); CEI 20-35/1-2; EN 50265-2-1*; DIN VDE 0482-265-2-1*
Reduced Fire Propagation (Vertically-mounted bundled wires & cable test)	EN 60332-3-24 (cat. C); IEC 60332-3-24; BS EN 60332-3-24; VDE 0482-332-3; NBN C 30-004 (cat. F2); NF C32-070-2.2(C1); CEI 20-22/3-4; EN 50266-2-4*; DIN VDE 0482-266-2-4
Halogen Free	IEC 60754-1; EN 50267-2-1; DIN VDE 0482-267-2-1; CEI 20-37/2-1 ; BS 6425-1*
No Corrosive Gas Emission	IEC 60754-2; EN 50267-2-2; DIN VDE 0482-267-2-2; CEI 20-37/2-2 ; BS 6425-2*
Minimum Smoke Emission	IEC 61034-1&2; EN 61034 -1&2; DIN VDE 0482-1034-1&2; CEI 20-37/3-1&2; EN 50268-1&2*; BS 7622-1&2*
No Toxic Gases	NES 02-713; NF C 20-454

Note: Asterisk * denotes superseded standard.

VOLTAGE RATING

450/750V

CABLE CONSTRUCTION

Conductor: Plain annealed copper wire, stranded according to IEC 60228 class 2.
Insulation: LSZH compound

COLOUR CODE

Insulation Colour : Natural
Sheath Colour: Black (other colors upon request)

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation: -30°C ~ 90°C
Temperature Range during Installation : -5°C ~ 50°C
Minimum Bending Radius : 6 x OD

ELECTRICAL PROPERTIES

Dielectric Test:	2500 V r.m.s. x 5' (core / core)
Insulation Resistance	500 MΩ x km (at 20°C)
Short circuit Temperature	250°C (up to 5 secs)

CONSTRUCTION PARAMETERS

Cable Code	Conductor				
	No. of Core X Cross Section	No./Nominal Diameter of Strands	Nominal Insulation Thickness	Nominal Overall Diameter	Approx. Weight
	Noxmm^2	No./mm	mm	mm	kg/km
FTX100 07Z1-R 1G1.5	1x1.5	7/0.53	0.7	3.1	23
FTX100 07Z1-R 1G2.5	1x2.5	7/0.67	0.8	3.7	35
FTX100 07Z1-R 1G4	1x4	7/0.85	0.8	4.3	52
FTX100 07Z1-R 1G6	1x6	7/1.04	0.8	4.8	73
FTX100 07Z1-R 1G10	1x10	7/1.35	1.0	6.2	120
FTX100 07Z1-R 1G16	1x16	7/1.70	1.0	7.2	180
FTX100 07Z1-R 1G25	1x25	7/2.24	1.2	9.0	285
FTX100 07Z1-R 1G35	1x35	19/1.53	1.2	10.2	375
FTX100 07Z1-R 1G50	1x50	19/1.78	1.4	12.0	510
FTX100 07Z1-R 1G70	1x70	19/2.14	1.4	14.0	720
FTX100 07Z1-R 1G95	1x95	19/2.52	1.6	16.0	995
FTX100 07Z1-R 1G120	1x120	37/2.03	1.6	18.0	1230
FTX100 07Z1-R 1G150	1x150	37/2.25	1.8	20.0	1520
FTX100 07Z1-R 1G185	1x185	37/2.52	2.0	22.0	1900
FTX100 07Z1-R 1G240	1x240	61/2.25	2.2	25.0	2480
FTX100 07Z1-R 1G300	1x300	61/2.52	2.4	28.0	3100
FTX100 07Z1-R 1G400	1x400	61.2.85	2.6	31.5	3950
FTX100 07Z1-R 1G500	1x500	61/3.20	2.8	35.0	4950
FTX100 07Z1-R 1G630	1x630	127/2.52	2.8	39.0	6360

ELECTRICAL PROPERTIES

Conductor Operating Temperature : 90°C
Ambient Temperature : 30°C

Current-Carrying Capacities (Amp)

Conductor cross-sectional area	Reference Method 4 (enclosed in conduit in thermally insulating wall etc)		Reference Method 3 (enclosed in conduit on a wall or in trunking etc)		Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated cable tray, horizontal or vertical)		Reference Method 12 (free air)		
									Horizontal flat spaced	Vertical flat spaced	Trefoil
	2 cables, single-phase a.c. or d.c.	3 or 4 cables, 3-phase a.c.	2 cables, single-phase a.c. or d.c	3 or 4 cables, 3-phase a.c.	2 cables, single-phase a.c. or d.c. flat and touching	3 or 4 cables, 3-phase a.c. flat and touching or trefoil	2 cables, single-phase a.c. or d.c. or flat and touching	3 or 4 cables, 3-phase a.c. flat and touching or trefoil	2 cables, single-phase a.c. or d.c. or 3 c ables three phase	2 cables, single-phase a.c. or d.c. or 3 cables three phase	3 cables, trefoil 3-phase a.c.
1	2	3	4	5	6	7	8	9	10	11	12
mm^2	A	A	A	A	A	A	A	A	A	A	A
1.5	18	17	22	19	25	23	-	-	-	-	-
2.5	24	23	30	26	34	31	-	-	-	-	-
4	33	30	40	35	46	41	-	-	-	-	-
6	43	39	51	45	59	54	-	-	-	-	-
10	58	53	71	63	81	74	-	-	-	-	-
16	76	70	95	85	109	99	-	-	-	-	-
25	100	91	126	111	143	130	158	140	183	163	138
35	125	111	156	138	176	161	195	176	226	203	171
50	149	135	189	168	228	209	293	215	274	246	209
70	189	170	240	214	293	268	308	279	351	318	270
95	228	205	290	259	355	326	375	341	426	389	330
120	263	235	336	299	413	379	436	398	495	453	385
150	300	270	375	328	476	436	505	461	570	524	445
185	341	306	426	370	545	500	579	530	651	600	511
240	400	358	500	433	644	590	686	630	769	711	606
300	459	410	573	493	743	681	794	730	886	824	701
400	-	-	684	584	868	793	915	849	1065	994	820
500	-	-	783	666	990	904	1044	973	1228	1150	936
630	-	-	900	764	1130	1033	1191	1115	1423	1338	1069

Voltage Drop (Per Amp Per Meter)

Nominal Cross Section Area	2 cables d.c.	2 cables, single-phase a.c.		3 or 4 cables, 3-phase a.c.		
		Ref. Methods 3 and 4 (enclosed in conduit etc, in or on a wall)	Ref. Methods 1 and 11 (clipped direct or on trays touching)	Ref. Methods 3 and 4 (enclosed in conduit etc, in or on a wall)	Ref. Methods 1, 11 and 12 (in trefoil)	Ref. Methods 1 and 11 (Flat and touching)
1	2	3	4	5	6	7
mm^2	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m

1.5	31	31			27			27			27			27		
2.5	19	19			16			16			16			16		
4	33	12			10			10			10			10		
6	7.8	7.9			6.8			6.8			6.8			6.8		
10	4.7	4.7			4.7			4			4			4		
16	2.9	2.9			2.9			2.5			2.5			2.5		
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
25	1.85	1.85	0.31	1.9	1.85	0.19	1.85	1.6	0.27	1.65	1.6	0.165	1.6	1.6	0.19	1.6
35	1.35	1.35	0.29	1.35	1.35	0.18	1.35	1.15	0.25	1.15	1.15	0.155	1.5	1.15	0.18	1.15
50	0.99	1	0.29	1.05	0.99	0.18	1	0.87	0.25	0.9	0.86	0.155	0.87	0.86	0.18	0.87
70	0.68	0.7	0.28	0.75	0.68	0.175	0.71	0.6	0.24	0.65	0.59	0.15	0.61	0.59	0.175	0.62
95	0.49	0.51	0.27	0.58	0.49	0.17	0.52	0.44	0.23	0.5	0.43	0.145	0.45	0.43	0.17	0.46
120	0.39	0.41	0.26	0.48	0.39	0.165	0.43	0.35	0.23	0.42	0.34	0.14	0.37	0.34	0.165	0.38
150	0.32	0.33	0.26	0.43	0.32	0.165	0.36	0.29	0.23	0.37	0.28	0.14	0.31	0.28	0.165	0.32
185	0.25	0.27	0.26	0.37	0.26	0.165	0.3	0.23	0.23	0.32	0.22	0.14	0.26	0.22	0.165	0.28
240	0.19	0.21	0.26	0.33	0.2	0.16	0.25	0.185	0.22	0.29	0.17	0.14	0.22	0.17	0.165	0.24
300	0.155	0.175	0.25	0.31	0.16	0.16	0.22	0.15	0.22	0.27	0.14	0.14	0.195	0.135	0.16	0.21
400	0.12	0.14	0.25	0.29	0.13	0.155	0.2	0.125	0.22	0.25	0.11	0.135	0.175	0.11	0.16	0.195
500	0.093	0.12	0.25	0.28	0.105	0.155	0.185	0.1	0.22	0.24	0.09	0.135	0.16	0.088	0.16	0.18
630	0.072	0.1	0.25	0.27	0.086	0.155	0.175	0.088	0.21	0.23	0.074	0.135	0.15	0.071	0.16	0.17

Note :
r = conductor resistance at operating temperature
x = reactance
z = impedance

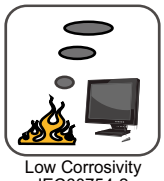
Rated Voltage

Standard


Flame Retardancy
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1


Reduced Fire Propagation
NF C32-070-2.2(C1)
IEC60332-3-24/EN50266-2-


Low Toxicity
NES 02-713/NF C 20-454

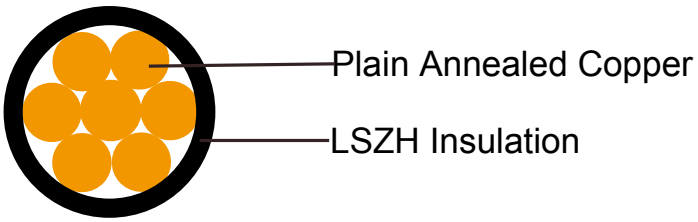

Low Corrosivity
IEC60754-2
EN50267-2-2/3
NF C 32-074


Low Smoke Emission
IEC 61034-1&2
EN 50268-1&2/NF C32-073

Halogen Free
IEC60754-1/
EN50267-2-1

600/1000V LSZH Insulated, Non-sheathed Power Cables (Single Core)

FTX100 1Z1-R (CU/LSZH 600/1000V Class 2)



APPLICATION

The cables is mainly used in power stations, mass transit underground passenger systems, airports, petrochemical plants, hotels, hospitals, and high-rise buildings.

STANDARDS

Basic design adapted to BS7211

FIRE PERFORMANCE

Flame Retardance (Single Vertical Wire Test)	EN 60332-1-2; IEC 60332-1-2; BS EN 60332-1-2; VDE 0482-332-1 ; NBN C 30-004 (cat. F1); NF C32-070-2.1(C2); CEI 20-35/1-2; EN 50265-2-1*; DIN VDE 0482-265-2-1*
Reduced Fire Propagation (Vertically-mounted bundled wires & cable test)	EN 60332-3-24 (cat. C); IEC 60332-3-24; BS EN 60332-3-24; VDE 0482-332-3; NBN C 30-004 (cat. F2); NF C32-070-2.2(C1); CEI 20-22/3-4; EN 50266-2-4*; DIN VDE 0482-266-2-4
Halogen Free	IEC 60754-1; EN 50267-2-1; DIN VDE 0482-267-2-1; CEI 20-37/2-1 ; BS 6425-1*
No Corrosive Gas Emission	IEC 60754-2; EN 50267-2-2; DIN VDE 0482-267-2-2; CEI 20-37/2-2 ; BS 6425-2*
Minimum Smoke Emission	IEC 61034-1&2; EN 61034 -1&2; DIN VDE 0482-1034-1&2; CEI 20-37/3-1&2; EN 50268-1&2*; BS 7622-1&2*
No Toxic Gases	NES 02-713; NF C 20-454

Note: Asterisk * denotes superseded standard.

VOLTAGE RATING

600/1000V

CABLE CONSTRUCTION

Conductor: Plain annealed copper wire, stranded according to IEC 60228 class 2.
Insulation: LSZH compound.

COLOUR CODE

Insulation Colour : Natural
Sheath Colour: Black (other colors upon request)

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation: -30°C ~ 90°C

Temperature Range during Installation : -5°C ~ 50°C

Minimum Bending Radius: 6 x OD

ELECTRICAL PROPERTIES

Dielectric Test:	3500 V r.m.s. x 5' (core / core)
Insulation Resistance	500 MΩ x km (at 20°C)
Short circuit Temperature	250°C (up to 5 secs)

CONSTRUCTION PARAMETERS

Cable Code	Conductor				
	No. of Core X Cross Section	No./Nominal Diameter of Strands	Nominal Insulation Thickness	Nominal Overall Diameter	Approx. Weight
	Noxmm^2	No./mm	mm	mm	kg/km
FTX100 1Z1-R 1G1.5	1x1.5	7/0.53	0.7	3.3	28
FTX100 1Z1-R 1G2.5	1x2.5	7/0.67	0.8	3.9	39
FTX100 1Z1-R 1G4	1x4	7/0.85	0.8	4.8	58
FTX100 1Z1-R 1G6	1x6	7/1.04	0.8	5.0	79
FTX100 1Z1-R 1G10	1x10	7/1.35	1.0	6.6	130
FTX100 1Z1-R 1G16	1x16	7/1.70	1.0	7.4	196
FTX100 1Z1-R 1G25	1x25	7/2.14	1.2	9.1	299
FTX100 1Z1-R 1G35	1x35	7/2.52	1.2	10.7	389
FTX100 1Z1-R 1G50	1x50	19/1.78	1.4	12.6	523
FTX100 1Z1-R 1G70	1x70	19/2.14	1.4	14.8	739
FTX100 1Z1-R 1G95	1x95	19/2.52	1.6	17.2	1023
FTX100 1Z1-R 1G120	1x120	37/2.03	1.6	18.9	1321
FTX100 1Z1-R 1G150	1x150	37/2.25	1.8	20.4	1591

FTX100 1Z1-R 1G185	1x185	37/2.52	2.0	22.3	1969
FTX100 1Z1-R 1G240	1x240	61/2.25	2.2	26.5	2568
FTX100 1Z1-R 1G300	1x300	61/2.52	2.4	28.9	3260
FTX100 1Z1-R 1G400	1x400	61/2.85	2.6	33.4	4120
FTX100 1Z1-R 1G500	1x500	61/3.20	2.8	35.6	5198
FTX100 1Z1-R 1G630	1x630	127/2.52	2.8	39.4	6510

ELECTRICAL PROPERTIES

Conductor Operating Temperature : 90°C
Ambient Temperature : 30°C

Current-Carrying Capacities (Amp)

Conductor cross-sectional area	Reference Method 4 (enclosed in conduit in thermally insulating wall etc)		Reference Method 3 (enclosed in conduit on a wall or in trunking etc)		Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated cable tray, horizontal or vertical)		Reference Method 12 (free air)		
									Horizontal flat spaced	Vertical flat spaced	Trefoil
	2 cables, single-phase a.c. or d.c.	3 or 4 cables, 3-phase a.c.	2 cables, single-phase a.c. or d.c	3 or 4 cables, 3-phase a.c.	2 cables, single-phase a.c. or d.c. flat and touching	3 or 4 cables, 3-phase a.c. flat and touching or trefoil	2 cables, single-phase a.c. or d.c. or flat and touching	3 or 4 cables, 3-phase a.c. flat and touching or trefoil	2 cables, single-phase a.c. or d.c. or 3 cables three phase	2 cables, single-phase a.c. or d.c. or 3 cables three phase	3 cables, trefoil 3-phase a.c.
1	2	3	4	5	6	7	8	9	10	11	12
mm^2	A	A	A	A	A	A	A	A	A	A	A
1.5	18	17	22	19	25	23	-	-	-	-	-
2.5	24	23	30	26	34	31	-	-	-	-	-
4	33	30	40	35	46	41	-	-	-	-	-
6	43	39	51	45	59	54	-	-	-	-	-
10	58	53	71	63	81	74	-	-	-	-	-
16	76	70	95	85	109	99	-	-	-	-	-
25	100	91	126	111	143	130	158	140	183	163	138
35	125	111	156	138	176	161	195	176	226	203	171
50	149	135	189	168	228	209	293	215	274	246	209

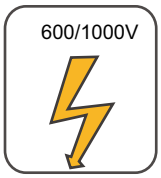
70	189	170	240	214	293	268	308	279	351	318	270
95	228	205	290	259	355	326	375	341	426	389	330
120	263	235	336	299	413	379	436	398	495	453	385
150	300	270	375	328	476	436	505	461	570	524	445
185	341	306	426	370	545	500	579	530	651	600	511
240	400	358	500	433	644	590	686	630	769	711	606
300	459	410	573	493	743	681	794	730	886	824	701
400	-	-	684	584	868	793	915	849	1065	994	820
500	-	-	783	666	990	904	1044	973	1228	1150	936
630	-	-	900	764	1130	1033	1191	1115	1423	1338	1069

Voltage Drop (Per Amp Per Meter)

Size of conductor	2 cables d.c.	2 cables, single-phase a.c.						3 or 4 cables, 3-phase a.c.								
		Ref. Methods 3 and 4 (enclosed in conduit etc, in or on a wall)			Ref. Methods 1 and 11 (clipped direct or on trays touching)			Ref. Methods 3 and 4 (enclosed in conduit etc, in or on a wall)			Ref. Methods 1, 11 and 12 (in trefoil)			Ref. Methods 1 and 11 (Flat and touching)		
1	2	3			4			5			6			7		
mm^2	mV/A/m	mV/A/m			mV/A/m			mV/A/m			mV/A/m			mV/A/m		
1.5	31	31			27			27			27			27		
2.5	19	19			16			16			16			16		
4	33	12			10			10			10			10		
6	7.8	7.9			6.8			6.8			6.8			6.8		
10	4.7	4.7			4.7			4			4			4		
16	2.9	2.9			2.9			2.5			2.5			2.5		
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
25	1.85	1.85	0.31	1.90	1.85	0.190	1.85	1.60	0.27	1.65	1.600	0.165	1.600	1.600	0.190	1.600
35	1.35	1.35	0.29	1.35	1.35	0.180	1.35	1.15	0.25	1.15	1.150	0.155	1.50	1.150	0.180	1.150
50	0.99	1.00	0.29	1.05	0.99	0.180	1.00	0.87	0.25	0.90	0.860	0.155	0.870	0.860	0.180	0.870
70	0.68	0.70	0.28	0.75	0.68	0.175	0.71	0.60	0.24	0.65	0.590	0.150	0.610	0.590	0.175	0.620

95	0.49	0.51	0.27	0.58	0.49	0.170	0.52	0.44	0.23	0.50	0.430	0.145	0.450	0.430	0.170	0.460
120	0.39	0.41	0.26	0.48	0.39	0.165	0.43	0.35	0.23	0.42	0.340	0.140	0.370	0.340	0.165	0.380
150	0.32	0.33	0.26	0.43	0.32	0.165	0.36	0.29	0.23	0.37	0.280	0.140	0.310	0.280	0.165	0.320
185	0.25	0.27	0.26	0.37	0.26	0.165	0.30	0.23	0.23	0.32	0.220	0.140	0.260	0.220	0.165	0.280
240	0.19	0.21	0.26	0.33	0.20	0.160	0.25	0.185	0.22	0.29	0.170	0.140	0.220	0.170	0.165	0.240
300	0.155	0.175	0.25	0.31	0.16	0.160	0.22	0.150	0.22	0.27	0.140	0.140	0.195	0.135	0.160	0.210
400	0.12	0.140	0.25	0.29	0.13	0.155	0.20	0.125	0.22	0.25	0.110	0.135	0.175	0.110	0.160	0.195
500	0.093	0.120	0.25	0.28	0.105	0.155	0.185	0.100	0.22	0.24	0.090	0.135	0.160	0.088	0.160	0.180
630	0.072	0.100	0.25	0.27	0.086	0.155	0.175	0.088	0.21	0.23	0.074	0.135	0.150	0.071	0.160	0.170

Note :
r = conductor resistance at operating temperature
x = reactance
z = impedance



Rated Voltage

Standard


Flame Retardancy
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1


Reduced Fire Propagation
NF C32-070-2.2(C1)
IEC60332-3-24
EN50266-2-4


Low Toxicity
NES 02-713/NF C 20-454

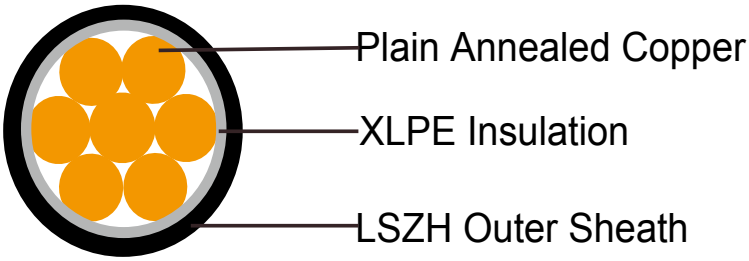

Low Corrosivity
IEC60754-2
EN50267-2-2/3
NF C 32-074


Low Smoke Emission
IEC 61034-1&2
EN 50268-1&2/NF C32-073

Halogen Free
IEC60754-1
EN50267-2-1

600/1000V XLPE Insulated, LSZH Sheathed Power Cables (Single Core)

FTX300 1RZ1-R (CU/XLPE/LSZH 600/1000V Class 2)



APPLICATION

The cables is mainly used in power stations, mass transit underground passenger systems, airports, petrochemical plants, hotels, hospitals, and high-rise buildings.

STANDARDS

Basic design to IEC 60502-1

FIRE PERFORMANCE

Flame Retardance (Single Vertical Wire Test)	EN 60332-1-2; IEC 60332-1-2; BS EN 60332-1-2; VDE 0482-332-1 ; NBN C 30-004 (cat. F1); NF C32-070-2.1(C2); CEI 20-35/1-2; EN 50265-2-1*; DIN VDE 0482-265-2-1*
Reduced Fire Propagation (Vertically-mounted bundled wires & cable test)	EN 60332-3-24 (cat. C); IEC 60332-3-24; BS EN 60332-3-24; VDE 0482-332-3; NBN C 30-004 (cat. F2); NF C32-070-2.2(C1); CEI 20-22/3-4; EN 50266-2-4*; DIN VDE 0482-266-2-4
Halogen Free	IEC 60754-1; EN 50267-2-1; DIN VDE 0482-267-2-1; CEI 20-37/2-1 ; BS 6425-1*
No Corrosive Gas Emission	IEC 60754-2; EN 50267-2-2; DIN VDE 0482-267-2-2; CEI 20-37/2-2 ; BS 6425-2*
Minimum Smoke Emission	IEC 61034-1&2; EN 61034 -1&2; DIN VDE 0482-1034-1&2; CEI 20-37/3-1&2; EN 50268-1&2*; BS 7622-1&2*
No Toxic Gases	NES 02-713; NF C 20-454

Note: Asterisk * denotes superseded standard.

VOLTAGE RATING

600/1000V

CABLE CONSTRUCTION

Conductor: Plain annealed copper wire, stranded according to IEC 60228 class 2.
Insulation: Extruded cross-linked XLPE compound.
Outer Sheath: Thermoplastic LSZH compound type LTS3 as per BS 7655-6.1.

COLOUR CODE

Insulation Colour: Natural
Sheath Colour: Black (other colors upon request)

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation: -30°C ~ 90°C
Temperature Range during Installation : -5°C ~ 50°C
Minimum Bending Radius: 6 x OD

ELECTRICAL PROPERTIES

Dielectric Test:	3500 V r.m.s. x 5' (core / core)
Insulation Resistance	500 MΩ x km (at 20°C)
Short circuit Temperature	250°C (up to 5 secs)

CONSTRUCTION PARAMETERS

Cable Code	Conductor		Nominal Insulation Thickness	Nominal Overall Diameter	Approx. Weight
	No. of Core X Cross Section	No./Nominal Diameter of Strands			
	mm^2	No./mm	mm	mm	kg/km
FTX300 1RZ1-R 1G1.5	1x1.5	7/0.53	0.7	6	48
FTX300 1RZ1-R 1G2.5	1x2.5	7/0.67	0.7	6.4	63
FTX300 1RZ1-R 1G4	1x4	7/0.85	0.7	7.0	78
FTX300 1RZ1-R 1G6	1x6	7/1.04	0.7	7.5	105
FTX300 1RZ1-R 1G10	1x10	7/1.35	0.7	8.5	151
FTX300 1RZ1-R 1G16	1x16	7/1.70	0.7	9.5	211
FTX300 1RZ1-R 1G25	1x25	7/2.14	0.9	11.2	315
FTX300 1RZ1-R 1G35	1x35	7/2.52	0.9	12.4	416
FTX300 1RZ1-R 1G50	1x50	19/1.78	1.0	14	569
FTX300 1RZ1-R 1G70	1x70	19/2.14	1.1	16	792
FTX300 1RZ1-R 1G95	1x95	19/2.52	1.1	18	1068
FTX300 1RZ1-R 1G120	1x120	37/2.03	1.2	20	1325

FTX300 1RZ1-R 1G150	1x150	37/2.25	1.4	22	1627
FTX300 1RZ1-R 1G185	1x185	37/2.52	1.6	24.4	2021
FTX300 1RZ1-R 1G240	1x240	61/2.25	1.7	27.5	2617
FTX300 1RZ1-R 1G300	1x300	61/2.52	1.8	30.3	3252
FTX300 1RZ1-R 1G400	1x400	61/2.85	2.0	33.9	4131
FTX300 1RZ1-R 1G500	1x500	61/3.20	2.2	37.6	5175
FTX300 1RZ1-R 1G630	1x630	127/2.52	2.4	42.4	6631
FTX300 1RZ1-R 1G800	1x800	127/2.85	2.6	47.3	8412
FTX300 1RZ1-R 1G1000	1x1000	127/3.20	2.8	52.4	10530

ELECTRICAL PROPERTIES

Conductor Operating Temperature : 90°C
Ambient Temperature : 30°C

Current-Carrying Capacities (Amp)

Conductor cross-sectional area	Reference Method 4 (enclosed in conduit in thermally insulating wall etc)		Reference Method 3 (enclosed in conduit on a wall or in trunking etc)		Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated cable tray, horizontal or vertical)		Reference Method 12 (free air)		
									Horizontal flat spaced	Vertical flat spaced	Trefoil
	2 cables, single-phase a.c. or d.c.	3 or 4 cables, 3-phase a.c.	2 cables, single-phase a.c. or d.c	3 or 4 cables, 3-phase a.c.	2 cables, single-phase a.c. or d.c. flat and touching	3 or 4 cables, 3-phase a.c. flat and touching or trefoil	2 cables, single-phase a.c. or d.c. or flat and touching	3 or 4 cables, 3-phase a.c. flat and touching or trefoil	2 cables, single-phase a.c. or d.c. or 3 c ables three phase	2 cables, single-phase a.c. or d.c. or 3 cables three phase	3 cables, trefoil 3-phase a.c.
1	2	3	4	5	6	7	8	9	10	11	12
mm^2	A	A	A	A	A	A	A	A	A	A	A
1.5	18	17	22	19	25	23	-	-	-	-	-
2.5	24	23	30	26	34	31	-	-	-	-	-
4	33	30	40	35	46	41	-	-	-	-	-
6	43	39	51	45	59	54	-	-	-	-	-
10	58	53	71	63	81	74	-	-	-	-	-
16	76	70	95	85	109	99	-	-	-	-	-

25	100	91	126	111	143	130	158	140	183	163	138
35	125	111	156	138	176	161	195	176	226	203	171
50	149	135	189	168	228	209	293	215	274	246	209
70	189	170	240	214	293	268	308	279	351	318	270
95	228	205	290	259	355	326	375	341	426	389	330
120	263	235	336	299	413	379	436	398	495	453	385
150	300	270	375	328	476	436	505	461	570	524	445
185	341	306	426	370	545	500	579	530	651	600	511
240	400	358	500	433	644	590	686	630	769	711	606
300	459	410	573	493	743	681	794	730	886	824	701
400	-	-	684	584	868	793	915	849	1065	994	820
500	-	-	783	666	990	904	1044	973	1228	1150	936
630	-	-	900	764	1130	1033	1191	1115	1423	1338	1069
800	-	-	-	-	1288	1179	1358	1275	1580	1485	1214
1000	-	-	-	-	1443	1323	1520	1436	1775	1671	1349

Voltage Drop (Per Amp Per Meter)

Size of conductor	2 cables d.c.	2 cables, single-phase a.c.						3 or 4 cables, 3-phase a.c.								
		Ref. Methods 3 and 4 (enclosed in conduit etc, in or on a wall)			Ref. Methods 1 and 11 (clipped direct or on trays touching)			Ref. Methods 3 and 4 (enclosed in conduit etc, in or on a wall)			Ref. Methods 1, 11 and 12 (in trefoil)			Ref. Methods 1 and 11 (Flat and touching)		
1	2	3			4			5			6			7		
mm^2	mV/A/m	mV/A/m			mV/A/m			mV/A/m			mV/A/m			mV/A/m		
1.5	31	31			27			27			27			27		
2.5	19	19			16			16			16			16		
4	33	12			10			10			10			10		
6	7.8	7.9			6.8			6.8			6.8			6.8		
10	4.7	4.7			4.7			4			4			4		
16	2.9	2.9			2.9			2.5			2.5			2.5		
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
25	1.85	1.85	0.31	1.90	1.85	0.190	1.85	1.60	0.27	1.65	1.600	0.165	1.600	1.600	0.190	1.600
35	1.35	1.35	0.29	1.35	1.35	0.180	1.35	1.15	0.25	1.15	1.150	0.155	1.50	1.150	0.180	1.150
50	0.99	1.00	0.29	1.05	0.99	0.180	1.00	0.87	0.25	0.90	0.860	0.155	0.870	0.860	0.180	0.870
70	0.68	0.70	0.28	0.75	0.68	0.175	0.71	0.60	0.24	0.65	0.590	0.150	0.610	0.590	0.175	0.620

95	0.49	0.51	0.27	0.58	0.49	0.170	0.52	0.44	0.23	0.50	0.430	0.145	0.450	0.430	0.170	0.460
120	0.39	0.41	0.26	0.48	0.39	0.165	0.43	0.35	0.23	0.42	0.340	0.140	0.370	0.340	0.165	0.380
150	0.32	0.33	0.26	0.43	0.32	0.165	0.36	0.29	0.23	0.37	0.280	0.140	0.310	0.280	0.165	0.320
185	0.25	0.27	0.26	0.37	0.26	0.165	0.30	0.23	0.23	0.32	0.220	0.140	0.260	0.220	0.165	0.280
240	0.19	0.21	0.26	0.33	0.20	0.160	0.25	0.185	0.22	0.29	0.170	0.140	0.220	0.170	0.165	0.240
300	0.155	0.175	0.25	0.31	0.16	0.160	0.22	0.150	0.22	0.27	0.140	0.140	0.195	0.135	0.160	0.210
400	0.12	0.140	0.25	0.29	0.13	0.155	0.20	0.125	0.22	0.25	0.110	0.135	0.175	0.110	0.160	0.195
500	0.093	0.120	0.25	0.28	0.105	0.155	0.185	0.100	0.22	0.24	0.090	0.135	0.160	0.088	0.160	0.180
630	0.072	0.100	0.25	0.27	0.086	0.155	0.175	0.088	0.21	0.23	0.074	0.135	0.150	0.071	0.160	0.170
800	0.056	-	-	-	0.072	0.150	0.170	-	-	-	0.062	0.130	0.145	0.059	0.155	0.165
1000	0.045	-	-	-	0.063	0.150	0.165	-	-	-	0.055	0.130	0.140	0.050	0.155	0.165

Note :
r = conductor resistance at operating temperature
x = reactance
z = impedance

Rated Voltage

Standard


Flame Retardancy
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1

Halogen Free
IEC60754-1
EN50267-2-1


Low Toxicity
NES 02-713/NF C 20-454


Low Corrosivity
IEC60754-2
EN50267-2-2/3
NF C 32-074

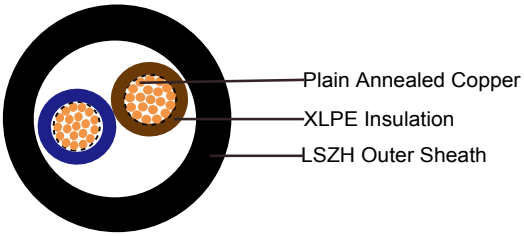

Low Smoke Emission
IEC 61034-1&2
EN 50268-1&2/NF C32-073

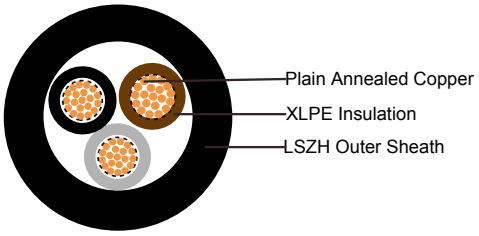

Reduced Fire Propagation
NF C32-070-2.2(C1)
IEC60332-3-24/EN50266-2-4

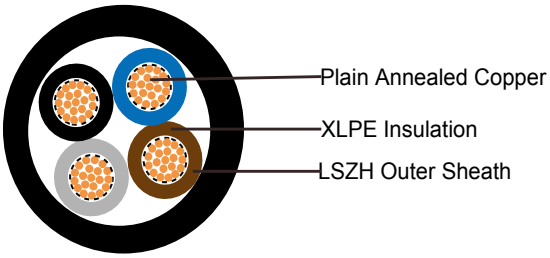
600/1000V XLPE Insulated, LSZH Sheathed, Power Cables (Multicore)

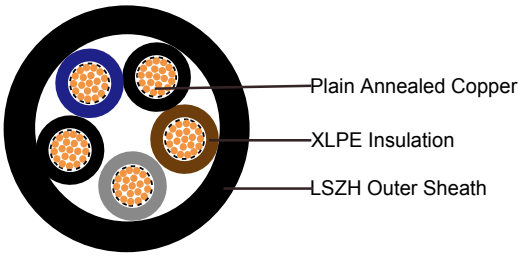
FTX400 1RZ1-R (CU/XLPE/LSZH 600/1000V Class 2)

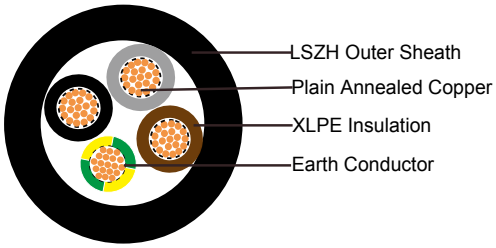
Indoor Lighting, Socket and UPS Outlet Power Cables

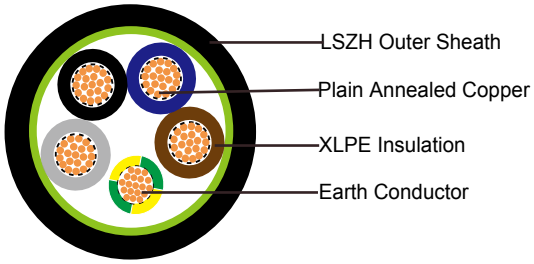












APPLICATION

The cables are mainly used in power stations, mass transit underground passenger systems, airports, petrochemical plants, hotels, hospitals, and high-rise buildings.

STANDARDS

Basic design to IEC 60502-1

FIRE PERFORMANCE

Flame Retardance (Single Vertical Wire Test)	EN 60332-1-2; IEC 60332-1-2; BS EN 60332-1-2; VDE 0482-332-1 ; NBN C 30-004 (cat. F1); NF C32-070-2.1(C2); CEI 20-35/1-2; EN 50265-2-1*; DIN VDE 0482-265-2-1*
Reduced Fire Propagation (Vertically-mounted bundled wires & cable test)	EN 60332-3-24 (cat. C); IEC 60332-3-24; BS EN 60332-3-24; VDE 0482-332-3; NBN C 30-004 (cat. F2); NF C32-070-2.2(C1); CEI 20-22/3-4; EN 50266-2-4*; DIN VDE 0482-266-2-4
Halogen Free	IEC 60754-1; EN 50267-2-1; DIN VDE 0482-267-2-1; CEI 20-37/2-1 ; BS 6425-1*

No Corrosive Gas Emission	IEC 60754-2; EN 50267-2-2; DIN VDE 0482-267-2-2; CEI 20-37/2-2 ; BS 6425-2*
Minimum Smoke Emission	IEC 61034-1&2; EN 61034 -1&2; DIN VDE 0482-1034-1&2; CEI 20-37/3-1&2; EN 50268-1&2*; BS 7622-1&2*
No Toxic Gases	NES 02-713; NF C 20-454

Note: Asterisk * denotes superseded standard.

VOLTAGE RATING

600/1000V

CABLE CONSTRUCTION

Conductor: Plain annealed copper wire, stranded according to IEC 60228 class 2.

Insulation: Extruded cross-linked XLPE compound.

Outer Sheath: Thermoplastic LSZH compound type LTS3 as per BS 7655-6.1.

COLOUR CODE

Insulation Colour as per BS7671

	With Earth Conductor	Without Earth Conductor
2 Cores	-	Brown, Blue
3 Cores	Yellow/Green, Brown, Blue	Brown, Gray, Black
4 Cores	Yellow/Green, Brown, Gray, Black	Brown, Gray, Black, Blue
5 Cores	Yellow/Green, Brown, Gray, Black, Blue	Brown, Gray, Black, Blue, Black
Above 5 Cores	Yellow/Green, Black Numbered	Black Numbered

Sheath Colour: Black (other colors upon request)

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation: -30°C ~ 90°C

Temperature Range during Installation : -5°C ~ 50°C

Minimum Bending Radius: 6 x OD

ELECTRICAL PROPERTIES

Dielectric Test:	3500 V r.m.s. x 5' (core / core)
Insulation Resistance	500 MΩ x km (at 20°C)
Short circuit Temperature	250°C (up to 5 secs)

CONSTRUCTION PARAMETERS

Cable Code	Conductor			Nominal Overall Diameter	Approx. Weight
	No. of Core X Cross Section / CPC Cross Section	No./Nominal Diameter of Strands	Nominal Insulation Thickness		

	No.×mm^2	No./mm	mm	mm	mm
2 CORES					
FTX400 1RZ1-R 2G1.5	2x1.5	7/0.53	0.7	10.0	126
FTX400 1RZ1-R 2G2.5	2x2.5	7/0.67	0.7	10.8	158
FTX400 1RZ1-R 2G4	2x4	7/0.85	0.7	11.9	205
FTX400 1RZ1-R 2G6	2x6	7/1.04	0.7	13.0	264
FTX400 1RZ1-R 2G10	2x10	7/1.35	0.7	14.9	378
FTX400 1RZ1-R 2G16	2x16	7/1.70	0.7	17.0	534
FTX400 1RZ1-R 2G25	2x25	7/2.14	0.9	20.4	650
FTX400 1RZ1-R 2G35	2x35	7/2.52	0.9	22.7	880
3 CORES					
FTX400 1RZ1-R 3G1.5	3x1.5	7/0.53	0.7	10.5	145
FTX400 1RZ1-R 3G2.5	3x2.5	7/0.67	0.7	11.4	185
FTX400 1RZ1-R 3G4	3x4	7/0.85	0.7	12.5	247
FTX400 1RZ1-R 3G6	3x6	7/1.04	0.7	13.8	323
FTX400 1RZ1-R 3G10	3x10	7/1.35	0.7	15.8	474
FTX400 1RZ1-R 3G16	3x16	7/1.70	0.7	18.0	682
FTX400 1RZ1-R 3G25	3x25	7/2.14	0.9	21.7	910
FTX400 1RZ1-R 3G35	3x35	7/2.52	0.9	24.0	1180
FTX400 1RZ1-R 3G50	3x50(S)	19/1.78	1.0	25.5	1600
FTX400 1RZ1-R 3G70	3x70(S)	19/2.14	1.1	29.0	2240
FTX400 1RZ1-R 3G95	3x95(S)	19/2.52	1.1	33.5	3050
FTX400 1RZ1-R 3G120	3x120(S)	37/2.03	1.2	37.5	3800
FTX400 1RZ1-R 3G150	3x150(S)	37/2.25	1.4	40.5	4640
FTX400 1RZ1-R 3G185	3x185(S)	37/2.52	1.6	45.0	5870
FTX400 1RZ1-R 3G40	3x240(S)	61/2.25	1.7	50.5	7670
FTX400 1RZ1-R 3G300	3x300(S)	61/2.52	1.8	57.0	9460
FTX400 1RZ1-R 3G400	3x400(S)	61/2.85	2.0	63.0	11945
3 CORE + 1 EARTH CONDUCTOR					
FTX400 1RZ1-R 3G16/6	3x16/6	7/1.70	0.7	16.5	698
FTX400 1RZ1-R 3G16/10	3x16/10	7/1.70	0.7	18.85	793

FTX400 1RZ1-R 3G25/6	3x25/6	7/2.14	0.9	21.7	956
FTX400 1RZ1-R 3G25/10	3x25/10	7/2.14	0.9	22.1	1021
FTX400 1RZ1-R 3G25/16	3x25/16	7/2.14	0.9	23.0	1070
FTX400 1RZ1-R 3G35/10	3x35/10	19/1.53	0.9	22.9	1263
FTX400 1RZ1-R 3G35/16	3x35/16	19/1.53	0.9	24.3	1349
FTX400 1RZ1-R 3G35/25	3x35/25	19/1.53	0.9	25.2	1470
FTX400 1RZ1-R 3G50/16	3x50/16	19/1.78	1.0	26.1	1769
FTX400 1RZ1-R 3G50/25	3x50/25	19/1.78	1.0	27.3	1890
FTX400 1RZ1-R 3G50/35	3x50/35	19/1.78	1.0	27.8	1995
FTX400 1RZ1-R 3G70/25	3x70/25	19/2.14	1.1	30.2	2530
FTX400 1RZ1-R 3G70/35	3x70/35	19/2.14	1.1	30.9	2660
FTX400 1RZ1-R 3G70/50	3x70/50	19/2.14	1.1	31.5	2840
FTX400 1RZ1-R 3G95/25	3x95/25	19/2.52	1.1	35.1	3340
FTX400 1RZ1-R 3G95/35	3x95/35	19/2.52	1.1	36.0	3470
FTX400 1RZ1-R 3G95/50	3x95/50	19/2.52	1.1	36.8	3650
FTX400 1RZ1-R 3G95/70	3x95/70	19/2.52	1.1	36.9	3890
FTX400 1RZ1-R 3G120/35	3x120/35	37/2.03	1.2	38.2	3920
FTX400 1RZ1-R 3G120/50	3x120/50	37/2.03	1.2	39.1	4400
FTX400 1RZ1-R 3G120/70	3x120/70	37/2.03	1.2	40.0	4610
FTX400 1RZ1-R 3G120/95	3x120/95	37/2.03	1.2	41.2	4820
FTX400 1RZ1-R 3G150/50	3x150/50	37/2.25	1.4	41.5	5240
FTX400 1RZ1-R 3G150/70	3x150/70	37/2.25	1.4	42.3	5450
FTX400 1RZ1-R 3G150/95	3x150/95	37/2.25	1.4	43.6	5660
FTX400 1RZ1-R 3G150/120	3x150/120	37/2.25	1.4	44.8	6240
FTX400 1RZ1-R 3G185/70	3x185/70	37/2.52	1.6	47.5	6680
FTX400 1RZ1-R 3G185/95	3x185/95	37/2.52	1.6	47.9	6990
FTX400 1RZ1-R 3G185/120	3x185/120	37/2.52	1.6	48.5	7395
FTX400 1RZ1-R 3G185/150	3x185/150	37/2.52	1.6	49.2	7580
FTX400 1RZ1-R 3G240/95	3x240/95	61/2.25	1.7	53.4	8690

FTX400 1RZ1-R 3G240/120	3x240/120	61/2.25	1.7	54.9	9095
FTX400 1RZ1-R 3G240/150	3x240/150	61/2.25	1.7	55.6	9380
FTX400 1RZ1-R 3G240/185	3x240/185	61/2.25	1.7	56.8	9687
FTX400 1RZ1-R 3G300/120	3x300/120	61/2.52	1.8	58.1	10480
FTX400 1RZ1-R 3G300/150	3x300/150	61/2.52	1.8	57.3	11170
FTX400 1RZ1-R 3G300/185	3x300/185	61/2.52	1.8	58.7	11480
FTX400 1RZ1-R 3G300/240	3x300/240	61/2.52	1.8	62.4	11290
4 CORES					
FTX400 1RZ1-R 4G1.5	4x1.5	7/0.53	0.7	11.3	169
FTX400 1RZ1-R 4G2.5	4x2.5	7/0.67	0.7	12.3	220
FTX400 1RZ1-R 4G4	4x4	7/0.85	0.7	13.6	297
FTX400 1RZ1-R 4G6	4x6	7/1.04	0.7	15.0	392
FTX400 1RZ1-R 4G10	4x10	7/1.35	0.7	17.2	585
FTX400 1RZ1-R 4G16	4x16	7/1.70	0.7	19.7	851
FTX400 1RZ1-R 4G25	4x25	7/2.14	0.9	23.9	1200
FTX400 1RZ1-R 4G35	4x35(S)	7/2.52	0.9	25.0	1600
FTX400 1RZ1-R 4G50	4x50(S)	19/1.78	1.0	28.0	2200
FTX400 1RZ1-R 4G70	4x70(S)	19/2.14	1.1	32.0	3050
FTX400 1RZ1-R 4G95	4x95(S)	19/2.52	1.1	37.0	4070
FTX400 1RZ1-R 4G120	4x120(S)	37/2.03	1.2	42.0	5915
FTX400 1RZ1-R 4G150	4x150(S)	37/2.25	1.4	46.0	6350
FTX400 1RZ1-R 4G185	4x185(S)	37/2.52	1.6	50.0	7890
FTX400 1RZ1-R 4G240	4x240(S)	61/2.25	1.7	57.0	10400
FTX400 1RZ1-R 4G300	4x300(S)	61/2.52	1.8	63.0	12810
FTX400 1RZ1-R 4G400	4x400(S)	61/2.85	2.0	71.0	15869
FTX400 1RZ1-R 4G500	4x500(S)	61/3.20	2.2	78.0	20300
4 CORE + 1 EARTH CONDUCTOR					
FTX400 1RZ1-R 4G16/6	4x16/6	7/1.70	0.7	19	654
FTX400 1RZ1-R 4G16/10	4x16/10	7/1.70	0.7	21.9	962
FTX400 1RZ1-R 4G25/6	4x25/10	7/2.14	0.7	25.3	1256

FTX400 1RZ1-R 4G25/10	4x25/10	7/2.14	0.7	26.6	1311
FTX400 1RZ1-R 4G25/16	4x25/16	7/2.14	0.7	27.3	1369
FTX400 1RZ1-R 4G35/10	4x35/10	19/1.53	0.9	26.8	1658
FTX400 1RZ1-R 4G35/16	4x35/16	19/1.53	0.9	27.6	1769
FTX400 1RZ1-R 4G35/25	4x35/25	19/1.53	0.9	28.4	1890
FTX400 1RZ1-R 4G50/16	4x50/16	19/1.78	1.0	29.4	2369
FTX400 1RZ1-R 4G50/25	4x50/25	19/1.78	1.0	31.6	2490
FTX400 1RZ1-R 4G50/35	4x50/35	19/1.78	1.0	33.2	2599
FTX400 1RZ1-R 4G70/25	4x70/25	19/2.14	1.1	34.2	3340
FTX400 1RZ1-R 4G70/35	4x70/35	19/2.14	1.1	35.6	3470
FTX400 1RZ1-R 4G70/50	4x70/50	19/2.14	1.1	37.8	3650
FTX400 1RZ1-R 4G95/25	4x95/25	19/2.52	1.1	42.6	4360
FTX400 1RZ1-R 4G95/35	4x95/35	19/2.52	1.1	43.3	4510
FTX400 1RZ1-R 4G95/50	4x95/50	19/2.52	1.1	44.1	4670
FTX400 1RZ1-R 4G95/70	4x95/70	19/2.52	1.1	45.3	4783
FTX400 1RZ1-R 4G120/35	4x120/35	37/2.03	1.2	42.6	6335
FTX400 1RZ1-R 4G120/50	4x120/50	37/2.03	1.2	43.8	6515
FTX400 1RZ1-R 4G120/70	4x120/70	37/2.03	1.2	45.9	6725
FTX400 1RZ1-R 4G120/95	4x120/95	37/2.03	1.2	46.4	6920
FTX400 1RZ1-R 4G150/50	4x150/50	37/2.25	1.4	47.3	6950
FTX400 1RZ1-R 4G150/70	4x150/70	37/2.25	1.4	48.5	7160
FTX400 1RZ1-R 4G150/95	4x150/95	37/2.25	1.4	50.2	7370
FTX400 1RZ1-R 4G150/120	4x150/120	37/2.25	1.4	53.7	7965
FTX400 1RZ1-R 4G185/70	4x185/70	37/2.52	1.6	52.4	8490
FTX400 1RZ1-R 4G185/95	4x185/95	37/2.52	1.6	53.9	8700
FTX400 1RZ1-R 4G185/120	4x185/120	37/2.52	1.6	55.6	8910
FTX400 1RZ1-R 4G185/150	4x185/150	37/2.52	1.6	59.4	9260
FTX400 1RZ1-R 4G240/95	4x240/95	61/2.25	1.7	61.9	11210
FTX400 1RZ1-R 4G240/120	4x240/120	61/2.25	1.7	63.4	11420
FTX400 1RZ1-R 4G240/150	4x240/150	61/2.25	1.7	63.9	12010
FTX400 1RZ1-R 4G240/185	4x240/185	61/2.25	1.7	64.3	12090

FTX400 1RZ1-R 4G300/120	4x300/120	61/2.52	1.8	64.0	12110
FTX400 1RZ1-R 4G300/150	4x300/150	61/2.52	1.8	66.1	13830
FTX400 1RZ1-R 4G300/185	4x300/185	61/2.52	1.8	71.5	14520
FTX400 1RZ1-R 4G300/240	4x300/240	61/2.52	1.8	72.0	14830
5 CORES					
FTX400 1RZ1-R 5G1.5	5x1.5	7/0.53	0.7	13.7	205
FTX400 1RZ1-R 5G2.5	5x2.5	7/0.85	0.7	14.9	265
FTX400 1RZ1-R 5G4	5x4	7/0.85	0.7	16.3	360
FTX400 1RZ1-R 5G6	5x6	7/1.04	0.7	18.2	478
FTX400 1RZ1-R 5G10	5x10	7/1.04	0.7	20.8	720
FTX400 1RZ1-R 5G16	5x16	7/1.04	0.7	24.2	1050
FTX400 1RZ1-R 5G25	5x25	7/1.04	0.7	29.4	1485
FTX400 1RZ1-R 5G35	5x35(S)	7/2.52	0.9	30.3	1940
FTX400 1RZ1-R 5G50	5x50(S)	19/1.78	1.0	34	2667
FTX400 1RZ1-R 5G70	5x70(S)	19/2.14	1.1	38.5	3698
FTX400 1RZ1-R 5G95	5x95(S)	19/2.52	1.1	44.6	4934
FTX400 1RZ1-R 5G120	5x120(S)	37/2.03	1.2	45.8	7171
FTX400 1RZ1-R 5G150	5x150(S)	37/2.25	1.4	55.6	7699
FTX400 1RZ1-R 5G185	5x185(S)	37/2.52	1.6	60.4	9566
FTX400 1RZ1-R 5G240	5x240(S)	61/2.25	1.7	69.1	12610
FTX400 1RZ1-R 5G300	5x300(S)	61/2.52	1.8	76.4	15532
FTX400 1RZ1-R 5G400	5x400(S)	61/2.85	2.0	86.1	19241
FTX400 1RZ1-R 5G500	5x500(S)	61/3.20	2.2	94.4	24613

ELECTRICAL PROPERTIES

Conductor Operating Temperature : 90°C
Ambient Temperature : 30°C

Current-Carrying Capacities (Amp)

Conductor cross-sectional area	Reference Method 4 (enclosed in conduit in thermally insulating wall etc)	Reference Method 3 (enclosed in conduit on a wall or in trunking etc)	Reference Method 1 (clipped direct)	Reference Method 11 (on a perforated cable tray, horizontal or vertical)	Reference Method 12(free air)		
					Horizontal flat spaced	Vertical flat spaced	Trefoil

	2 cables, single-phase a.c. or d.c.	3 or 4 cables, 3-phase a.c.	2 cables, single-phase a.c. or d.c	3 or 4 cables, 3-phase a.c.	2 cables, single-phase a.c. or d.c. flat and touching	3 or 4 cables, 3-phase a.c. flat and touching or trefoil	2 cables, single-phase a.c. or d.c. or flat and touching	3 or 4 cables, 3-phase a.c. flat and touching or trefoil	2 cables, single-phase a.c. or d.c. or 3 c ables three phase	2 cables, single-phase a.c. or d.c. or 3 cables three phase	3 cables, trefoil 3-phase a.c.
1	2	3	4	5	6	7	8	9	10	11	12
mm^2	A	A	A	A	A	A	A	A	A	A	A
1.5	18	17	22	19	25	23	-	-	-	-	-
2.5	24	23	30	26	34	31	-	-	-	-	-
4	33	30	40	35	46	41	-	-	-	-	-
6	43	39	51	45	59	54	-	-	-	-	-
10	58	53	71	63	81	74	-	-	-	-	-
16	76	70	95	85	109	99	-	-	-	-	-
25	100	91	126	111	143	130	158	140	183	163	138
35	125	111	156	138	176	161	195	176	226	203	171
50	149	135	189	168	228	209	293	215	274	246	209
70	189	170	240	214	293	268	308	279	351	318	270
95	228	205	290	259	355	326	375	341	426	389	330
120	263	235	336	299	413	379	436	398	495	453	385
150	300	270	375	328	476	436	505	461	570	524	445
185	341	306	426	370	545	500	579	530	651	600	511
240	400	358	500	433	644	590	686	630	769	711	606
300	459	410	573	493	743	681	794	730	886	824	701
400	-	-	684	584	868	793	915	849	1065	994	820
500	-	-	783	666	990	904	1044	973	1228	1150	936

Voltage Drop (Per Amp Per Meter)

Size of conductor	2 cables d.c.	2 cables, single-phase a.c.		3 or 4 cables, 3-phase a.c.		
		Ref. Methods 3 and 4 (enclosed in conduit etc, in or on a wall)	Ref. Methods 1 and 11 (clipped direct or on trays touching)	Ref. Methods 3 and 4 (enclosed in conduit etc, in or on a wall)	Ref. Methods 1, 11 and 12 (in trefoil)	Ref. Methods 1 and 11 (Flat and touching)
1	2	3	4	5	6	7
mm^2	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m
1.5	31	31	27	27	27	27

2.5	19	19			16			16			16			16		
4	33	12			10			10			10			10		
6	7.8	7.9			6.8			6.8			6.8			6.8		
10	4.7	4.7			4.7			4			4			4		
16	2.9	2.9			2.9			2.5			2.5			2.5		
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
25	1.85	1.85	0.31	1.90	1.85	0.190	1.85	1.60	0.27	1.65	1.600	0.165	1.600	1.600	0.190	1.600
35	1.35	1.35	0.29	1.35	1.35	0.180	1.35	1.15	0.25	1.15	1.150	0.155	1.50	1.150	0.180	1.150
50	0.99	1.00	0.29	1.05	0.99	0.180	1.00	0.87	0.25	0.90	0.860	0.155	0.870	0.860	0.180	0.870
70	0.68	0.70	0.28	0.75	0.68	0.175	0.71	0.60	0.24	0.65	0.590	0.150	0.610	0.590	0.175	0.620
95	0.49	0.51	0.27	0.58	0.49	0.170	0.52	0.44	0.23	0.50	0.430	0.145	0.450	0.430	0.170	0.460
120	0.39	0.41	0.26	0.48	0.39	0.165	0.43	0.35	0.23	0.42	0.340	0.140	0.370	0.340	0.165	0.380
150	0.32	0.33	0.26	0.43	0.32	0.165	0.36	0.29	0.23	0.37	0.280	0.140	0.310	0.280	0.165	0.320
185	0.25	0.27	0.26	0.37	0.26	0.165	0.30	0.23	0.23	0.32	0.220	0.140	0.260	0.220	0.165	0.280
240	0.19	0.21	0.26	0.33	0.20	0.160	0.25	0.185	0.22	0.29	0.170	0.140	0.220	0.170	0.165	0.240
300	0.155	0.175	0.25	0.31	0.16	0.160	0.22	0.150	0.22	0.27	0.140	0.140	0.195	0.135	0.160	0.210
400	0.12	0.140	0.25	0.29	0.13	0.155	0.20	0.125	0.22	0.25	0.110	0.135	0.175	0.110	0.160	0.195
500	0.093	0.120	0.25	0.28	0.105	0.155	0.185	0.100	0.22	0.24	0.090	0.135	0.160	0.088	0.160	0.180

Note :
r = conductor resistance at operating temperature
x = reactance
z = impedance

Rated Voltage

Standard


Reduced Fire Propagation
NF C32-070-2.2(C1)
IEC60332-3-24/EN50266-2-4


Flame Retardancy
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1


Low Toxicity
NES 02-713/NF C 20-454


Low Corrosivity
IEC60754-2
EN50267-2-2/3
NF C 32-074

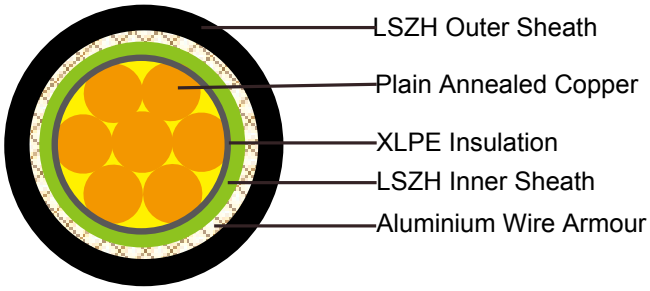

Low Smoke Emission
IEC 61034-1&2
EN 50268-1&2/NF C32-073

Halogen Free
IEC60754-1
EN50267-2-1

600/1000V XLPE Insulated, LSZH Sheathed, Armoured Power Cables (Single Core)

FTX300 1RZ1MZ1-R (CU/XLPE/LSZH/AWA/LSZH 600/1000V Class 2)

Indoor Feeder Cables



APPLICATION

The cables is mainly used in power stations, mass transit underground passenger systems, airports, petrochemical plants, hotels, hospitals, and high-rise buildings.

STANDARDS

Basic design to BS 6724

FIRE PERFORMANCE

Flame Retardance (Single Vertical Wire Test)	EN 60332-1-2; IEC 60332-1-2; BS EN 60332-1-2; VDE 0482-332-1 ; NBN C 30-004 (cat. F1); NF C32-070-2.1(C2); CEI 20-35/1-2; EN 50265-2-1*; DIN VDE 0482-265-2-1*
Reduced Fire Propagation (Vertically-mounted bundled wires & cable test)	EN 60332-3-24 (cat. C); IEC 60332-3-24; BS EN 60332-3-24; VDE 0482-332-3; NBN C 30-004 (cat. F2); NF C32-070-2.2(C1); CEI 20-22/3-4; EN 50266-2-4*; DIN VDE 0482-266-2-4
Halogen Free	IEC 60754-1; EN 50267-2-1; DIN VDE 0482-267-2-1; CEI 20-37/2-1 ; BS 6425-1*
No Corrosive Gas Emission	IEC 60754-2; EN 50267-2-2; DIN VDE 0482-267-2-2; CEI 20-37/2-2 ; BS 6425-2*
Minimum Smoke Emission	IEC 61034-1&2; EN 61034 -1&2; DIN VDE 0482-1034-1&2; CEI 20-37/3-1&2; EN 50268-1&2*; BS 7622-1&2*
No Toxic Gases	NES 02-713; NF C 20-454

Note: Asterisk * denotes superseded standard.

VOLTAGE RATING

600/1000V

CABLE CONSTRUCTION

Conductor : Plain annealed copper wire, stranded according to IEC 60228 class 2.
Insulation: Extruded cross-linked XLPE compound.
Inner sheath : LSZH Compound
Armouring : Aluminium Wire
Outer Sheath : Thermoplastic LSZH compound type LTS3 as per BS 7655-6.1.

COLOUR CODE

Insulation Colour : Natural
Sheath Colour : Black (other colors upon request)

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation: -30°C ~ 90°C
Temperature Range during Installation : -5°C ~ 50°C
Minimum Bending Radius: 8 x OD

ELECTRICAL PROPERTIES

Dielectric Test:	3500 V r.m.s. x 5' (core / core)
Insulation Resistance	500 MΩ x km (at 20°C)
Short circuit Temperature	250°C (up to 5 secs)

CONSTRUCTION PARAMETERS

Cable Code	Conductor		Diameter Under Armour	Armour Wire Diameter	Nominal Overall Diameter	Approx. Weight
	No. of Core X Cross Section	No. / Nominal Diameter of Strands				
	mm^2	No./mm	mm	mm	mm	kg/km
FTX300 1RZ1MZ1-R 1G70	1x70	19/2.14	15.4	1.25	21.5	960
FTX300 1RZ1MZ1-R 1G95	1x95	19/2.52	17.3	1.25	23.4	1240
FTX300 1RZ1MZ1-R 1G120	1x120	37/2.03	19.1	1.6	25.9	1650
FTX300 1RZ1MZ1-R 1G150	1x150	37/2.25	21.1	1.6	27.9	1970
FTX300 1RZ1MZ1-R 1G185	1x185	37/2.52	23.2	1.6	30.1	2390
FTX300 1RZ1MZ1-R 1G240	1x240	61/2.25	26.2	1.6	33.2	3040
FTX300 1RZ1MZ1-R 1G300	1x300	61/2.52	28.8	1.6	35.8	3790
FTX300 1RZ1MZ1-R 1G400	1x400	61/2.85	32.7	2.0	40.9	4790

FTX300 1RZ1MZ1-R 1G500	1x500	61/3.20	36.2	2.0	44.6	5880
FTX300 1RZ1MZ1-R 1G630	1x630	127/2.52	40.6	2.0	49.2	7400
FTX300 1RZ1MZ1-R 1G800	1x800	127/2.85	45.7	2.5	55.7	9500
FTX300 1RZ1MZ1-R 1G1000	1x1000	127/3.20	50.6	2.5	61.0	11750

ELECTRICAL PROPERTIES

Conductor Operating Temperature : 90°C
Ambient Temperature : 30°C

Current-Carrying Capacities (Amp)

Conductor cross-sectional area	Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated horizontal cable tray or Reference Method 13 [free air])		Reference Method 12 (free air)	In single-way ducts		Laid direct in ground	
	2 cables, single-phase a.c. or d.c.	3 or 4 cables, 3-phase a.c.	2 cables, single-phase a.c. or d.c.	3 or 4 cables, 3-phase a.c.	3 cables 3-phase a.c. trefoil touching	2 cables, single-phase a.c. or d.c.	3 or 4 cables, 3-phase a.c.	2 cables, single-phase a.c. or d.c.	3 or 4 cables, 3-phase a.c.
1	2	3	4	5	6	7	8	9	10
mm^2	A	A	A	A	A	A	A	A	A
70	303	277	322	293	285	310	280	340	290
95	367	333	389	352	346	365	330	405	345
120	425	383	449	405	402	410	370	460	389
150	488	437	516	462	463	445	405	510	435
185	557	496	587	524	529	485	440	580	490
240	656	579	689	612	625	550	500	670	560
300	755	662	792	700	720	610	550	750	630
400	853	717	899	767	815	640	580	830	700
500	962	791	1016	851	918	690	620	910	770
630	1082	861	1146	935	1027	750	670	1000	840
800	1170	904	1246	987	1119	828	735	1117	931
1000	1261	961	1345	1055	1214	919	811	1254	1038

Voltage Drop (Per Amp Per Meter)

Conductor cross-sectional area	2 cables d.c.	2 cables single-phase a.c.			3 or 4 cables three-phase a.c.						2 cables singlephase a.c.		3 or 4 cables, 3-phase a.c. touching	
		Reference Method 1 & 11 (touching)			Reference Method 1, 11 & 12 (in trefoil touching)			Reference Method 1 & 11 (Flat touching)			In ducts	In ground	In ducts	In ground
1	2	3			4			5			6	7	8	9
mm^2	mV/A/m	mV/A/m			mV/A/m			mV/A/m			mV/A/m	mV/A/m	mV/A/m	mV/A/m
		r	x	z	r	x	z	r	x	z				
70	0.67	0.68	0.20	0.71	0.59	0.17	0.62	0.6	0.25	0.65	0.80	0.70	0.70	0.61
95	0.49	0.51	0.195	0.55	0.44	0.17	0.47	0.46	0.24	0.52	0.65	0.53	0.56	0.46
120	0.39	0.41	0.190	0.45	0.35	0.165	0.39	0.38	0.24	0.44	0.55	0.43	0.48	0.37
150	0.31	0.33	0.185	0.38	0.29	0.160	0.33	0.31	0.23	0.39	0.50	0.37	0.43	0.32
185	0.25	0.27	0.185	0.33	0.23	0.160	0.28	0.26	0.23	0.34	0.45	0.31	0.39	0.27
240	0.195	0.21	0.180	0.28	0.18	0.155	0.24	0.21	0.22	0.30	0.40	0.26	0.35	0.23
300	0.155	0.17	0.175	0.25	0.145	0.150	0.21	0.17	0.22	0.28	0.37	0.24	0.32	0.21
400	0.115	0.145	0.170	0.22	0.125	0.150	0.195	0.160	0.21	0.27	0.35	0.21	0.30	0.19
500	0.093	0.125	0.170	0.21	0.105	0.145	0.180	0.145	0.20	0.25	0.33	0.20	0.28	0.18
630	0.073	0.105	0.165	0.195	0.092	0.145	0.170	0.135	0.195	0.24	0.30	0.19	0.26	0.17
800	0.056	0.090	0.160	0.190	0.086	0.140	0.165	0.130	0.180	0.23	0.28	0.18	0.24	0.16
1000	0.045	0.092	0.155	0.180	0.080	0.135	0.155	0.125	0.170	0.21	0.26	0.17	0.22	0.15

Note :
r = conductor resistance at operating temperature
x = reactance
z = impedance

Rated Voltage

Standard

Halogen Free
IEC60754-1
EN50267-2-1


Flame Retardancy
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1


Low Toxicity
NES 02-713/NF C 20-454


Low Corrosivity
IEC60754-2
EN50267-2-2/3
NF C 32-074

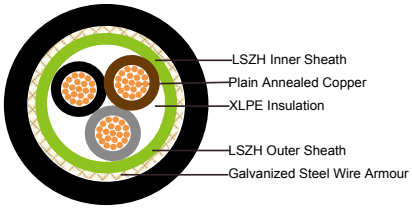

Low Smoke Emission
IEC 61034-1&2
EN 50268-1&2/NF C32-073

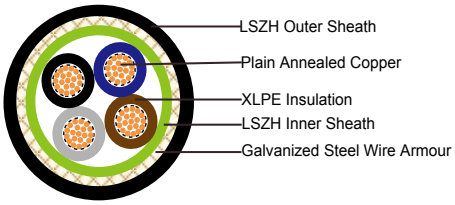

Reduced Fire Propagation
NF C32-070-2.2(C1)
IEC60332-3-24/EN50266-2-4

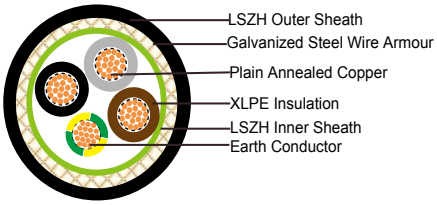
600/1000V XLPE Insulated, LSZH Sheathed, Armoured Power Cables (Multicore)

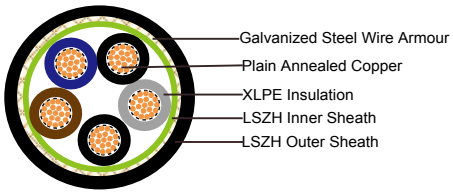
FTX400 1RZ1MZ1-R (CU/XLPE/LSZH/SWA/LSZH 600/1000V Class 2)

Indoor Feeder Cables (from MDB to SDB, SDB to TDB) & UPS Feeder Cables



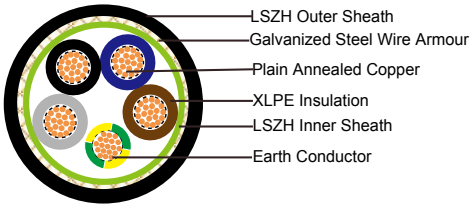






APPLICATION

The cables are mainly used in power stations, mass transit underground passenger systems, airports, petrochemical plants, hotels, hospitals, and high-rise buildings.



STANDARDS

Basic design to BS 6724

FIRE PERFORMANCE

Flame Retardance (Single Vertical Wire Test)	EN 60332-1-2; IEC 60332-1-2; BS EN 60332-1-2; VDE 0482-332-1 ; NBN C 30-004 (cat. F1); NF C32-070-2.1(C2); CEI 20-35/1-2; EN 50265-2-1*; DIN VDE 0482-265-2-1*
Reduced Fire Propagation (Vertically-mounted bundled wires & cable test)	EN 60332-3-24 (cat. C); IEC 60332-3-24; BS EN 60332-3-24; VDE 0482-332-3; NBN C 30-004 (cat. F2); NF C32-070-2.2(C1); CEI 20-22/3-4; EN 50266-2-4*; DIN VDE 0482-266-2-4
Halogen Free	IEC 60754-1; EN 50267-2-1; DIN VDE 0482-267-2-1; CEI 20-37/2-1 ; BS 6425-1*
No Corrosive Gas Emission	IEC 60754-2; EN 50267-2-2; DIN VDE 0482-267-2-2; CEI 20-37/2-2 ; BS 6425-2*
Minimum Smoke Emission	IEC 61034-1&2; EN 61034 -1&2; DIN VDE 0482-1034-1&2; CEI 20-37/3-1&2; EN 50268-1&2*; BS 7622-1&2*
No Toxic Gases	NES 02-713; NF C 20-454

Note: Asterisk * denotes superseded standard.

VOLTAGE RATING

600/1000V

CABLE CONSTRUCTION

Conductor: Plain annealed copper wire, stranded according to IEC 60228 class 2
Insulation: Extruded cross-linked XLPE compound
Inner Sheath : LSZH Compound
Armouring : Galvanized Steel Wire
Outer Sheath: Thermoplastic LSZH compound type LTS3 as per BS 7655-6.1

COLOUR CODE

Insulation Colour as per BS7671

	With Earth Conductor	Without Earth Conductor
2 Cores	-	Brown, Blue
3 Cores	Yellow/Green, Brown, Blue	Brown, Gray, Black
4 Cores	Yellow/Green, Brown, Gray, Black	Brown, Gray, Black, Blue
5 Cores	Yellow/Green, Brown, Gray, Black, Blue	Brown, Gray, Black, Blue, Black
Above 5 Cores	Yellow/Green, Black Numbered	Black Numbered

Sheath Colour: Black (other colors upon request)

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation: -30°C ~ 90°C
Temperature Range during Installation : -5°C ~ 50°C
Minimum Bending Radius: 8 x OD

ELECTRICAL PROPERTIES

Dielectric Test:	3500 V r.m.s. x 5' (core / core)
Insulation Resistance	500 MΩ x km (at 20°C)
Short circuit Temperature	250°C (up to 5 secs)

CONSTRUCTION PARAMETERS

Cable Code	Conductor		Nominal Insulation Thickness	Diameter Under Armour	Armour Wire Diameter	Nominal Overall Diameter	Approx. Weight
	No. of Core X Cross Section / CPC Cross Section	No ./ Nominal Diameter of Strands					
	No.×mm^2	No./mm	mm	mm	mm	mm	kg/km
3 CORES							
FTX400 1RZ1MZ1-R 3G1.5	3x1.5	7/0.53	0.6	9.0	0.9	12.6	340
FTX400 1RZ1MZ1-R 3G2.5	3x2.5	7/0.67	0.7	9.9	0.9	14.1	408
FTX400 1RZ1MZ1-R 3G4	3x4	7/0.85	0.7	11.0	0.9	15.3	498
FTX400 1RZ1MZ1-R 3G6	3x6	7/1.04	0.7	11.6	1.25	16.6	600

FTX400 1RZ1MZ1-R 3G10	3x10	7/1.35	0.7	14.3	1.25	19.5	915
FTX400 1RZ1MZ1-R 3G16	3x16	7/1.70	0.7	16.5	1.25	21.6	1130
FTX400 1RZ1MZ1-R 3G25	3x25	7/2.14	0.9	20.2	1.6	26.7	1710
FTX400 1RZ1MZ1-R 3G35	3x35	7/2.52	0.9	22.4	1.6	29.4	2100
FTX400 1RZ1MZ1-R 3G50	3x50(S)	19/1.78	1.0	24.2	1.6	28.5	2450
FTX400 1RZ1MZ1-R 3G70	3x70(S)	19/2.14	1.1	28.2	2.0	32.2	3120
FTX400 1RZ1MZ1-R 3G95	3x95(S)	19/2.52	1.1	31.7	2.0	37.0	4310
FTX400 1RZ1MZ1-R 3G120	3x120(S)	37/2.03	1.2	36.0	2.0	40.4	5160
FTX400 1RZ1MZ1-R 3G150	3x150(S)	37/2.25	1.4	39.5	2.5	45.5	7160
FTX400 1RZ1MZ1-R 3G185	3x185(S)	37/2.52	1.6	43.3	2.5	49.8	8600
FTX400 1RZ1MZ1-R 3G240	3x240(S)	61/2.25	1.7	48.4	2.5	55.1	10750
FTX400 1RZ1MZ1-R 3G300	3x300(S)	61/2.52	1.8	54.4	2.5	60.2	13080
FTX400 1RZ1MZ1-R 3G400	3x400(S)	61/2.85	2.0	57.8	2.5	66.6	15810
3 CORES + 1 EARTH CONDUCTOR							
FTX400 1RZ1MZ1-R 3G16/6	3xl6/6	7/1.70	0.7	17.6	1.25	22.6	1342
FTX400 1RZ1MZ1-R 3G16/10	3x16/l0	7/1.70	0.7	20.6	1.25	23.0	1567
FTX400 1RZ1MZ1-R 3G25/6	3x25/6	7/2.14	0.9	26.3	1.25	27.1	1876
FTX400 1RZ1MZ1-R 3G25/10	3x25/10	7/2.14	0.9	26.3	1.25	27.6	2091
FTX400 1RZ1MZ1-R 3G25/16	3x25/16	7/2.14	0.9	26.6	1.25	28.3	2150
FTX400 1RZ1MZ1-R 3G35/10	3x35/10	7/2.52	0.9	26.8	1.6	28.9	2210
FTX400 1RZ1MZ1-R 3G35/16	3x35/16	7/2.52	0.9	26.8	1.6	29.5	2390
FTX400 1RZ1MZ1-R 3G35/25	3x35/25	7/2.52	0.9	27.2	1.6	30.0	2505
FTX400 1RZ1MZ1-R 3G50/16	3×50/16	19/1.78	0.9	28.5	1.6	29.0	2916
FTX400 1RZ1MZ1-R 3G50/25	3x50/25	19/1.78	1.0	29.2	1.6	30.0	3107
FTX400 1RZ1MZ1-R 3G50/35	3x50/35	19/1.78	1.0	30.0	1.6	31.0	3175
FTX400 1RZ1MZ1-R 3G70/25	3×70/25	19/2.14	1.1	34.0	2.0	32.9	3203
FTX400 1RZ1MZ1-R 3G70/35	3x70/35	19/2.14	1.1	34.5	2.0	34.5	4067
FTX400 1RZ1MZ1-R 3G70/50	3x70/50	19/2.14	1.1	35	2.0	36.3	4310
FTX400 1RZ1MZ1-R 3G95/25	3×95/25	19/2.52	1.1	36.7	2.0	38.0	5047
FTX400 1RZ1MZ1-R 3G95/35	3×95/35	19/2.52	1.1	37.2	2.0	38.6	5115
FTX400 1RZ1MZ1-R 3G95/50	3x95/50	19/2.52	1.1	37.6	2.0	39.2	5289
FTX400 1RZ1MZ1-R 3G95/70	3x95/70	19/2.52	1.1	37.6	2.0	40.0	5360
FTX400 1RZ1MZ1-R 3G120/35	3×120/35	37/2.03	1.2	39.4	2.5	41.2	6160

FTX400 1RZ1MZ1-R 3G120/50	3×120/50	37/2.03	1.2	39.9	2.5	42.3	6473
FTX400 1RZ1MZ1-R 3G120/70	3x120/70	37/2.03	1.2	40.3	2.5	44.6	6793
FTX400 1RZ1MZ1-R 3G120/95	3×120/95	37/2.03	1.2	41.2	2.5	46.2	7120
FTX400 1RZ1MZ1-R 3G150/50	3×150/50	37/2.25	1.4	45.2	2.5	57.0	7431
FTX400 1RZ1MZ1-R 3G150/70	3×150/70	37/2.25	1.4	45.2	2.5	58.1	7565
FTX400 1RZ1MZ1-R 3G150/95	3x150/95	37/2.25	1.4	45.5	2.5	59.4	8196
FTX400 1RZ1MZ1-R 3G150/120	3x150/120	37/2.25	1.4	46.0	2.5	50.6	8590
FTX400 1RZ1MZ1-R 3G185/70	3×185/70	37/2.52	1.6	50.4	2.5	51.6	8950
FTX400 1RZ1MZ1-R 3G185/95	3xI85/95	37/2.52	1.6	50.6	2.5	53.2	9573
FTX400 1RZ1MZ1-R 3G185/120	3x185/120	37/2.52	1.6	51.0	2.5	54.3	9968
FTX400 1RZ1MZ1-R 3G185/150	3x185/150	37/2.52	1.6	51.6	2.5	55.3	1023
FTX400 1RZ1MZ1-R 3G240/95	3×240/95	61/2.25	1.7	58.0	2.5	56.7	11620
FTX400 1RZ1MZ1-R 3G240/120	3x240/120	61/2.25	1.7	59.0	2.5	58.3	12015
FTX400 1RZ1MZ1-R 3G240/150	3x240/150	61/2.25	1.7	60.0	2.5	60.4	12373
FTX400 1RZ1MZ1-R 3G240/185	3x240/185	61/2.25	1.7	60.0	2.5	62.1	1350
FTX400 1RZ1MZ1-R 3G300/120	3x300/120	61/2.52	1.8	64.2	2.5	63.5	14197
FTX400 1RZ1MZ1-R 3G300/150	3x300/150	61/2.52	1.8	65.7	2.5	64.9	14556
FTX400 1RZ1MZ1-R 3G300/185	3x300/I85	61/2.52	1.8	67	2.5	66.2	15015
FTX400 1RZ1MZ1-R 3G300/240	3x300/240	61/2.52	1.8	67	2.5	67.4	15697
4 CORES							
FTX400 1RZ1MZ1-R 4G1.5	4x1.5	7/0.53	0.7	10.0	0.9	13.3	390
FTX400 1RZ1MZ1-R 4G2.5	4x2.5	7/0.67	0.7	10.8	0.9	15.0	470
FTX400 1RZ1MZ1-R 4G4	4x4	7/0.85	0.7	12.1	0.9	16.4	580
FTX400 1RZ1MZ1-R 4G6	4x6	7/1.04	0.7	13.5	1.25	18.7	705
FTX400 1RZ1MZ1-R 4G10	4x10	7/1.35	0.7	15.7	1.25	21.1	1090
FTX400 1RZ1MZ1-R 4G16	4x16	7/1.70	0.7	18.2	1.6	23.4	1320
FTX400 1RZ1MZ1-R 4G25	4x25	7/2.14	0.9	22.4	1.6	28.9	1840
FTX400 1RZ1MZ1-R 4G35	4x35(S)	7/2.52	0.9	24.4	1.6	31.9	2310
FTX400 1RZ1MZ1-R 4G50	4x50(S)	19/1.78	1.0	28.0	1.6	32	2970
FTX400 1RZ1MZ1-R 4G70	4x70(S)	19/2.14	1.1	32.2	2.0	37.7	4240
FTX400 1RZ1MZ1-R 4G95	4x95(S)	19/2.52	1.1	36.0	2.0	41.7	5400
FTX400 1RZ1MZ1-R 4G120	4x120(S)	37/2.03	1.2	38.0	2.5	47.1	7000
FTX400 1RZ1MZ1-R 4G150	4x150(S)	37/2.25	1.4	42.8	2.5	51.4	8350

FTX400 1RZ1MZ1-R 4G185	4x185(S)	37/2.52	1.6	48.4	2.5	56.6	10130
FTX400 1RZ1MZ1-R 4G240	4x240(S)	61/2.25	1.7	55.0	2.5	63.0	12840
FTX400 1RZ1MZ1-R 4G300	4x300(S)	61/2.52	1.8	59.6	2.5	68.8	15530
FTX400 1RZ1MZ1-R 4G400	4x400(S)	61/2.85	2.0	66.1	3.15	78.1	19950
4 CORES + 1 EARTH CONDUCTOR							
FTX400 1RZ1MZ1-R 4G16/6	4xl6/6	7/1.35	0.7	17.9	1.25	25.1	1356
FTX400 1RZ1MZ1-R 4G16/10	4x16/l0	7/1.70	0.7	20.6	1.25	26.0	1390
FTX400 1RZ1MZ1-R 4G25/6	4x25/6	7/2.14	0.7	24.1	1.25	29.0	1900
FTX400 1RZ1MZ1-R 4G25/10	4x25/10	7/2.14	0.9	24.9	1.25	29.4	1956
FTX400 1RZ1MZ1-R 4G25/16	4x25/16	7/2.14	0.9	25.3	1.25	30.0	2012
FTX400 1RZ1MZ1-R 4G35/10	4×35/10	7/2.52	0.9	25.4	1.25	32.1	2710
FTX400 1RZ1MZ1-R 4G35/16	4×35/16	7/2.52	0.9	25.6	1.6	33.4	2940
FTX400 1RZ1MZ1-R 4G35/25	4×35/25	7/2.52	0.9	26.2	1.6	34.0	3050
FTX400 1RZ1MZ1-R 4G50/16	4×50/16	19/1.78	1.0	28.5	1.6	33	3560
FTX400 1RZ1MZ1-R 4G50/25	4×50/25	19/1.78	1.0	29.2	1.6	35.6	3670
FTX400 1RZ1MZ1-R 4G50/35	4x50/35	19/1.78	1.0	30.0	1.6	38.2	3759
FTX400 1RZ1MZ1-R 4G70/25	4×70/25	19/2.14	1.1	34	2.0	38.6	4980
FTX400 1RZ1MZ1-R 4G70/35	4x70/35	19/2.14	1.1	34.5	2.0	40.6	5036
FTX400 1RZ1MZ1-R 4G70/50	4x70/50	19/2.14	1.1	35	2.0	42.9	5468
FTX400 1RZ1MZ1-R 4G95/25	4×95/25	19/2.52	1.1	36.7	2.0	43.2	6215
FTX400 1RZ1MZ1-R 4G95/35	4×95/35	19/2.52	1.1	37.2	2.0	46.3	6325
FTX400 1RZ1MZ1-R 4G95/50	4×95/50	19/2.52	1.1	37.6	2.0	48.5	6455
FTX400 1RZ1MZ1-R 4G95/70	4×95/50	19/2.52	1.1	38.0	2.0	50.7	6954
FTX400 1RZ1MZ1-R 3G120/35	3×120/35	37/2.03	1.2	39.4	2.5	54.2	7968
FTX400 1RZ1MZ1-R 4G120/50	4×120/50	37/2.03	1.2	39.9	2.5	55.3	8280
FTX400 1RZ1MZ1-R 4G120/70	4x120/70	37/2.03	1.2	40.3	2.5	55.9	8511
FTX400 1RZ1MZ1-R 4G120/95	4×120/95	37/2.03	1.2	41.2	2.5	56.4	8790
FTX400 1RZ1MZ1-R 4G150/50	4×150/50	37/2.25	1.4	44.9	2.5	55.3	8723
FTX400 1RZ1MZ1-R 4G150/70	4×150/70	37/2.25	1.4	45.2	2.5	56.48	8879
FTX400 1RZ1MZ1-R 4G150/95	4x150/95	37/2.25	1.4	45.5	2.5	57.59	10179
FTX400 1RZ1MZ1-R 4G150/120	4x150/120	37/2.25	1.4	46.0	2.5	58.65	10739
FTX400 1RZ1MZ1-R 4G185/70	4×185/70	37/2.52	1.6	50.4	2.5	62.03	11200
FTX400 1RZ1MZ1-R 4G185/95	4xl85/95	37/2.52	1.6	50.6	2.5	63.19	1263

FTX400 1RZ1MZ1-R 4G185/120	4x185/120	37/2.52	1.6	51.0	2.5	64.23	13050
FTX400 1RZ1MZ1-R 4G185/150	4x185/150	37/2.52	1.6	51.6	2.5	65.38	13680
FTX400 1RZ1MZ1-R 4G240/95	4×240/95	61/2.25	1.7	58.0	2.5	71.53	14420
FTX400 1RZ1MZ1-R 4G240/120	4x240/120	61/2.25	1.7	59.0	2.5	72.76	14763
FTX400 1RZ1MZ1-R 4G240/150	4x240/150	61/2.25	1.7	60.0	2.5	73.10	15241
FTX400 1RZ1MZ1-R 4G240/185	4x240/185	61/2.25	1.7	61.5	2.5	74.0	1682
FTX400 1RZ1MZ1-R 4G300/120	4x300/150	61/2.52	1.8	64.2	2.5	75.08	18050
FTX400 1RZ1MZ1-R 4G300/150	4x300/150	61/2.52	1.8	65.7	2.5	76.44	18662
FTX400 1RZ1MZ1-R 4G300/185	4x300/I85	61/2.52	1.8	67	2.5	77.30	19031
FTX400 1RZ1MZ1-R 4G300/240	4x300/240	61/2.52	1.8	67	2.5	78.55	19878
5 CORES							
FTX400 1RZ1MZ1-R 5G1.5	5x1.5	7/0.53	0.6	9.9	0.9	14.3	430
FTX400 1RZ1MZ1-R 5G2.5	5x2.5	7/0.67	0.7	10.8	0.9	16.1	545
FTX400 1RZ1MZ1-R 5G4	5x4	7/0.85	0.7	12.1	0.9	17.8	680
FTX400 1RZ1MZ1-R 5G6	5x6	7/1.04	0.7	15.8	1.5	20	840
FTX400 1RZ1MZ1-R 5G10	5x10	7/1.35	0.7	24	2.8	22.9	1105
FTX400 1RZ1MZ1-R 5G16	5x16	7/1.70	0.7	27	2.8	26.6	1450
FTX400 1RZ1MZ1-R 5G25	5x25	7/2.14	0.9	34	2.8	31.5	2245
FTX400 1RZ1MZ1-R 5G35	5x35(S)	7/2.52	0.9	24.4	1.6	34.8	2840
FTX400 1RZ1MZ1-R 5G50	5x50(S)	19/1.78	1.0	28.0	1.6	40.4	3895
FTX400 1RZ1MZ1-R 5G70	5x70(S)	19/2.14	1.1	32.2	2.0	46.3	5145
FTX400 1RZ1MZ1-R 5G95	5x95(S)	19/2.52	1.1	36.0	2.0	53.2	6941
FTX400 1RZ1MZ1-R 5G120	5x120(S)	37/2.03	1.2	38.0	2.5	58.3	9154
FTX400 1RZ1MZ1-R 5G150	5x150(S)	37/2.25	1.4	42.8	2.5	64.3	10372
FTX400 1RZ1MZ1-R 5G185	5x185(S)	37/2.52	1.6	48.4	2.5	71.5	12828
FTX400 1RZ1MZ1-R 5G240	5x240(S)	61/2.25	1.7	55.0	2.5	80	15980
FTX400 1RZ1MZ1-R 5G300	5x300(S)	61/2.52	1.8	59.6	2.5	86.1	19521
FTX400 1RZ1MZ1-R 5G400	5x400(S)	61/2.85	2.0	66.1	3.15	96.3	25116

ELECTRICAL PROPERTIES

Conductor Operating Temperature : 90°C

Ambient Temperature : 30°C

Current-Carrying Capacities (Amp)

Conductor cross-sectional area	Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated horizontal cable trayor Reference Method 13 [free air])		In single-way ducts		Laid direct in ground	
	one 2-core cable single phase a.c. or d.c.	one 3-core or 4-core cable 3-phase a.c.	one 2-core cable single phase a.c. or d.c.	one 3-core or 4-core cable 3-phase a.c.	one 2-core cable single phase a.c. or d.c.	one 3-core or 4-core cable 3-phase a.c.	one 2-core cable single phase a.c. or d.c.	one 3-core or 4-core cable 3-phase a.c.
1	2	3	4	5	6	7	8	9
mm^2	A	A	A	A	A	A	A	A
1.5	27	23	29	25	-	23	-	28
2.5	36	31	39	33	-	30	-	36
4	49	42	52	44	-	40	-	48
6	62	53	66	56	-	50	-	60
10	85	73	90	78	-	65	-	80
16	110	94	115	99	115	94	140	115
25	146	124	152	131	145	125	180	150
35	180	154	188	162	175	150	215	180
50	219	187	228	197	210	175	255	215
70	279	238	291	251	260	215	315	265
95	338	289	354	304	310	260	380	315
120	392	335	410	353	355	300	430	360
150	451	386	472	406	400	335	480	405
185	515	441	539	463	455	380	540	460
240	607	520	636	546	520	440	630	530
300	698	599	732	628	590	495	700	590
400	787	673	847	728	660	560	790	670

Voltage Drop (Per Amp Per Meter)

Conductor cross-sectional area	2-core cable d.c.	2 cables, single-phase a.c.	3 or 4 cables, 3-phase a.c.	2 cables, single-phase a.c.	3 or 4 cables, 3-phase a.c.
				In ducts or in ground	In ducts or in ground
1	2	3	4	5	6

mm^2	mV/A/m	mV/A/m			mV/A/m			mV/A/m	mV/A/m
1.5	31.0	31.0			27.0			31.0	25.0
2.5	19.0	19.0			16.0			19.0	15.0
4	12.0	12.0			10.0			12.0	9.7
6	7.9	7.9			6.8			7.9	6.5
10	4.7	4.7			4.0			4.7	3.9
16	2.9	2.9			2.5			2.9	2.6
		r	x	z	r	x	z		
25	1.850	1.350	0.160	1.900	1.600	0.140	1.650	1.900	1.600
35	1.350	1.350	0.155	1.350	1.150	0.135	1.150	1.350	1.200
50	0.980	0.990	0.155	1.000	0.860	0.135	0.870	1.000	0.870
70	0.670	0.670	0.150	0.690	0.590	0.130	0.600	0.690	0.610
95	0.490	0.500	0.150	0.520	0.430	0.130	0.450	0.520	0.450
120	0.390	0.400	0.145	0.420	0.340	0.130	0.370	0.420	0.360
150	0.310	0.320	0.145	0.350	0.280	0.125	0.300	0.350	0.300
185	0.250	0.260	0.145	0.290	0.220	0.125	0.260	0.290	0.250
240	0.195	0.200	0.140	0.240	0.175	0.125	0.210	0.240	0.210
300	0.155	0.160	0.140	0.210	0.140	0.120	0.185	0.210	0.190
400	0.120	0.130	0.140	0.190	0.115	0.120	0.165	0.190	0.180

Note : r = conductor resistance at operating temperature
x = reactance
z = impedance

Rated Voltage

Standard

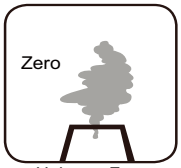

Flame Retardancy
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1


Reduced Fire Propagation
NF C32-070-2.2(C1)
IEC60332-3-24/EN50266-2-4


Low Toxicity
NES 02-713/NF C 20-454


Low Corrosivity
IEC60754-2
EN50267-2-2/3
NF C 32-074

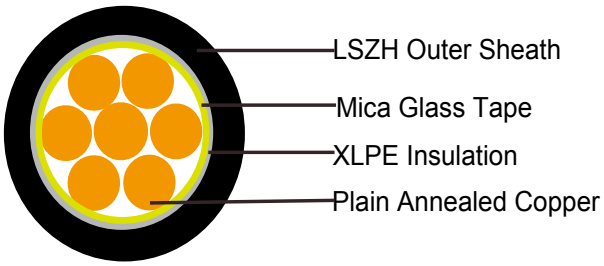

Low Smoke Emission
IEC 61034-1&2
EN 50268-1&2/NF C32-073



Halogen Free
IEC60754-1
EN50267-2-1

600/1000V Mica+XLPE Insulated, LSZH Sheathed Power Cables (Single Core)

FFX300 1mRZ1-R (CU/MGT+XLPE/LSZH 600/1000V Class 2)



APPLICATION

This cable is designed for areas where the integrity of the electrical properties circuit is critical in maintaining power supply. Applications can be found in emergency lightings, control and power circuits, power stations, fire alarm systems, underground tunnels, communications systems, sewage treatment plants, lifts, escalators, and high-rise buildings.

STANDARDS

Basic design to IEC 60502-1

FIRE PERFORMANCE

Circuit Integrity	IEC 60331-21; BS 6387 CWZ; DIN VDE 0472-814(FE180); CEI 20-36/2-1; SS229-1; NBN C 30-004 (cat. F3); NF C32-070-2.3(CR1)
System Circuit Integrity	DIN 4102-12, E30 depending on lay system
Flame Retardance (Single Vertical Wire Test)	EN 60332-1-2; IEC 60332-1-2; BS EN 60332-1-2; VDE 0482-332-1 ; NBN C 30-004 (cat. F1); NF C32-070-2.1(C2); CEI 20-35/1-2; EN 50265-2-1*; DIN VDE 0482-265-2-1*
Reduced Fire Propagation (Vertically-mounted bundled wires & cable test)	EN 60332-3-24 (cat. C); IEC 60332-3-24; BS EN 60332-3-24; VDE 0482-332-3; NBN C 30-004 (cat. F2); NF C32-070-2.2(C1); CEI 20-22/3-4; EN 50266-2-4*; DIN VDE 0482-266-2-4
Halogen Free	IEC 60754-1; EN 50267-2-1; DIN VDE 0482-267-2-1; CEI 20-37/2-1 ; BS 6425-1*
No Corrosive Gas Emission	IEC 60754-2; EN 50267-2-2; DIN VDE 0482-267-2-2; CEI 20-37/2-2 ; BS 6425-2*
Minimum Smoke Emission	IEC 61034-1&2; EN 61034 -1&2; DIN VDE 0482-1034-1&2; CEI 20-37/3-1&2; EN 50268-1&2*; BS 7622-1&2*
No Toxic Gases	NES 02-713; NF C 20-454

Note: Asterisk * denotes superseded standard.

VOLTAGE RATING

600/1000 V

CABLE CONSTRUCTION

Conductor: Plain annealed copper wire, stranded according to IEC 60228 class 2
Insulation: Mica glass tape covered by extruded cross-linked XLPE compound
Outer Sheath: Thermoplastic LSZH compound type LTS3 as per BS 7655-6.1

COLOUR CODE

Insulation Colour: Natural
Sheath Colour: Black (other colors upon request)

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation: -30°C ~ 90°C

Temperature Range during Installation : -5°C ~ 50°C

Minimum Bending Radius: 6 x OD

ELECTRICAL PROPERTIES

Dielectric Test:	3500 V r.m.s. x 5' (core / core)
Insulation Resistance	1000 MΩ x km (at 20°C)
Short circuit Temperature	250°C (up to 5 secs)

CONSTRUCTION PARAMETERS

Cale Code	Conductor				Approx. Overall Diameter	Approx. Weight
	Nominal Cross Section Area	No./ Nominal Diameter of Strands	Dia. of Conductor	Nominal Insulation Thickness		
	mm^2	No./mm	mm	mm	mm	kg/km
FFX300 1mRZ1-R 1G1.5	1.5	7/0.53	1.59	0.7	6.5	54
FFX300 1mRZ1-R 1G2.5	2.5	7/0.67	2.01	0.7	6.8	67
FFX300 1mRZ1-R 1G4	4	7/0.85	2.55	0.7	7.5	86
FFX300 1mRZ1-R 1G6	6	7/1.04	3.12	0.7	8.1	110
FFX300 1mRZ1-R 1G10	10	7/1.35	4.05	0.7	9.2	155
FFX300 1mRZ1-R 1G16	16	7/1.70	5.1	0.7	10.2	220
FFX300 1mRZ1-R 1G25	25	7/2.14	6.42	0.9	11.9	325
FFX300 1mRZ1-R 1G35	35	19/1.53	7.65	0.9	13.2	425

FFX300 1mRZ1-R 1G50	50	19/1.78	8.9	1	14.6	600
FFX300 1mRZ1-R 1G70	70	19/2.14	10.7	1.1	16.6	820
FFX300 1mRZ1-R 1G92	95	19/2.52	12.6	1.1	18.7	1100
FFX300 1mRZ1-R 1G120	120	37/2.03	14.21	1.2	20.5	1350
FFX300 1mRZ1-R 1G150	150	37/2.25	15.75	1.4	22.7	1640
FFX300 1mRZ1-R 1G185	185	37/2.52	17.64	1.6	25.5	2040
FFX300 1mRZ1-R 1G240	240	61/2.25	20.25	1.7	28.5	2650
FFX300 1mRZ1-R 1G300	300	61/2.52	22.68	1.8	31.5	3260
FFX300 1mRZ1-R 1G400	400	65/2.85	25.65	2	35.4	4130
FFX300 1mRZ1-R 1G500	500	61/3.20	28.8	2.2	39	5200
FFX300 1mRZ1-R 1G630	630	127/2.52	32.76	2.4	43.5	6600
FFX300 1mRZ1-R 1G800	800	127/2.85	37.05	2.6	48.5	8300
FFX300 1mRZ1-R 1G1000	1000	127/3.20	41.6	2.8	53.5	10000

ELECTRICAL PROPERTIES

Conductor Operating Temperature : 90°C
Ambient Temperature : 30°C

Current-Carrying Capacities (Amp)

Conductor cross-section area	Reference Method 4 (enclosed in conduit in thermally insulating wall etc)		Reference Method 3 (enclosed in conduit on a wall or in trunking etc)		Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated cable tray, horizontal or vertical)		Reference Method 12 (free air)		
									Horizontal flat spaced	Vertical flat spaced	Trefoil
	2 cables, single-phase a.c. or d.c.	3 or 4 cables, 3-phase a.c.	2 cables, single-phase a.c. or d.c	3 or 4 cables, 3-phase a.c.	2 cables, single-phase a.c. or d.c. flat and touching	3 or 4 cables, 3-phase a.c. flat and touching or trefoil	2 cables, single-phase a.c. or d.c. or flat and touching	3 or 4 cables, 3-phase a.c. flat and touching or trefoil	2 cables, single-phase a.c. or d.c. or 3 cables three phase	2 cables, single-phase a.c. or d.c. or 3 cables three phase	3 cables, trefoil 3-phase a.c.
1	2	3	4	5	6	7	8	9	10	11	12
mm^2	A	A	A	A	A	A	A	A	A	A	A
1.5	18	17	22	19	25	23	-	-	-	-	-
2.5	24	23	30	26	34	31	-	-	-	-	-
4	33	30	40	35	46	41	-	-	-	-	-
6	43	39	51	45	59	54	-	-	-	-	-
10	58	53	71	63	81	74	-	-	-	-	-
16	76	70	95	85	109	99	-	-	-	-	-
25	100	91	126	111	143	130	158	140	183	163	138
35	125	111	156	138	176	161	195	176	226	203	171
50	149	135	189	168	228	209	293	215	274	246	209

70	189	170	240	214	293	268	308	279	351	318	270
95	228	205	290	259	355	326	375	341	426	389	330
120	263	235	336	299	413	379	436	398	495	453	385
150	300	270	375	328	476	436	505	461	570	524	445
185	341	306	426	370	545	500	579	530	651	600	511
240	400	358	500	433	644	590	686	630	769	711	606
300	459	410	573	493	743	681	794	730	886	824	701
400	-	-	684	584	868	793	915	849	1065	994	820
500	-	-	783	666	990	904	1044	973	1228	1150	936
630	-	-	900	764	1130	1033	1191	1115	1423	1338	1069
800	-	-	-	-	1288	1179	1358	1275	1580	1485	1214
1000	-	-	-	-	1443	1323	1520	1436	1775	1671	1349

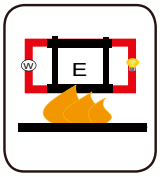
Voltage Drop (Per Amp Per Meter)

Nominal Cross Section Area	2 cables d.c.	2 cables, single-phase a.c.						3 or 4 cables, 3-phase a.c.								
		Ref. Methods 3 and 4 (enclosed in conduit etc, in or on a wall)			Ref. Methods 1 and 11 (clipped direct or on trays touching)			Ref. Methods 3 and 4 (enclosed in conduit etc, in or on a wall)			Ref. Methods 1, 11 and 12 (in trefoil)			Ref. Methods 1 and 11 (Flat and touching)		
1	2	3			4			5			6			7		
mm^2	mV/A/m	mV/A/m			mV/A/m			mV/A/m			mV/A/m			mV/A/m		
1.5	31	31			27			27			27			27		
2.5	19	19			16			16			16			16		
4	33	12			10			10			10			10		
6	7.8	7.9			6.8			6.8			6.8			6.8		
10	4.7	4.7			4.7			4			4			4		
16	2.9	2.9			2.9			2.5			2.5			2.5		
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
25	1.85	1.85	0.31	1.9	1.85	0.19	1.85	1.6	0.27	1.65	1.6	0.165	1.6	1.6	0.19	1.6
35	1.35	1.35	0.29	1.35	1.35	0.18	1.35	1.15	0.25	1.15	1.15	0.155	1.5	1.15	0.18	1.15
50	0.99	1	0.29	1.05	0.99	0.18	1	0.87	0.25	0.9	0.86	0.155	0.87	0.86	0.18	0.87
70	0.68	0.7	0.28	0.75	0.68	0.175	0.71	0.6	0.24	0.65	0.59	0.15	0.61	0.59	0.175	0.62
95	0.49	0.51	0.27	0.58	0.49	0.17	0.52	0.44	0.23	0.5	0.43	0.145	0.45	0.43	0.17	0.46
120	0.39	0.41	0.26	0.48	0.39	0.165	0.43	0.35	0.23	0.42	0.34	0.14	0.37	0.34	0.165	0.38

150	0.32	0.33	0.26	0.43	0.32	0.165	0.36	0.29	0.23	0.37	0.28	0.14	0.31	0.28	0.165	0.32
185	0.25	0.27	0.26	0.37	0.26	0.165	0.3	0.23	0.23	0.32	0.22	0.14	0.26	0.22	0.165	0.28
240	0.19	0.21	0.26	0.33	0.2	0.16	0.25	0.185	0.22	0.29	0.17	0.14	0.22	0.17	0.165	0.24
300	0.155	0.175	0.25	0.31	0.16	0.16	0.22	0.15	0.22	0.27	0.14	0.14	0.195	0.135	0.16	0.21
400	0.12	0.14	0.25	0.29	0.13	0.155	0.2	0.125	0.22	0.25	0.11	0.135	0.175	0.11	0.16	0.195
500	0.093	0.12	0.25	0.28	0.105	0.155	0.185	0.1	0.22	0.24	0.09	0.135	0.16	0.088	0.16	0.18
630	0.072	0.1	0.25	0.27	0.086	0.155	0.175	0.088	0.21	0.23	0.074	0.135	0.15	0.071	0.16	0.17
800	0.056	-	-	-	0.072	0.15	0.17	-	-	-	0.062	0.13	0.145	0.059	0.155	0.165
1000	0.045	-	-	-	0.063	0.15	0.165	-	-	-	0.055	0.13	0.14	0.05	0.155	0.165

Note: r = conductor resistance at operating temperature
x = reactance
z = impedance

Standard



Circuit Integrity
IEC 60331/BS 6387
NF C32-070-2.3(CR1)

Reduced Fire Propagation
NF C32-070-2.2(C1)
IEC60332-3-24/EN50266-2-4

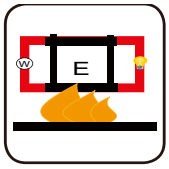
Flame Retardancy
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1

Low Toxicity
NES 02-713/NF C 20-454

Low Corrosivity
IEC60754-2
EN50267-2-2/3
NF C 32-074

Low Smoke Emission
IEC 61034-1&2
EN 50268-1&2/NF C32-073

Halogen Free
IEC60754-1
EN50267-2-1

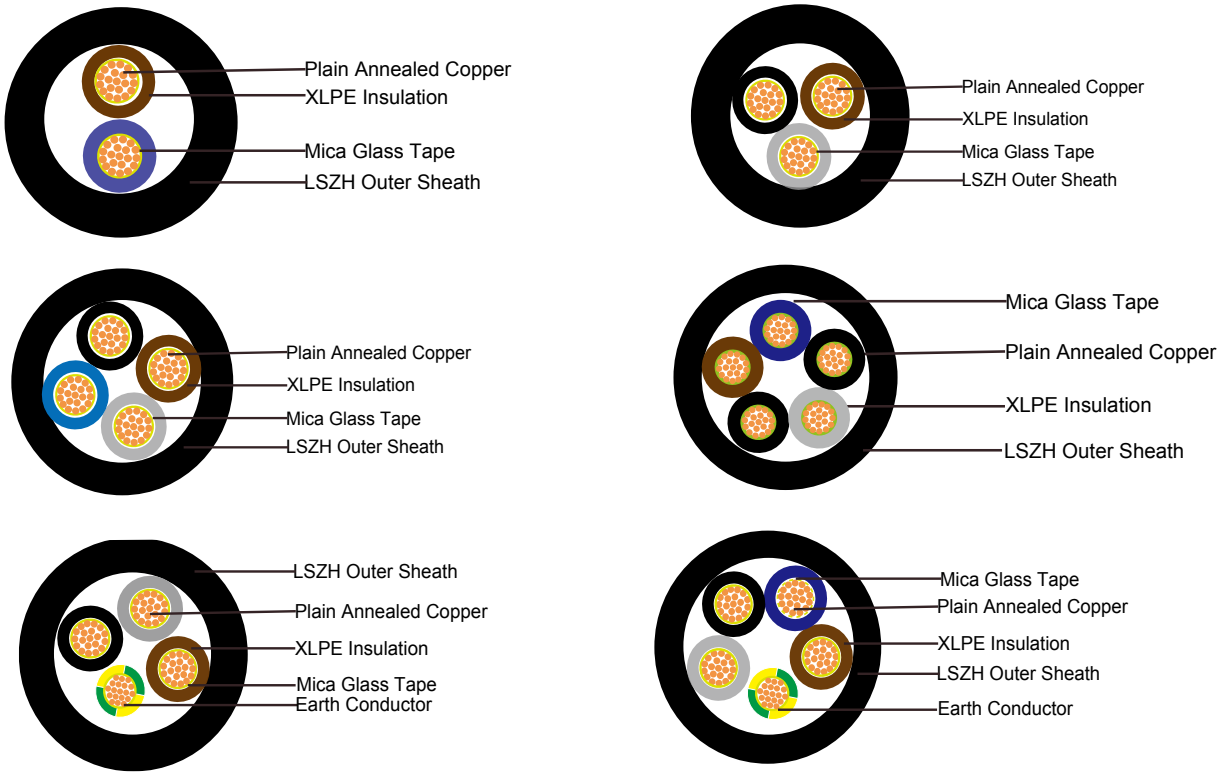


Functional Integrity
DIN 4102-12

600/1000V Mica+XLPE Insulated, LSZH Sheathed Power Cables (Multicore)

FFX400 1mRZ1-R (CU/MGT+XLPE/LSZH 600/1000V CLASS 2)

Emergency Lighting Cables



APPLICATION

This cable is designed for areas where the integrity of the electrical properties circuit is critical in maintaining power supply. Applications can be found in emergency lightings, control and power circuits, power stations, fire alarm systems, underground tunnels, communications systems, sewage treatment plants, lifts, escalators, and high-rise buildings.

STANDARDS

Basic design to IEC 60502-1

FIRE PERFORMANCE

Circuit Integrity	IEC 60331-21; BS 6387 CWZ; DIN VDE 0472-814(FE180); CEI 20-36/2-1; SS229-1; NBN C 30-004 (cat. F3); NF C32-070-2.3(CR1); BS 7846-(F2)
System Circuit Integrity	DIN 4102-12, E30 depending on lay system
Flame Retardance (Single Vertical Wire Test)	EN 60332-1-2; IEC 60332-1-2; BS EN 60332-1-2; VDE 0482-332-1 ; NBN C 30-004 (cat. F1); NF C32-070-2.1(C2); CEI 20-35/1-2; EN 50265-2-1*; DIN VDE 0482-265-2-1*

Reduced Fire Propagation (Vertically-mounted bundled wires & cable test)	EN 60332-3-24 (cat. C); IEC 60332-3-24; BS EN 60332-3-24; VDE 0482-332-3; NBN C 30-004 (cat. F2); NF C32-070-2.2(C1); CEI 20-22/3-4; EN 50266-2-4*; DIN VDE 0482-266-2-4
Halogen Free	IEC 60754-1; EN 50267-2-1; DIN VDE 0482-267-2-1; CEI 20-37/2-1 ; BS 6425-1*
No Corrosive Gas Emission	IEC 60754-2; EN 50267-2-2; DIN VDE 0482-267-2-2; CEI 20-37/2-2 ; BS 6425-2*
Minimum Smoke Emission	IEC 61034-1&2; EN 61034 -1&2; DIN VDE 0482-1034-1&2; CEI 20-37/3-1&2; EN 50268-1&2*; BS 7622-1&2*
No Toxic Gases	NES 02-713; NF C 20-454

Note: Asterisk * denotes superseded standard.

VOLTAGE RATING

600/1000V

CABLE CONSTRUCTION

Conductor: Plain annealed copper wire, stranded according to IEC 60228 class 2.
Insulation: Mica glass tape covered by extruded cross-linked XLPE compound
Cabling: The cores are cabled together in concentric layers with suitable non-hygroscopic fillers.
Outer Sheath: Thermoplastic LSZH compound type LTS3 as per BS 7655-6.1

COLOUR CODE

Insulation Colour as per BS7671

	With Earth Conductor	Without Earth Conductor
2 Cores	-	Brown, Blue
3 Cores	Yellow/Green, Brown, Blue	Brown, Gray, Black
4 Cores	Yellow/Green, Brown, Gray, Black	Brown, Gray, Black, Blue
5 Cores	Yellow/Green, Brown, Gray, Black, Blue	Brown, Gray, Black, Blue, Black
Above 5 Cores	Yellow/Green, Black Numbered	Black Numbered

Sheath Colour: Black (other colors upon request)

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation: -30°C ~ 90°C
Temperature Range during Installation : -5°C ~ 50°C
Minimum Bending Radius: 6 x OD

ELECTRICAL PROPERTIES

Dielectric Test:	3500 V r.m.s. x 5' (core / core)

Insulation Resistance	1000 MΩ x km (at 20°C)
Short Circuit Temperature	250°C (up to 5 secs)

CONSTRUCTION PARAMETERS

Cable Code	Conductor			Nominal Insulation Thickness	Nominal Overall Diameter	Approx. Weight
	No. of Core ×Cross Section / CPC Cross Section	No./ Nominal Diameter of Strands	Dia. of Conductor			
		No./mm	mm	mm	mm	kg/km
2 CORES						
FFX400 1mRZ1-R 2G1.5	2×1.5	7/0.53	1.59	0.7	12.2	150
FFX400 1mRZ1-R 2G2.5	2×2.5	7/0.67	2.01	0.7	12.6	180
FFX400 1mRZ1-R 2G4	2×4	7/0.85	2.55	0.7	14.7	250
FFX400 1mRZ1-R 2G6	2×6	7/1.04	3.12	0.7	16.2	290
FFX400 1mRZ1-R 2G10	2×10	7/1.35	4.05	0.7	17.1	450
FFX400 1mRZ1-R 2G16	2×16	7/1.70	5.1	0.7	19.2	550
FFX400 1mRZ1-R 2G25	2×25	7/2.14	6.42	0.9	20	680
FFX400 1mRZ1-R 2G35	2×35	19/1.53	7.65	0.9	22	940
FFX400 1mRZ1-R 2G50	2×50	19/1.78	8.9	1	24	1250
FFX400 1mRZ1-R 2G70	2×70	19/2.14	10.7	1.1	27	1700
FFX400 1mRZ1-R 2G95	2×95	19/2.52	12.6	1.1	31	2300
FFX400 1mRZ1-R 2G120	2×120	37/2.03	14.21	1.2	36	3150
3 CORES						
FFX400 1mRZ1-R 3G1.5	3×1.5	7/0.53	1.59	0.7	12.3	170
FFX400 1mRZ1-R 3G2.5	3×2.5	7/0.67	2.01	0.7	13.8	200
FFX400 1mRZ1-R 3G4	3×4	7/0.85	2.55	0.7	15.2	300
FFX400 1mRZ1-R 3G6	3×6	7/1.04	3.12	0.7	16.8	380
FFX400 1mRZ1-R 3G10	3×10	7/1.35	4.05	0.7	18	550
FFX400 1mRZ1-R 3G16	3×16	1/1.70	5.1	0.7	21	760
FFX400 1mRZ1-R 3G25	3×25	7/2.14	6.42	0.9	22	960
FFX400 1mRZ1-R 3G35	3×35	19/1.53	7.65	0.9	24	1300
FFX400 1mRZ1-R 3G50	3×50	19/1.78	8.9	1	28	1700
FFX400 1mRZ1-R 3G70	3×70	19/2.14	10.7	1.1	31	2400
FFX400 1mRZ1-R 3G95	3×95	19/2.52	12.6	1.1	36	3250

FFX400 1mRZ1-R 3G120	3×120	37/2.03	14.21	1.2	38	4000
FFX400 1mRZ1-R 3G150	3×150	37/2.25	15.75	1.4	42	5000
FFX400 1mRZ1-R 3G185	3×185	37/2.52	17.64	1.6	47	6100
FFX400 1mRZ1-R 3G240	3×240	61/2.25	20.25	1.7	52	8000
FFX400 1mRZ1-R 3G300	3×300	61/2.52	22.68	1.8	59	9850
FFX400 1mRZ1-R 3G400	3×400	61/2.85	25.65	2	63	13000
3 CORES+ 1 EARTH CONDUCTOR						
FFX400 1mRZ1-R 3G16/6	3×16/6	7/1.70	5.1	0.7	22.9	1230
FFX400 1mRZ1-R 3G16/10	3×16/10	7/1.70	5.1	0.7	25.7	1385
FFX400 1mRZ1-R 3G25/6	3×25/6	7/2.14	6.42	0.9	26.1	1810
FFX400 1mRZ1-R 3G25/10	3×25/10	7/2.14	6.42	0.9	26.8	1890
FFX400 1mRZ1-R 3G25/16	3×25/16	7/2.14	6.42	0.9	27.3	1980
FFX400 1mRZ1-R 3G35/10	3×35/10	19/1.53	7.65	0.9	28.1	2010
FFX400 1mRZ1-R 3G35/16	3×35/16	19/1.53	7.65	0.9	29.8	2070
FFX400 1mRZ1-R 3G35/25	3×35/25	19/1.53	7.65	0.9	30.5	2190
FFX400 1mRZ1-R 3G50/16	3×50/16	19/1.78	8.9	0.9	32.8	2400
FFX400 1mRZ1-R 3G50/25	3×50/25	19/1.78	8.9	1	29	1800
FFX400 1mRZ1-R 3G50/35	3×50/35	19/1.78	8.9	0.9	28.4	1870
FFX400 1mRZ1-R 3G70/25	3×70/25	19/2.14	10.7	1	31	1920
FFX400 1mRZ1-R 3G70/35	3×70/35	19/2.14	10.7	1.1	32	2200
FFX400 1mRZ1-R 3G70/50	3×70/50	19/2.14	10.7	1.1	33	2400
FFX400 1mRZ1-R 3G95/25	3×95/25	19/2.52	12.6	1.1	36	3300
FFX400 1mRZ1-R 3G95/35	3×95/35	19/2.52	12.6	1.1	37	3560
FFX400 1mRZ1-R 3G95/50	3×95/50	19/2.52	12.6	1.1	38	3700
FFX400 1mRZ1-R 3G95/70	3×95/70	19/2.52	12.6	1.1	38.4	3809
FFX400 1mRZ1-R 3G120/35	3×120/35	37/2.03	14.21	1.1	39	3910
FFX400 1mRZ1-R 3G120/50	3×120/50	37/2.03	14.21	1.1	40	4200
FFX400 1mRZ1-R 3G120/70	3×120/70	37/2.03	14.21	1.1	40	4250
FFX400 1mRZ1-R 3G120/95	3×120/95	37/2.03	14.21	1.2	41	6990
FFX400 1mRZ1-R 3G150/50	3×150/50	37/2.25	15.75	1.2	42	7200
FFX400 1mRZ1-R 3G150/70	3×150/70	37/2.25	15.75	1.2	43	7600
FFX400 1mRZ1-R 3G150/95	3×150/95	37/2.25	15.75	1.4	44	9000
FFX400 1mRZ1-R 3G150/120	3×150/120	37/2.25	15.75	1.4	45	10600
FFX400 1mRZ1-R 3G185/70	3×185/70	37/2.25	17.64	1.4	47	11100
FFX400 1mRZ1-R 3G185/95	3×185/95	37/2.52	17.64	1.6	49	11650

FFX400 1mRZ1-R 3G185/120	3×185/120	37/2.52	17.64	1.6	50	12000
FFX400 1mRZ1-R 3G185/150	3×185/150	37/2.52	17.64	1.6	51	12300
FFX400 1mRZ1-R 3G240/95	3×240/95	61/2.25	20.25	1.7	52	12900
FFX400 1mRZ1-R 3G240/120	3×240/120	61/2.25	20.25	1.7	57	13500
FFX400 1mRZ1-R 3G240/150	3×240/150	61/2.25	20.25	1.7	58	14000
FFX400 1mRZ1-R 3G240/185	3×240/185	61/2.25	20.25	1.7	58.4	14700
FFX400 1mRZ1-R 3G300/120	3×300/120	61/2.52	22.68	1.8	58.9	15100
FFX400 1mRZ1-R 3G300/150	3×300/150	61/2.52	22.68	1.8	60	15600
FFX400 1mRZ1-R 3G300/180	3×300/180	61/2.52	22.68	1.8	61	15720
FFX400 1mRZ1-R 3G300/240	3×300/240	61/2.52	22.68	1.8	62	16000
4 CORES						
FFX400 1mRZ1-R 4G1.5	4×1.5	7/0.53	1.59	0.7	14.3	210
FFX400 1mRZ1-R 4G2.5	4×2.5	7/0.67	2.01	0.7	15.2	270
FFX400 1mRZ1-R 4G4	4×4	7/0.85	2.55	0.7	17.2	380
FFX400 1mRZ1-R 4G6	4×6	7/1.04	3.12	0.7	19	440
FFX400 1mRZ1-R 4G10	4×10	7/1.35	4.05	0.7	20.6	670
FFX400 1mRZ1-R 4G16	4×16	1/1.70	5.1	0.7	23.6	820
FFX400 1mRZ1-R 4G25	4×25	7/2.14	6.42	0.9	26	1320
FFX400 1mRZ1-R 4G35	4×35	19/1.53	7.65	0.9	29	1730
FFX400 1mRZ1-R 4G50	4×50	19/1.78	8.9	1	32	2300
FFX400 1mRZ1-R 4G70	4×70	19/2.14	10.7	1.1	38	3180
FFX400 1mRZ1-R 4G95	4×95	19/2.52	12.6	1.1	41.9	4370
FFX400 1mRZ1-R 4G120	4×120	37/2.03	14.21	1.2	44	5400
FFX400 1mRZ1-R 4G150	4×150	37/2.25	15.75	1.4	50.8	6500
FFX400 1mRZ1-R 4G185	4×185	37/2.52	17.64	1.6	55	8200
FFX400 1mRZ1-R 4G240	4×240	61/2.25	20.25	1.7	60.5	10600
FFX400 1mRZ1-R 4G300	4×300	61/2.52	22.68	1.8	68.5	13200
FFX400 1mRZ1-R 4G400	4×400	61/2.85	25.65	2	76	17000
4 CORES + 1 EARTH CONDUCTOR						
FFX400 1mRZ1-R 4G16/16	4×16/6	7/1.70	5.1	0.7	21	1300
FFX400 1mRZ1-R 4G16/10	4×16/10	7/1.70	5.1	0.7	22	1600
FFX400 1mRZ1-R 4G25/6	4×25/6	7/2.14	6.42	0.7	23	1820
FFX400 1mRZ1-R 4G25/10	4×25/10	7/2.14	6.42	0.7	24	2015
FFX400 1mRZ1-R 4G25/16	4×25/16	7/2.14	6.42	0.7	25	2450
FFX400 1mRZ1-R 4G35/10	4×35/10	19/1.53	7.65	0.9	28.9	2810
FFX400 1mRZ1-R 4G35/16	4×35/16	19/1.53	7.65	0.9	29.4	3000

FFX400 1mRZ1-R 4G35/25	4×35/25	19/1.53	7.65	0.9	29.6	3170
FFX400 1mRZ1-R 4G50/16	4×50/16	19/1.78	8.9	1	33	3800
FFX400 1mRZ1-R 4G50/25	4×50/25	19/1.78	8.9	1	35.8	4100
FFX400 1mRZ1-R 4G50/35	4×50/35	19/1.78	8.9	1	36.9	4400
FFX400 1mRZ1-R 4G70/25	4×70/25	19/2.14	10.7	1.1	40	6270
FFX400 1mRZ1-R 4G70/35	4×70/35	19/2.14	10.7	1.1	41	6900
FFX400 1mRZ1-R 4G70/50	4×70/50	19/2.14	10.7	1.1	41.5	7200
FFX400 1mRZ1-R 4G95/25	4×95/25	19/2.52	12.6	1.1	41.8	8000
FFX400 1mRZ1-R 4G95/35	4×95/35	19/2.52	12.6	1.1	42.6	8100
FFX400 1mRZ1-R 4G95/50	4×95/50	19/2.52	12.6	1.1	43.4	8250
FFX400 1mRZ1-R 4G95/70	4×95/70	19/2.52	12.6	1.1	43.6	8310
FFX400 1mRZ1-R 4G120/35	4×120/35	37/2.03	14.21	1.1	43.9	8390
FFX400 1mRZ1-R 4G120/50	4×120/50	37/2.03	14.21	1.2	44	8600
FFX400 1mRZ1-R 4G120/70	4×120/70	37/2.03	14.21	1.2	45	8800
FFX400 1mRZ1-R 4G120/95	4×120/95	37/2.03	14.21	1.2	46	9100
FFX400 1mRZ1-R 4G150/50	4×150/50	37/2.25	15.75	1.2	47	9400
FFX400 1mRZ1-R 4G150/70	4×150/70	37/2.25	15.75	1.4	52	10800
FFX400 1mRZ1-R 4G150/95	4×150/95	37/2.25	15.75	1.4	53	11100
FFX400 1mRZ1-R 4G150/120	4×150/120	37/2.25	15.75	1.4	54	11500
FFX400 1mRZ1-R 4G185/70	4×185/70	37/2.52	17.64	1.4	55	11900
FFX400 1mRZ1-R 4G185/95	4×185/95	37/2.52	17.64	1.6	56	12900
FFX400 1mRZ1-R 4G185/120	4×185/120	37/2.52	17.64	1.6	57	13600
FFX400 1mRZ1-R 4G185/150	4×185/150	37/2.52	17.64	1.6	58	14700
FFX400 1mRZ1-R 4G240/95	4×240/95	61/2.25	20.25	1.7	62	16000
FFX400 1mRZ1-R 4G240/120	4×240/120	61/2.25	20.25	1.7	65	16600
FFX400 1mRZ1-R 4G240/150	4×240/150	61/2.25	20.25	1.7	66	16900
FFX400 1mRZ1-R 4G240/185	4×240/185	61/2.25	20.25	1.7	67	17100
FFX400 1mRZ1-R 4G300/120	4×300/120	61/2.52	22.68	1.7	68	17200
FFX400 1mRZ1-R 4G300/150	4×300/150	61/2.52	22.68	1.8	69	19700
FFX400 1mRZ1-R 4G300/180	4×300/185	61/2.52	22.68	1.8	70	20700
FFX400 1mRZ1-R 4G300/240	4×300/240	61/2.52	22.68	1.8	71	21060
5 CORES						
FFX400 1mRZ1-R 5G1.5	5×1.5	7/0.53	1.59	0.7	16.8	247
FFX400 1mRZ1-R 5G2.5	5×2.5	7/0.67	2.01	0.7	17.9	317
FFX400 1mRZ1-R 5G4	5×4	7/0.85	2.55	0.7	20.2	447
FFX400 1mRZ1-R 5G6	5×6	7/1.04	3.12	0.7	22.3	517

FFX400 1mRZ1-R 5G10	5×10	7/1.35	4.05	0.7	24.2	787
FFX400 1mRZ1-R 5G16	5×16	1/1.70	5.1	0.7	27.7	964
FFX400 1mRZ1-R 5G25	5×25	7/2.14	6.42	0.9	30.6	1551
FFX400 1mRZ1-R 5G35	5×35	19/1.53	7.65	0.9	34.1	2033
FFX400 1mRZ1-R 5G50	5×50	19/1.78	8.9	1	37.6	2703
FFX400 1mRZ1-R 5G70	5×70	19/2.14	10.7	1.1	44.7	3737
FFX400 1mRZ1-R 5G95	5×95	19/2.52	12.6	1.1	49.2	5135
FFX400 1mRZ1-R 5G120	5×120	37/2.03	14.21	1.2	51.7	6345
FFX400 1mRZ1-R 5G150	5×150	37/2.25	15.75	1.4	59.7	7638
FFX400 1mRZ1-R 5G185	5×185	37/2.52	17.64	1.6	64.6	9635
FFX400 1mRZ1-R 5G240	5×240	61/2.25	20.25	1.7	71.1	12455
FFX400 1mRZ1-R 5G300	5×300	61/2.52	22.68	1.8	80.5	15510
FFX400 1mRZ1-R 5G400	5×400	61/2.85	25.65	2	89.3	19975

ELECTRICAL PROPERTIES

Conductor Operating Temperature : 90°C
Ambient Temperature : 30°C

Current-Carrying Capacities (Amp)

Nominal Cross Section Area	Reference Method 4 (enclosed in an conduit insulated wall etc)	Reference Method 3 (enclosed in conduit on a wall or ceiling, or in trunking)		Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated cable tray), or Reference Method 13 (free air)	
	one 3-core cable or one 4-core cable 3-phase a.c.	one 2-core cable single phase a.c. or d.c.	one 3-core cable or one 4-core cable 3-phase a.c.	one 2-core cable single phase a.c. or d.c.	one 3-core cable or one 4-core cable 3-phase a.c.	one 2-core cable singlephase **a.c. or d.c.**	one 3-core cable or one **4-core cable 3-phase a.c.**
1	2	3	4	5	6	7	8
mm^2	A	A	A	A	A	A	A
1.5	16.5	22	19.5	24	22	26	23
2.5	22	30	26	33	30	36	32
4	30	40	35	45	40	49	42
6	38	51	44	58	52	63	54
10	51	69	60	80	71	86	75
16	68	91	80	107	96	115	100

25	89	119	105	138	119	149	127
35	109	146	128	171	147	185	158
50	130	175	154	209	179	225	192
70	164	221	194	269	229	289	246
95	197	265	233	328	278	352	298
120	227	305	268	382	322	410	346
150	259	334	300	441	371	473	399
185	295	384	340	506	424	542	456
240	346	459	398	599	500	641	538
300	396	532	455	693	576	741	621
400	-	625	536	803	667	865	741

Voltage Drop (Per Amp Per Meter)

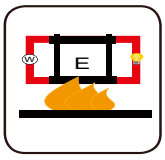
Nominal Cross Section Area	2-core cable d.c.	2-core cable single-phase a.c			3-core or 4-core cable 3-phase a.c.		
1	2	3			4		
mm^2	mV/A/m	mV/A/m			mV/A/m		
1.5	31	31			27		
2.5	19	19			16		
4	12	12			10		
6	7.9	7.9			6.8		
10	4.7	4.7			4		
16	2.9	2.9			2.5		
		r	x	z	r	x	z
25	1.85	1.85	0.16	1.9	1.6	0.14	1.65
35	1.35	1.35	0.155	1.35	1.15	0.135	1.15
50	0.98	0.99	0.155	1	0.86	0.135	0.87
70	0.67	0.67	0.15	0.69	0.59	0.13	0.6
95	0.49	0.5	0.15	0.52	0.43	0.13	0.45
120	0.39	0.4	0.145	0.42	0.34	0.13	0.37
150	0.31	0.32	0.145	0.35	0.28	0.125	0.3

185	0.25	0.26	0.145	0.29	0.22	0.125	0.26
240	0.195	0.2	0.14	0.24	0.175	0.125	0.21
300	0.155	0.16	0.14	0.21	0.14	0.12	0.185
400	0.12	0.13	0.14	0.19	0.115	0.12	0.165

Note :
r = conductor resistance at operating temperature
x = reactance
z = impedance

Rated Voltage

Standard



Circuit Integrity
IEC 60331/BS 6387
NF C32-070-2.3(CR1)


Reduced Fire Propagation
NF C32-070-2.2(C1)
IEC60332-3-24/EN50266-2-4

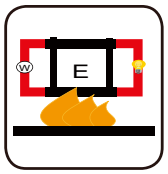

Flame Retardancy
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1


Low Toxicity
NES 02-713/NF C 20-454


Low Corrosivity
IEC60754-2
EN50267-2-2/3
NF C 32-074


Low Smoke Emission
IEC 61034-1&2
EN 50268-1&2/NF C32-07

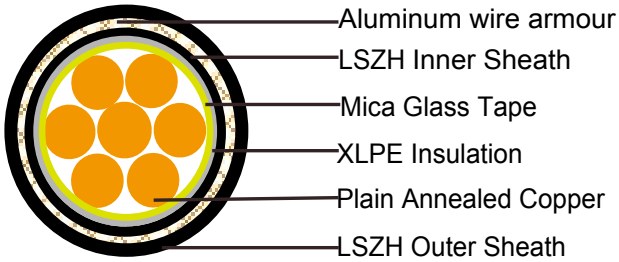
Halogen Free
IEC60754-1
EN50267-2-1



Functional Integrity
DIN 4102-12

600/1000V Mica/XLPE Insulated, LSZH Sheathed, Armoured Power Cables (Single Core)

FFX300 1mRZ1MZ1-R (CU/MGT+XLPE/LSZH/AWA/LSZH 600/1000V Class 2)



APPLICATION

This cable is designed for areas where the integrity of the electrical properties circuit is critical in maintaining power supply. Applications can be found in emergency lightings, control and power circuits, power stations, fire alarm systems, underground tunnels, communications systems, sewage treatment plants, lifts, escalators, and high-rise buildings.

STANDARDS

Basic design to BS 7846

FIRE PERFORMANCE

Circuit Integrity	IEC 60331-21; BS 6387 CWZ; DIN VDE 0472-814(FE180); CEI 20-36/2-1; SS229-1; NBN C 30-004 (cat. F3); NF C32-070-2.3(CR1)
System Circuit Integrity	DIN 4102-12, E30 depending on lay system
Flame Retardance (Single Vertical Wire Test)	EN 60332-1-2; IEC 60332-1-2; BS EN 60332-1-2; VDE 0482-332-1 ; NBN C 30-004 (cat. F1); NF C32-070-2.1(C2); CEI 20-35/1-2; EN 50265-2-1*; DIN VDE 0482-265-2-1*
Reduced Fire Propagation (Vertically-mounted bundled wires & cable test)	EN 60332-3-24 (cat. C); IEC 60332-3-24; BS EN 60332-3-24; VDE 0482-332-3; NBN C 30-004 (cat. F2); NF C32-070-2.2(C1); CEI 20-22/3-4; EN 50266-2-4*; DIN VDE 0482-266-2-4
Halogen Free	IEC 60754-1; EN 50267-2-1; DIN VDE 0482-267-2-1; CEI 20-37/2-1 ; BS 6425-1*
No Corrosive Gas Emission	IEC 60754-2; EN 50267-2-2; DIN VDE 0482-267-2-2; CEI 20-37/2-2 ; BS 6425-2*
Minimum Smoke Emission	IEC 61034-1&2; EN 61034 -1&2; DIN VDE 0482-1034-1&2; CEI 20-37/3-1&2; EN 50268-1&2*; BS 7622-1&2*
No Toxic Gases	NES 02-713; NF C 20-454

Note: Asterisk * denotes superseded standard.

VOLTAGE RATING

600/1000 V

CABLE CONSTRUCTION

Conductor: Plain annealed copper wire, stranded according to IEC 60228 class 2.

Insulation: Mica glass tape covered by extruded cross-linked XLPE compound

Inner Sheath : Thermoplastic LSZH compound type LTS3 as per BS 7655-6.1

Armouring : Aluminum wire armour

Outer Sheath: Thermoplastic LSZH compound type LTS3 as per BS 7655-6.1

COLOUR CODE

Insulation Colour : Natural

Sheath Colour: Black (other colors upon request)

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation: -30°C ~ 90°C
Temperature Range during Installation : -5°C ~ 50°C
Minimum Bending Radius: 8 x OD

ELECTRICAL PROPERTIES

Dielectric Test:	3500 V r.m.s. x 5' (core / core)
Insulation Resistance	1000 MΩ x km (at 20°C)
Short Circuit Temperature	250°C (up to 5 secs)

CONSTRUCTION PARAMETERS

Cable Code	Conductor				Approx. Overall Diameter	Approx. Weight
	No. of Core ×Cross Section	No./ Nominal Diameter of Strands	Dia. of Conductor	Nominal Insulation Thickness		
	mm^2	No./mm	mm	mm	mm	kg/km
FFX300 1mRZ1MZ1-R 1G1.5	1×1.5	7/0.53	1.59	0.7	-	-
FFX300 1mRZ1MZ1-R 1G2.5	1×2.5	7/0.67	2.01	0.7	-	-
FFX300 1mRZ1MZ1-R 1G4	1×4	7/0.85	2.55	0.7	-	-
FFX300 1mRZ1MZ1-R 1G6	1×6	7/1.04	3.12	0.7	-	-
FFX300 1mRZ1MZ1-R 1G10	1×10	7/1.35	4.05	0.7	-	-
FFX300 1mRZ1MZ1-R 1G16	1×16	7/1.70	5.1	0.7	-	-
FFX300 1mRZ1MZ1-R 1G25	1×25	7/2.14	6.42	0.9	-	-
FFX300 1mRZ1MZ1-R 1G35	1×35	19/1.53	7.65	0.9	-	-
FFX300 1mRZ1MZ1-R 1G50	1×50	19/1.78	8.9	1	18.5	780
FFX300 1mRZ1MZ1-R 1G70	1×70	19/2.14	10.7	1.1	20.5	1010
FFX300 1mRZ1MZ1-R 1G95	1×95	19/2.52	12.6	1.1	23	1320
FFX300 1mRZ1MZ1-R 1G120	1×120	37/2.03	14.21	1.2	24.5	1610
FFX300 1mRZ1MZ1-R 1G150	1×150	37/2.25	15.75	1.4	27	2010
FFX300 1mRZ1MZ1-R 1G185	1×185	37.2.52	17.64	1.6	29.5	2440
FFX300 1mRZ1MZ1-R 1G240	1×240	61/2.25	20.25	1.7	34.5	3060
FFX300 1mRZ1MZ1-R 1G300	1×300	61/2.52	22.68	1.8	36.9	3690
FFX300 1mRZ1MZ1-R 1G400	1×400	65/2.85	25.65	2	41.5	4780
FFX300 1mRZ1MZ1-R 1G500	1×500	61/3.20	28.8	2.2	45.5	5970
FFX300 1mRZ1MZ1-R 1G630	1×630	127/2.52	32.76	2.4	50.5	7530
FFX300 1mRZ1MZ1-R 1G800	1×800	127/2.85	37.05	2.6	56.8	9680
FFX300 1mRZ1MZ1-R 1G1000	1×1000	127/3.20	41.6	2.8	61.5	11980

ELECTRICAL PROPERTIES

Conductor Operating Temperature : 90°C

Ambient Temperature : 30°C

Current-Carrying Capacities (Amp)

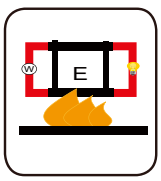
Nominal Cross Section Area	Reference Method 1 (clipped direct)		Reference Method 11 (on perforated cable tray)		Reference Method 12 (free air)	In single-way ducts		Laid direct in ground	
	2 cables singlephase a.c. or d.c. flat and touching	3 or 4 cables 3-phase a.c. flat and touching	2 cables singlephase a.c. or d.c. flat and touching	3 or 4 cables 3-phase a.c. flat and touching	3 cables 3-phase a.c. trefoil touching	2 cables singlephase a.c. or d.c. ducts touching	3 cables 3-phase a.c. trefoil touching	2 cables singlephase a.c. or d.c. touching	3 cables 3-phase a.c. trefoil touching
1	2	3	4	5	6	7	8	9	10
mm^2	A	A	A	A	A	A	A	A	A
50	237	220	253	232	222	255	235	275	235
70	303	277	322	293	285	310	280	340	290
95	367	333	389	352	346	365	330	405	345
120	425	383	449	405	402	410	370	460	389
150	488	437	516	462	463	445	405	510	435
185	557	496	587	524	529	485	440	580	490
240	656	579	689	612	625	550	500	670	560
300	755	662	792	700	720	610	550	750	630
400	853	717	899	767	815	640	580	830	700
500	962	791	1016	851	918	690	620	910	770
630	1082	861	1146	935	1027	750	670	1000	840
800	1170	904	1246	987	1119	828	735	1117	931
1000	1261	961	1345	1055	1214	919	811	1254	1038

Voltage Drop (Per Amp Per Meter)

Nominal Cross Section Area	2 cables d.c.	2 cables single-phase a.c.			3 or 4 cables three-phase a.c.						2 cables singlephase a.c.		3 or 4 cables, 3-phase a.c. touching	
		Reference Method 1 & 11 (touching)			Reference Method 1, 11 & 12 (in trefoil touching)			Reference Method 1 & 11 (Flat touching)			In ducts	In ground	In ducts	In ground
1	2	3			4			5			6	7	8	9
mm^2	mV/A/m	mV/A/m			mV/A/m			mV/A/m			mV/A/m	mV/A/m	mV/A/m	mV/A/m
		r	x	z	r	x	z	r	x	z				
50	0.98	0.99	0.21	1	0.86	0.18	0.87	0.84	0.25	0.88	1.1	0.99	0.93	0.86
70	0.67	0.68	0.2	0.71	0.59	0.17	0.62	0.6	0.25	0.65	0.8	0.7	0.7	0.61
95	0.49	0.51	0.195	0.55	0.44	0.17	0.47	0.46	0.24	0.52	0.65	0.53	0.56	0.46
120	0.39	0.41	0.19	0.45	0.35	0.165	0.39	0.38	0.24	0.44	0.55	0.43	0.48	0.37
150	0.31	0.33	0.185	0.38	0.29	0.16	0.33	0.31	0.23	0.39	0.5	0.37	0.43	0.32
185	0.25	0.27	0.185	0.33	0.23	0.16	0.28	0.26	0.23	0.34	0.45	0.31	0.39	0.27
240	0.195	0.21	0.18	0.28	0.18	0.155	0.24	0.21	0.22	0.3	0.4	0.26	0.35	0.23
300	0.155	0.17	0.175	0.25	0.145	0.15	0.21	0.17	0.22	0.28	0.37	0.24	0.32	0.21
400	0.115	0.145	0.17	0.22	0.125	0.15	0.195	0.16	0.21	0.27	0.35	0.21	0.3	0.19
500	0.093	0.125	0.17	0.21	0.105	0.145	0.18	0.145	0.2	0.25	0.33	0.2	0.28	0.18
630	0.073	0.105	0.165	0.195	0.092	0.145	0.17	0.135	0.195	0.24	0.3	0.19	0.26	0.17
800	0.056	0.09	0.16	0.19	0.086	0.14	0.165	0.13	0.18	0.23	0.28	0.18	0.24	0.16
1000	0.045	0.092	0.155	0.18	0.08	0.135	0.155	0.125	0.17	0.21	0.26	0.17	0.22	0.15

Note: r = conductor resistance at operating temperature
x = reactance
z = impedance

Standard

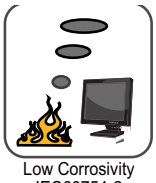


Circuit Integrity
IEC 60331/BS 6387
NF C32-070-2.3(CR1)

Reduced Fire Propagation
NF C32-070-2.2(C1)
IEC60332-3-24/EN50266-2-4

Flame Retardancy
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1

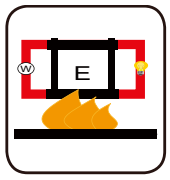
Low Toxicity
NES 02-713/NF C 20-454



Low Corrosivity
IEC60754-2
EN50267-2-2/3
NF C 32-074

Low Smoke Emission
IEC 61034-1&2
EN 50268-1&2/NF C32-073

Halogen Free
IEC60754-1
EN50267-2-1

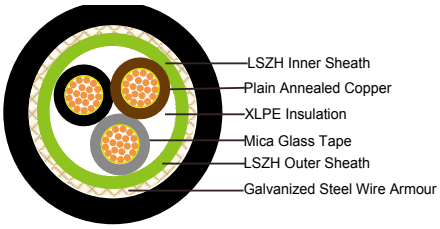


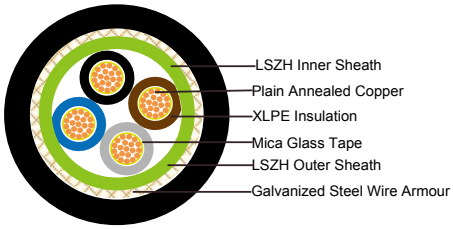
Functional Integrity
DIN 4102-12

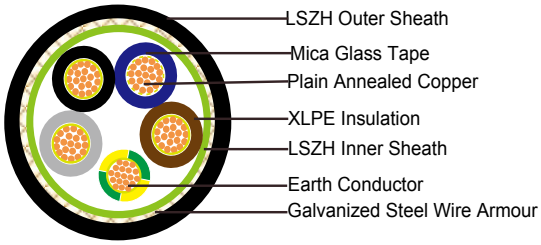
600/1000V Mica/XLPE Insulated, LSZH Sheathed , Armoured Power Cables (Multicore)

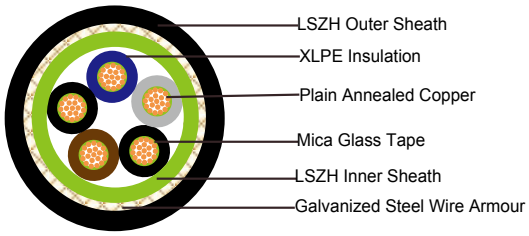
FFX400 1mRZ1MZ1-R (CU/MGT+XLPE/LSZH/SWA/LSZH 600/1000V Class 2)

Feeder Cables for Security SDB, TDB Terminal Security Equipment



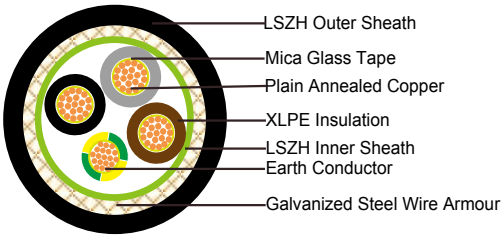






APPLICATION

This cable is designed for areas where the integrity of the electrical properties circuit is critical in maintaining power supply. Applications can be found in emergency lightings, control and power circuits, power stations, fire alarm systems, underground tunnels, communications systems, sewage treatment plants, lifts, escalators, and high-rise buildings.



STANDARDS

Basic design to BS 7846

FIRE PERFORMANCE

Circuit Integrity	IEC 60331-21; BS 6387 CWZ; DIN VDE 0472-814(FE180); CEI 20-36/2-1; SS229-1; NBN C 30-004 ; NF C32-070-2.3(CR1); BS 7846-(F2)
System Circuit Integrity	DIN 4102-12, E30 depending on lay system
Flame Retardance (Single Vertical Wire Test)	EN 60332-1-2; IEC 60332-1-2; BS EN 60332-1-2; VDE 0482-332-1 ; NBN C 30-004 (cat. F1); NF C32-070-2.1(C2); CEI 20-35/1-2; EN 50265-2-1*; DIN VDE 0482-265-2-1*
Reduced Fire Propagation (Vertically-mounted bundled wires & cable test)	EN 60332-3-24 (cat. C); IEC 60332-3-24; BS EN 60332-3-24; VDE 0482-332-3; NBN C 30-004 (cat. F2); NF C32-070-2.2(C1); CEI 20-22/3-4; EN 50266-2-4*; DIN VDE 0482-266-2-4

Halogen Free	IEC 60754-1; EN 50267-2-1; DIN VDE 0482-267-2-1; CEI 20-37/2-1 ; BS 6425-1*
No Corrosive Gas Emission	IEC 60754-2; EN 50267-2-2; DIN VDE 0482-267-2-2; CEI 20-37/2-2 ; BS 6425-2*
Minimum Smoke Emission	IEC 61034-1&2; EN 61034 -1&2; DIN VDE 0482-1034-1&2; CEI 20-37/3-1&2; EN 50268-1&2*; BS 7622-1&2*
No Toxic Gases	NES 02-713; NF C 20-454

Note: Asterisk * denotes superseded standard.

VOLTAGE RATING

600/1000V

CABLE CONSTRUCTION

Conductor: Plain annealed copper wire, stranded according to IEC 60228 class 2.
Insulation: Mica glass tape covered by extruded cross-linked XLPE compound
Cabling: The cores are cabled together in concentric layers with suitable non-hygroscopic fillers.
Inner Sheath: Thermoplastic LSZH compound type LTS3 as per BS 7655-6.1
Armouring: Galvanized steel wire armour
Outer Sheath: Thermoplastic LSZH compound type LTS3 as per BS 7655-6.1

COLOUR CODE

Insulation Colour as per BS7671

	With Earth Conductor	Without Earth Conductor
2 Cores	-	Brown, Blue
3 Cores	Yellow/Green, Brown, Blue	Brown, Gray, Black
4 Cores	Yellow/Green, Brown, Gray, Black	Brown, Gray, Black, Blue
5 Cores	Yellow/Green, Brown, Gray, Black, Blue	Brown, Gray, Black, Blue, Black
Above 5 Cores	Yellow/Green, Black Numbered	Black Numbered

Sheath Colour: Black (other colors upon request)

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation: -30°C ~ 90°C
Temperature Range during Installation : -5°C ~ 50°C
Minimum Bending Radius: 8 x OD

ELECTRICAL PROPERTIES

Dielectric Test:	3500 V r.m.s. x 5' (core / core)
Insulation Resistance	1000 MΩ x km (at 20°C)
Short Circuit Temperature	250°C (up to 5 secs)

CONSTRUCTION PARAMETERS

Cable Code	Conductor			Nominal Insulation Thickness	Nominal Overall Diameter	Approx. Weight
	No. of Core ×Cross Section / CPC Cross Section	No./ Nominal Diameter of Strands	Dia. of Conductor			
		No./mm	mm	mm		kg/km
3 CORES						
FFX400 1mRZ1MZ1-R 3G1.5	3×1.5	7/0.53	1.59	0.7	16.5	420
FFX400 1mRZ1MZ1-R 3G2.5	3×2.5	7/0.67	2.01	0.7	17	500
FFX400 1mRZ1MZ1-R 3G4	3×4	7/0.85	2.55	0.7	18.5	600
FFX400 1mRZ1MZ1-R 3G6	3×6	7/1.04	3.12	0.7	19.8	785
FFX400 1mRZ1MZ1-R 3G10	3×10	7/1.35	4.05	0.7	22.6	1030
FFX400 1mRZ1MZ1-R 3G16	3×16	1/1.70	5.1	0.7	25	1370
FFX400 1mRZ1MZ1-R 3G25	3×25	7/2.14	6.42	0.9	29	1900
FFX400 1mRZ1MZ1-R 3G35	3×35	19/1.53	7.65	0.9	32	2300
FFX400 1mRZ1MZ1-R 3G50	3×50	19/1.78	8.9	1.0	35	2900
FFX400 1mRZ1MZ1-R 3G70	3×70	19/2.14	10.7	1.1	40	4000
FFX400 1mRZ1MZ1-R 3G95	3×95	19/2.52	12.6	1.1	45	5400
FFX400 1mRZ1MZ1-R 3G120	3×120	37/2.03	14.21	1.2	49	6450
FFX400 1mRZ1MZ1-R 3G150	3×150	37/2.25	15.75	1.4	55	8200
FFX400 1mRZ1MZ1-R 3G185	3×185	37/2.52	17.64	1.6	60	9800
FFX400 1mRZ1MZ1-R 3G240	3×240	61/2.25	20.25	1.7	68	12300
FFX400 1mRZ1MZ1-R 3G300	3×300	61/2.52	22.68	1.8	74	14800
FFX400 1mRZ1MZ1-R 3G400	3×400	61/2.85	25.65	2	83	17600
3 CORES + 1 EARTH CONDUCTOR						
FFX400 1mRZ1MZ1-R 3G16/6	3×16/6	7/1.70	5.1	0.7	23.6	13000
FFX400 1mRZ1MZ1-R 3G16/10	3×16/10	1/1.70	5.1	0.7	26.5	1425
FFX400 1mRZ1MZ1-R 3G25/6	3×25/6	7/2.14	6.42	0.9	27.1	1870
FFX400 1mRZ1MZ1-R 3G25/10	3×25/10	7/2.14	6.42	0.9	28.3	1960
FFX400 1mRZ1MZ1-R 3G25/16	3×25/16	7/2.14	6.42	0.9	29.8	2070
FFX400 1mRZ1MZ1-R 3G35/10	3×35/10	19/1.53	7.65	0.9	30.0	2110
FFX400 1mRZ1MZ1-R 3G35/16	3×35/16	19/1.53	7.65	0.9	30.5	2190
FFX400 1mRZ1MZ1-R 3G35/25	3×35/25	19/1.53	7.65	0.9	32.8	2400
FFX400 1mRZ1MZ1-R 3G50/16	3×50/16	19/1.78	8.9	1.0	36	3100
FFX400 1mRZ1MZ1-R 3G50/25	3×50/25	19/1.78	8.9	1.0	36.6	3250

FFX400 1mRZ1MZ1-R 3G50/35	3×50/35	19/1.78	8.9	1.0	38.1	3400
FFX400 1mRZ1MZ1-R 3G70/25	3×70/25	19/2.14	10.7	1.1	41	3990
FFX400 1mRZ1MZ1-R 3G70/35	3×70/35	19/2.14	10.7	1.1	42	4760
FFX400 1mRZ1MZ1-R 3G70/50	3×70/50	19/2.14	10.7	1.1	44	5120
FFX400 1mRZ1MZ1-R 3G95/25	3×95/25	19/2.52	12.6	1.1	46.7	6150
FFX400 1mRZ1MZ1-R 3G95/35	3×95/35	19/2.52	12.6	1.1	47.2	6340
FFX400 1mRZ1MZ1-R 3G95/50	3×95/50	19/2.52	12.6	1.1	47.8	6500
FFX400 1mRZ1MZ1-R 3G95/70	3×95/70	19/2.52	12.6	1.1	48.1	6540
FFX400 1mRZ1MZ1-R 3G120/35	3×120/35	37/2.03	14.21	1.2	49.0	6600
FFX400 1mRZ1MZ1-R 3G120/50	3×120/50	37/2.03	14.21	1.2	50.5	6990
FFX400 1mRZ1MZ1-R 3G120/70	3×120/70	37/2.03	14.21	1.2	51	7200
FFX400 1mRZ1MZ1-R 3G120/95	3×120/95	37/2.03	14.21	1.2	52.3	7600
FFX400 1mRZ1MZ1-R 3G150/50	3×150/50	37/2.25	15.75	1.4	57	9000
FFX400 1mRZ1MZ1-R 3G150/70	3×150/70	37/2.25	15.75	1.4	59	10600
FFX400 1mRZ1MZ1-R 3G150/95	3×150/95	37/2.25	15.75	1.4	60	10900
FFX400 1mRZ1MZ1-R 3G150/120	3×150/120	37/2.25	15.75	1.4	61	11100
FFX400 1mRZ1MZ1-R 3G185/70	3×185/70	37/2.52	17.64	1.6	63	11650
FFX400 1mRZ1MZ1-R 3G185/95	3×185/95	37/2.52	17.64	1.6	64	12000
FFX400 1mRZ1MZ1-R 3G185/120	3×185/120	37/2.52	17.64	1.6	65	12300
FFX400 1mRZ1MZ1-R 3G185/150	3×185/150	37/2.52	17.64	1.6	67	12700
FFX400 1mRZ1MZ1-R 3G240/95	3×240/95	61/2.25	20.25	1.7	71	13500
FFX400 1mRZ1MZ1-R 3G240/120	3×240/120	61/2.25	20.25	1.7	73	14000
FFX400 1mRZ1MZ1-R 3G240/150	3×240/150	61/2.25	20.25	1.7	74	14700
FFX400 1mRZ1MZ1-R 3G240/185	3×240/185	61/2.25	20.25	1.7	74.3	15100
FFX400 1mRZ1MZ1-R 3G300/120	3×300/120	61/2.52	22.68	1.8	75	15600
FFX400 1mRZ1MZ1-R 3G300/150	3×300/150	61/2.52	22.68	1.8	77	16000
FFX400 1mRZ1MZ1-R 3G300/180	3×300/180	61/2.52	22.68	1.8	79	17560
FFX400 1mRZ1MZ1-R 3G300/240	3×300/240	61/2.52	22.68	1.8	86	18900
4 CORES						
FFX400 1mRZ1MZ1-R 4G1.5	4×1.5	7/0.53	1.59	0.7	16	475
FFX400 1mRZ1MZ1-R 4G2.5	4×2.5	7/0.67	2.01	0.7	17.8	570
FFX400 1mRZ1MZ1-R 4G4	4×4	7/0.85	2.55	0.7	19.8	690
FFX400 1mRZ1MZ1-R 4G6	4×6	7/1.04	3.12	0.7	21	940
FFX400 1mRZ1MZ1-R 4G10	4×10	7/1.35	4.05	0.7	23.3	1200
FFX400 1mRZ1MZ1-R 4G16	4×16	1/1.70	5.1	0.7	26.5	1400
FFX400 1mRZ1MZ1-R 4G25	4×25	7/2.14	6.42	0.9	30.5	2400
FFX400 1mRZ1MZ1-R 4G35	4×35	19/1.53	7.65	0.9	34	2800

FFX400 1mRZ1MZ1-R 4G50	4×50	19/1.78	8.9	1	38	3500
FFX400 1mRZ1MZ1-R 4G70	4×70	19/2.14	10.7	1.1	44	5300
FFX400 1mRZ1MZ1-R 4G95	4×95	19/2.52	12.6	1.1	48.5	6700
FFX400 1mRZ1MZ1-R 4G120	4×120	37/2.03	14.21	1.2	54	8500
FFX400 1mRZ1MZ1-R 4G150	4×150	37/2.25	15.75	1.4	59	10000
FFX400 1mRZ1MZ1-R 4G185	4×185	37/2.52	17.64	1.6	64.5	12200
FFX400 1mRZ1MZ1-R 4G240	4×240	61/2.25	20.25	1.7	74	15400
FFX400 1mRZ1MZ1-R 4G300	4×300	61/2.52	22.68	1.8	82	19500
FFX400 1mRZ1MZ1-R 4G400	4×400	61/2.85	25.65	2	92	25500
4 CORES + 1 EARTH CONDUCTOR						
FFX400 1mRZ1MZ1-R 4G16/6	4×16/6	7/1.70	5.1	0.7	24	1300
FFX400 1mRZ1MZ1-R 4G16/10	4×16/10	7/1.70	5.1	0.7	26	1600
FFX400 1mRZ1MZ1-R 4G25/6	4×25/6	7/2.14	6.42	0.7		
FFX400 1mRZ1MZ1-R 4G25/10	4×25/10	7/2.14	6.42	0.7	29	2015
FFX400 1mRZ1MZ1-R 4G25/16	4×25/16	7/2.14	6.42	0.7	32	2540
FFX400 1mRZ1MZ1-R 4G35/10	4×35/10	19/1.53	7.65	0.9		
FFX400 1mRZ1MZ1-R 4G35/16	4×35/16	19/1.53	7.65	0.9	35	3000
FFX400 1mRZ1MZ1-R 4G35/25	4×35/25	19/1.53	7.65	0.9	35.6	3170
FFX400 1mRZ1MZ1-R 4G50/16	4×50/16	19/1.78	8.9	1.0	40	3800
FFX400 1mRZ1MZ1-R 4G50/25	4×50/25	19/1.78	8.9	1.0	41.4	4100
FFX400 1mRZ1MZ1-R 4G50/35	4×50/35	19/1.78	8.9	1.0	43.0	4432
FFX400 1mRZ1MZ1-R 4G70/25	4×70/25	19/2.14	10.7	1.1	47	6900
FFX400 1mRZ1MZ1-R 4G70/35	4×70/35	19/2.14	10.7	1.1	48	7200
FFX400 1mRZ1MZ1-R 4G70/50	4×70/50	19/2.14	10.7	1.1	50	7600
FFX400 1mRZ1MZ1-R 4G95/25	4×95/25	19/2.52	12.6	1.1	52	8100
FFX400 1mRZ1MZ1-R 4G95/35	4×95/35	19/2.52	12.6	1.1	53	8250
FFX400 1mRZ1MZ1-R 4G95/50	4×95/50	19/2.52	12.6	1.1	54	8390
FFX400 1mRZ1MZ1-R 4G95/70	4×95/70	19/2.52	12.6	1.1	54.3	8460
FFX400 1mRZ1MZ1-R 4G120/35	4×120/35	37/2.03	14.21	1.2	54.7	8600
FFX400 1mRZ1MZ1-R 4G120/50	4×120/50	37/2.03	14.21	1.2	55	8800
FFX400 1mRZ1MZ1-R 4G120/70	4×120/70	37/2.03	14.21	1.2	56	9100
FFX400 1mRZ1MZ1-R 4G120/95	4×120/95	37/2.03	14.21	1.2	57	9400
FFX400 1mRZ1MZ1-R 4G150/50	4×150/50	37/2.25	17.64	1.4	61	10800
FFX400 1mRZ1MZ1-R 4G150/70	4×150/70	37/2.25	17.64	1.4	62	11100
FFX400 1mRZ1MZ1-R 4G150/95	4×150/95	37/2.25	17.64	1.4	64	11500
FFX400 1mRZ1MZ1-R 4G150/120	4×150/120	37/2.25	17.64	1.4	65	11900
FFX400 1mRZ1MZ1-R 4G185/70	4×185/70	37/2.52	17.64	1.6	66	12900

FFX400 1mRZ1MZ1-R 4G185/95	4×185/95	37/2.52	17.64	1.6	68	13600
FFX400 1mRZ1MZ1-R 4G185/120	4×185/120	37/2.52	17.64	1.6	70	14700
FFX400 1mRZ1MZ1-R 4G185/150	4×185/150	37/2.52	17.64	1.6	73	15500
FFX400 1mRZ1MZ1-R 4G240/95	4×240/95	61/2.25	20.25	1.7	77	16900
FFX400 1mRZ1MZ1-R 4G240/120	4×240/120	61/2.25	20.25	1.7	78	17600
FFX400 1mRZ1MZ1-R 4G240/150	4×240/150	61/2.25	20.25	1.7	79	18200
FFX400 1mRZ1MZ1-R 4G240/185	4×240/185	61/2.25	20.25	1.7	80	19100
FFX400 1mRZ1MZ1-R 4G300/120	4×300/120	61/2.52	22.68	1.8	81	19700
FFX400 1mRZ1MZ1-R 4G300/150	4×300/150	61/2.52	22.68	1.8	83	21060
FFX400 1mRZ1MZ1-R 4G300/180	4×300/180	61/2.52	22.68	1.8	85	22170
FFX400 1mRZ1MZ1-R 4G300/240	4×300/240	61/2.52	22.68	1.8	87	24500
5 CORES						
FFX400 1mRZ1MZ1-R 5G1.5	5×1.5	7/0.53	1.59	0.7	18.8	558
FFX400 1mRZ1MZ1-R 5G2.5	5×2.5	7/0.67	2.01	0.7	20.9	670
FFX400 1mRZ1MZ1-R 5G4	5×4	7/0.85	2.55	0.7	23.3	811
FFX400 1mRZ1MZ1-R 5G6	5×6	7/1.04	3.12	0.7	24.7	1105
FFX400 1mRZ1MZ1-R 5G10	5×10	7/1.35	4.05	0.7	27.4	1410
FFX400 1mRZ1MZ1-R 5G16	5×16	1/1.70	5.1	0.7	31.1	1645
FFX400 1mRZ1MZ1-R 5G25	5×25	7/2.14	6.42	0.9	35.8	2820
FFX400 1mRZ1MZ1-R 5G35	5×35	19/1.53	7.65	0.9	40.0	3290
FFX400 1mRZ1MZ1-R 5G50	5×50	19/1.78	8.9	1	44.7	4113
FFX400 1mRZ1MZ1-R 5G70	5×70	19/2.14	10.7	1.1	51.7	6228
FFX400 1mRZ1MZ1-R 5G95	5×95	19/2.52	12.6	1.1	57.0	7873
FFX400 1mRZ1MZ1-R 5G120	5×120	37/2.03	14.21	1.2	63.5	9988
FFX400 1mRZ1MZ1-R 5G150	5×150	37/2.25	15.75	1.4	69.3	11750
FFX400 1mRZ1MZ1-R 5G185	5×185	37/2.52	17.64	1.6	75.8	14335
FFX400 1mRZ1MZ1-R 5G240	5×240	61/2.25	20.25	1.7	87.0	18095
FFX400 1mRZ1MZ1-R 5G300	5×300	61/2.52	22.68	1.8	96.4	22913
FFX400 1mRZ1MZ1-R 5G400	5×400	61/2.85	25.65	2	108.1	29963

ELECTRICAL PROPERTIES

Conductor Operating Temperature : 90°C

Ambient Temperature : 30°C

Current-Carrying Capacities (Amp)

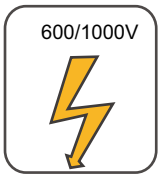
Nominal Cross Section Area	Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated horizontal cable tray or Reference Method 13 [free air])		In single-way ducts		Laid direct in ground	
	one 2-core cable single phase a.c. or d.c.	one 3-core or 4-core cable 3-phase a.c.	one 2-core cable single phase a.c. or d.c.	one 3-core or 4-core cable 3-phase a.c.	one 2-core cable single phase a.c. or d.c.	one 3-core or 4-core cable 3-phase a.c.	one 2-core cable single phase a.c. or d.c.	one 3-core or 4-core cable 3-phase a.c.
1	2	3	4	5	6	7	8	9
mm^2	A	A	A	A	A	A	A	A
1.5	27	23	29	25	-	23	-	28
2.5	36	31	39	33	-	30	-	36
4	49	42	52	44	-	40	-	48
6	62	53	66	56	-	50	-	60
10	85	73	90	78	-	65	-	80
16	110	94	115	99	115	94	140	115
25	146	124	152	131	145	125	180	150
35	180	154	188	162	175	150	215	180
50	219	187	228	197	210	175	255	215
70	279	238	291	251	260	215	315	265
95	338	289	354	304	310	260	380	315
120	392	335	410	353	355	300	430	360
150	451	386	472	406	400	335	480	405
185	515	441	539	463	455	380	540	460
240	607	520	636	546	520	440	630	530
300	698	599	732	628	590	495	700	590
400	787	673	847	728	660	560	790	670

Voltage Drop (Per Amp Per Meter)

Nominal Cross Section Area	2-core cable d.c.	2 cables, single-phase a.c.	3 or 4 cables, 3-phase a.c.	2 cables, single-phase a.c. In ducts or in ground	3 or 4 cables, 3-phase a.c. In ducts or in ground
1	2	3	4	5	6
mm^2	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m

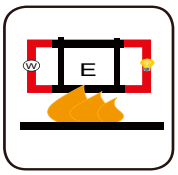
1.5	31	31			27			31	25
2.5	19	19			16			19	15
4	12	12			10			12	9.7
6	7.9	7.9			6.8			7.9	6.5
10	4.7	4.7			4			4.7	3.9
16	2.9	2.9			2.5			2.9	2.6
		r	x	z	r	x	z		
25	1.85	1.35	0.16	1.9	1.6	0.14	1.65	1.9	1.6
35	1.35	1.35	0.155	1.35	1.15	0.135	1.15	1.35	1.2
50	0.98	0.99	0.155	1	0.86	0.135	0.87	1	0.87
70	0.67	0.67	0.15	0.69	0.59	0.13	0.6	0.69	0.61
95	0.49	0.5	0.15	0.52	0.43	0.13	0.45	0.52	0.45
120	0.39	0.4	0.145	0.42	0.34	0.13	0.37	0.42	0.36
150	0.31	0.32	0.145	0.35	0.28	0.125	0.3	0.35	0.3
185	0.25	0.26	0.145	0.29	0.22	0.125	0.26	0.29	0.25
240	0.195	0.2	0.14	0.24	0.175	0.125	0.21	0.24	0.21
300	0.155	0.16	0.14	0.21	0.14	0.12	0.185	0.21	0.19
400	0.12	0.13	0.14	0.19	0.115	0.12	0.165	0.19	0.18

Note : r = conductor resistance at operating temperature
x = reactance
z = impedance



Rated Voltage

Standard

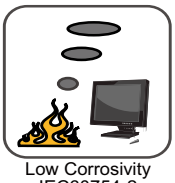


Circuit Integrity
IEC 60331/BS 6387
NF C32-070-2.3(CR1)


Reduced Fire Propagation
NF C32-070-2.2(C1)
IEC60332-3-24/EN50266-2-4

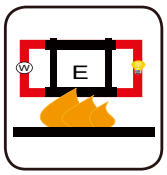

Flame Retardancy
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1


Low Toxicity
NES 02-713/NF C 20-454


Low Corrosivity
IEC60754-2
EN50267-2-2/3
NF C 32-074


Low Smoke Emission
IEC 61034-1&2
EN 50268-1&2/NF C32-073

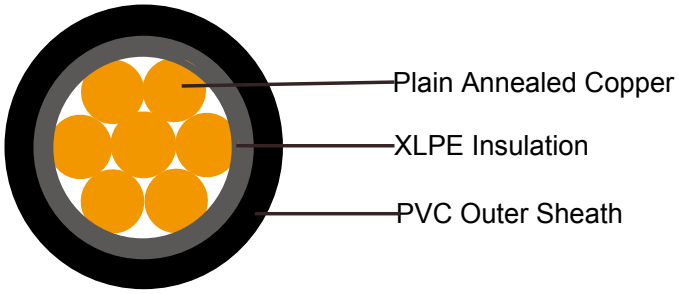
Halogen Free
IEC60754-1
EN50267-2-1



Functional Integrity
DIN 4102-12

600/1000V XLPE Insulated, PVC Sheathed Power Cables (Single Core)

FGD300 1RV-R (CU/XLPE/PVC 600/1000V Class 2)



APPLICATION

The cables is mainly used in power stations, mass transit underground passenger systems, airports, petrochemical plants, hotels, hospitals, and high-rise buildings.

STANDARDS

Basic design to IEC 60502-1

FIRE PERFORMANCE

Flame Retardance (Single Vertical Wire Test)**	EN 60332-1-2; IEC 60332-1-2; BS EN 60332-1-2; VDE 0482-332-1 ; NBN C 30-004 (cat. F1); NF C32-070-2.1(C2); CEI 20-35/1-2; EN 50265-2-1*; DIN VDE 0482-265-2-1*
Reduced Fire Propagation (Vertically-mounted bundled wires & cable test)**	EN 60332-3-24 (cat. C); IEC 60332-3-24; BS EN 60332-3-24; VDE 0482-332-3; NBN C 30-004 (cat. F2); NF C32-070-2.2(C1); CEI 20-22/3-4; EN 50266-2-4*; DIN VDE 0482-266-2-4

Note: Asterisk ** denotes that the standard compliance is optional, depending on the oxygen index of the PVC compound and the cable design.

VOLTAGE RATING

600/1000V

CABLE CONSTRUCTION

Conductor: Plain annealed copper wire, stranded according to IEC 60228 class 2.

Insulation: Extruded cross-linked XLPE compound.

Outer Sheath: Thermoplastic PVC compound

COLOUR CODE

Insulation Colour : Natural

Sheath Colour : Black (other colors upon request)

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation: -40°C ~ 70°C

Temperature Range during Installation : -5°C ~ 50°C

Minimum Bending Radius: 6 x OD

ELECTRICAL PROPERTIES

Dielectric Test:	3500 V r.m.s. x 5' (core / core)
Insulation Resistance	500 MΩ x km (at 20°C)
Short circuit Temperature	250°C (up to 5 secs)

CONSTRUCTION PARAMETERS

Cable Code	Conductor				
	No. of Core X Cross Section	No./Nominal Diameter of Strands	Nominal Insulation Thickness	Nominal Overall Diameter	Approx. Weight
	mm^2	No./mm	mm	mm	kg/km
FGD300 1RV-R 1G1.5	1x1.5	7/0.53	0.7	6	48
FGD300 1RV-R 1G2.5	1x2.5	7/0.67	0.7	6.4	63
FGD300 1RV-R 1G4	1x4	7/0.85	0.7	7.0	78
FGD300 1RV-R 1G6	1x6	7/1.04	0.7	7.5	105
FGD300 1RV-R 1G10	1x10	7/1.35	0.7	8.5	151
FGD300 1RV-R 1G16	1x16	7/1.70	0.7	9.5	211
FGD300 1RV-R 1G25	1x25	7/2.14	0.9	11.2	315
FGD300 1RV-R 1G35	1x35	7/2.52	0.9	12.4	416
FGD300 1RV-R 1G50	1x50	19/1.78	1.0	14	569
FGD300 1RV-R 1G70	1x70	19/2.14	1.1	16	792
FGD300 1RV-R 1G95	1x95	19/2.52	1.1	18	1068
FGD300 1RV-R 1G120	1x120	37/2.03	1.2	20	1325
FGD300 1RV-R 1G150	1x150	37/2.25	1.4	22	1627
FGD300 1RV-R 1G185	1x185	37/2.52	1.6	24.4	2021

FGD300 1RV-R 1G240	1x240	61/2.25	1.7	27.5	2617
FGD300 1RV-R 1G300	1x300	61/2.52	1.8	30.3	3252
FGD300 1RV-R 1G400	1x400	61/2.85	2.0	33.9	4131
FGD300 1RV-R 1G500	1x500	61/3.20	2.2	37.6	5175
FGD300 1RV-R 1G630	1x630	127/2.52	2.4	42.4	6631
FGD300 1RV-R 1G800	1x800	127/2.85	2.6	47.3	8412
FGD300 1RV-R 1G1000	1x1000	127/3.20	2.8	52.4	10530

ELECTRICAL PROPERTIES

Conductor Operating Temperature : 90°C
Ambient Temperature : 30°C

Current-Carrying Capacities (Amp)

Conductor cross-sectional area	Reference Method 4 (enclosed in conduit in thermally insulating wall etc)		Reference Method 3 (enclosed in conduit on a wall or in trunking etc)		Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated cable tray, horizontal or vertical)		Reference Method 12 (free air)		
									Horizontal flat spaced	Vertical flat spaced	Trefoil
	2 cables, single-phase a.c. or d.c.	3 or 4 cables, 3-phase a.c.	2 cables, single-phase a.c. or d.c	3 or 4 cables, 3-phase a.c.	2 cables, single-phase a.c. or d.c. flat and touching	3 or 4 cables, 3-phase a.c. flat and touching or trefoil	2 cables, single-phase a.c. or d.c. or flat and touching	3 or 4 cables, 3-phase a.c. flat and touching or trefoil	2 cables, single-phase a.c. or d.c. or 3 c ables three phase	2 cables, single-phase a.c. or d.c. or 3 cables three phase	3 cables, trefoil 3-phase a.c.
1	2	3	4	5	6	7	8	9	10	11	12
mm^2	A	A	A	A	A	A	A	A	A	A	A
1.5	18	17	22	19	25	23	-	-	-	-	-
2.5	24	23	30	26	34	31	-	-	-	-	-
4	33	30	40	35	46	41	-	-	-	-	-
6	43	39	51	45	59	54	-	-	-	-	-
10	58	53	71	63	81	74	-	-	-	-	-
16	76	70	95	85	109	99	-	-	-	-	-

25	100	91	126	111	143	130	158	140	183	163	138
35	125	111	156	138	176	161	195	176	226	203	171
50	149	135	189	168	228	209	293	215	274	246	209
70	189	170	240	214	293	268	308	279	351	318	270
95	228	205	290	259	355	326	375	341	426	389	330
120	263	235	336	299	413	379	436	398	495	453	385
150	300	270	375	328	476	436	505	461	570	524	445
185	341	306	426	370	545	500	579	530	651	600	511
240	400	358	500	433	644	590	686	630	769	711	606
300	459	410	573	493	743	681	794	730	886	824	701
400	-	-	684	584	868	793	915	849	1065	994	820
500	-	-	783	666	990	904	1044	973	1228	1150	936
630	-	-	900	764	1130	1033	1191	1115	1423	1338	1069
800	-	-	-	-	1288	1179	1358	1275	1580	1485	1214
1000	-	-	-	-	1443	1323	1520	1436	1775	1671	1349

Voltage Drop (Per Amp Per Meter)

Size of conductor	2 cables d.c.	2 cables, single-phase a.c.						3 or 4 cables, 3-phase a.c.								
		Ref. Methods 3 and 4 (enclosed in conduit etc, in or on a wall)			Ref. Methods 1 and 11 (clipped direct or on trays touching)			Ref. Methods 3 and 4 (enclosed in conduit etc, in or on a wall)			Ref. Methods 1, 11 and 12 (in trefoil)			Ref. Methods 1 and 11 (Flat and touching)		
1	2	3			4			5			6			7		
mm^2	mV/A/m	mV/A/m			mV/A/m			mV/A/m			mV/A/m			mV/A/m		
1.5	31	31			27			27			27			27		
2.5	19	19			16			16			16			16		
4	33	12			10			10			10			10		
6	7.8	7.9			6.8			6.8			6.8			6.8		
10	4.7	4.7			4.7			4			4			4		
16	2.9	2.9			2.9			2.5			2.5			2.5		
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z

25	1.85	1.85	0.31	1.90	1.85	0.190	1.85	1.60	0.27	1.65	1.600	0.165	1.600	1.600	0.190	1.600
35	1.35	1.35	0.29	1.35	1.35	0.180	1.35	1.15	0.25	1.15	1.150	0.155	1.50	1.150	0.180	1.150
50	0.99	1.00	0.29	1.05	0.99	0.180	1.00	0.87	0.25	0.90	0.860	0.155	0.870	0.860	0.180	0.870
70	0.68	0.70	0.28	0.75	0.68	0.175	0.71	0.60	0.24	0.65	0.590	0.150	0.610	0.590	0.175	0.620
95	0.49	0.51	0.27	0.58	0.49	0.170	0.52	0.44	0.23	0.50	0.430	0.145	0.450	0.430	0.170	0.460
120	0.39	0.41	0.26	0.48	0.39	0.165	0.43	0.35	0.23	0.42	0.340	0.140	0.370	0.340	0.165	0.380
150	0.32	0.33	0.26	0.43	0.32	0.165	0.36	0.29	0.23	0.37	0.280	0.140	0.310	0.280	0.165	0.320
185	0.25	0.27	0.26	0.37	0.26	0.165	0.30	0.23	0.23	0.32	0.220	0.140	0.260	0.220	0.165	0.280
240	0.19	0.21	0.26	0.33	0.20	0.160	0.25	0.185	0.22	0.29	0.170	0.140	0.220	0.170	0.165	0.240
300	0.155	0.175	0.25	0.31	0.16	0.160	0.22	0.150	0.22	0.27	0.140	0.140	0.195	0.135	0.160	0.210
400	0.12	0.140	0.25	0.29	0.13	0.155	0.20	0.125	0.22	0.25	0.110	0.135	0.175	0.110	0.160	0.195
500	0.093	0.120	0.25	0.28	0.105	0.155	0.185	0.100	0.22	0.24	0.090	0.135	0.160	0.088	0.160	0.180
630	0.072	0.100	0.25	0.27	0.086	0.155	0.175	0.088	0.21	0.23	0.074	0.135	0.150	0.071	0.160	0.170
800	0.056	-	-	-	0.072	0.150	0.170	-	-	-	0.062	0.130	0.145	0.059	0.155	0.165
1000	0.045	-	-	-	0.063	0.150	0.165	-	-	-	0.055	0.130	0.140	0.050	0.155	0.165

Note :
r = conductor resistance at operating temperature
x = reactance
z = impedance

Rated Voltage

Standard

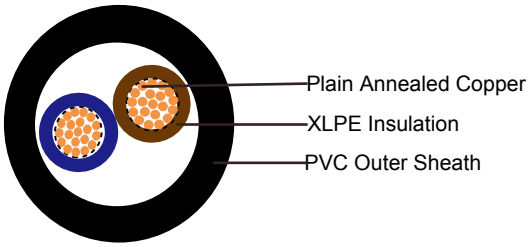

Reduced Fire Propagation
NF C32-070-2.2(C1)
IEC60332-3-24/EN50266-2-4
Optional

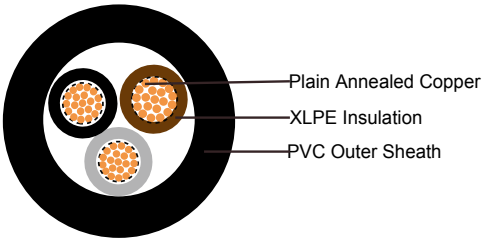

Flame Retardancy
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1
Optional

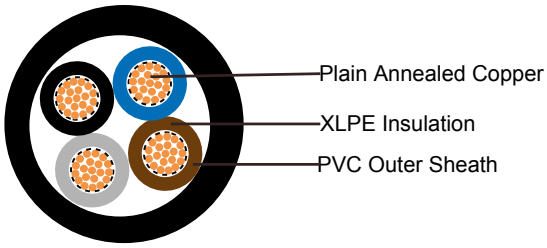
600/1000V XLPE Insulated PVC Sheathed Power Cables (Multicore)

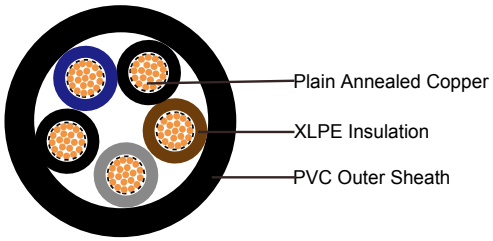
FGD400 1RV-R (CU/XLPE/PVC 600/1000V Class 2)

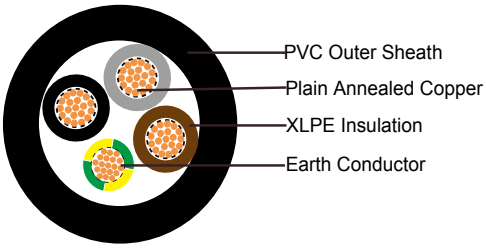
Outdoor Cabling

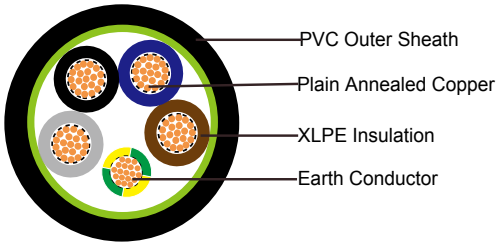












APPLICATION

The cables are mainly used in power stations, mass transit underground passenger systems, airports, petrochemical plants, hotels, hospitals, and high-rise buildings.

STANDARDS

Basic design to IEC 60502-1

FIRE PERFORMANCE

Flame Retardance (Single Vertical Wire Test)**	EN 60332-1-2; IEC 60332-1-2; BS EN 60332-1-2; VDE 0482-332-1 ; NBN C 30-004 (cat. F1); NF C32-070-2.1(C2); CEI 20-35/1-2; EN 50265-2-1*; DIN VDE 0482-265-2-1*

Reduced Fire Propagation (Vertically-mounted bundled wires & cable test)**	EN 60332-3-24 (cat. C); IEC 60332-3-24; BS EN 60332-3-24; VDE 0482-332-3; NBN C 30-004 (cat. F2); NF C32-070-2.2(C1); CEI 20-22/3-4; EN 50266-2-4*; DIN VDE 0482-266-2-4

Note: Asterisk ** denotes that the standard compliance is optional, depending on the oxygen index of the PVC compound and the cable design.

VOLTAGE RATING

600/1000V

CABLE CONSTRUCTION

Conductor: Plain annealed copper wire, stranded according to IEC 60228 class 2.

Insulation: Extruded cross-linked XLPE compound.

Outer Sheath: Thermoplastic PVC compound.

COLOUR CODE

Insulation Colour as per BS7671

	With Earth Conductor	Without Earth Conductor
2 Cores	-	Brown, Blue
3 Cores	Yellow/Green, Brown, Blue	Brown, Gray, Black
4 Cores	Yellow/Green, Brown, Gray, Black	Brown, Gray, Black, Blue
5 Cores	Yellow/Green, Brown, Gray, Black, Blue	Brown, Gray, Black, Blue, Black
Above 5 Cores	Yellow/Green, Black Numbered	Black Numbered

Sheath Colour: Black (other colors upon request)

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation: -40°C ~ 70°C

Temperature Range during Installation : -5°C ~ 50°C

Minimum Bending Radius: 6 x OD

ELECTRICAL PROPERTIES

Dielectric Test:	3500 V r.m.s. x 5' (core / core)
Insulation Resistance	500 MΩ x km (at 20°C)
Short circuit Temperature	250°C (up to 5 secs)

CONSTRUCTION PARAMETERS

Cable Code	Conductor			Nominal Overall Diameter	Approx. Weight
	No. of Core X Cross Section / CPC Cross Section	No./Nominal Diameter of Strands	Nominal Insulation Thickness		
	No.×mm^2	No./mm	mm	mm	mm
2 CORES					
FGD400 1RV-R 2G1.5	2x1.5	7/0.53	0.7	10.0	126
FGD400 1RV-R 2G2.5	2x2.5	7/0.67	0.7	10.8	158
FGD400 1RV-R 2G4	2x4	7/0.85	0.7	11.9	205
FGD400 1RV-R 2G6	2x6	7/1.04	0.7	13.0	264
FGD400 1RV-R 2G10	2x10	7/1.35	0.7	14.9	378
FGD400 1RV-R 2G16	2x16	7/1.70	0.7	17.0	534
FGD400 1RV-R 2G25	2x25	7/2.14	0.9	20.4	650
FGD400 1RV-R 2G35	2x35	7/2.52	0.9	22.7	880
3 CORES					
FGD400 1RV-R 3G1.5	3x1.5	7/0.53	0.7	10.5	145
FGD400 1RV-R 3G2.5	3x2.5	7/0.67	0.7	11.4	185
FGD400 1RV-R 3G4	3x4	7/0.85	0.7	12.5	247
FGD400 1RV-R 3G6	3x6	7/1.04	0.7	13.8	323
FGD400 1RV-R 3G10	3x10	7/1.35	0.7	15.8	474
FGD400 1RV-R 3G16	3x16	7/1.70	0.7	18.0	682
FGD400 1RV-R 3G25	3x25	7/2.14	0.9	21.7	910
FGD400 1RV-R 3G35	3x35	7/2.52	0.9	24.0	1180
FGD400 1RV-R 3G50	3x50(S)	19/1.78	1.0	25.5	1600
FGD400 1RV-R 3G70	3x70(S)	19/2.14	1.1	29.0	2240
FGD400 1RV-R 3G95	3x95(S)	19/2.52	1.1	33.5	3050
FGD400 1RV-R 3G120	3x120(S)	37/2.03	1.2	37.5	3800
FGD400 1RV-R 3G150	3x150(S)	37/2.25	1.4	40.5	4640
FGD400 1RV-R 3G185	3x185(S)	37/2.52	1.6	45.0	5870

FGD400 1RV-R 3G40	3x240(S)	61/2.25	1.7	50.5	7670
FGD400 1RV-R 3G300	3x300(S)	61/2.52	1.8	57.0	9460
FGD400 1RV-R 3G400	3x400(S)	61/2.85	2.0	63.0	11945
3 CORE + 1 EARTH CONDUCTOR					
FGD400 1RV-R 3G16/6	3x16/6	7/1.70	0.7	16.5	698
FGD400 1RV-R 3G16/10	3x16/10	7/1.70	0.7	18.85	793
FGD400 1RV-R 3G25/6	3x25/6	7/2.14	0.9	21.7	956
FGD400 1RV-R 3G25/10	3x25/10	7/2.14	0.9	22.1	1021
FGD400 1RV-R 3G25/16	3x25/16	7/2.14	0.9	23.0	1070
FGD400 1RV-R 3G35/10	3x35/10	19/1.53	0.9	22.9	1263
FGD400 1RV-R 3G35/16	3x35/16	19/1.53	0.9	24.3	1349
FGD400 1RV-R 3G35/25	3x35/25	19/1.53	0.9	25.2	1470
FGD400 1RV-R 3G50/16	3x50/16	19/1.78	1.0	26.1	1769
FGD400 1RV-R 3G50/25	3x50/25	19/1.78	1.0	27.3	1890
FGD400 1RV-R 3G50/35	3x50/35	19/1.78	1.0	27.8	1995
FGD400 1RV-R 3G70/25	3x70/25	19/2.14	1.1	30.2	2530
FGD400 1RV-R 3G70/35	3x70/35	19/2.14	1.1	30.9	2660
FGD400 1RV-R 3G70/50	3x70/50	19/2.14	1.1	31.5	2840
FGD400 1RV-R 3G95/25	3x95/25	19/2.52	1.1	35.1	3340
FGD400 1RV-R 3G95/35	3x95/35	19/2.52	1.1	36.0	3470
FGD400 1RV-R 3G95/50	3x95/50	19/2.52	1.1	36.8	3650
FGD400 1RV-R 3G95/70	3x95/70	19/2.52	1.1	36.9	3890
FGD400 1RV-R 3G120/35	3x120/35	37/2.03	1.2	38.2	3920
FGD400 1RV-R 3G120/50	3x120/50	37/2.03	1.2	39.1	4400
FGD400 1RV-R 3G120/70	3x120/70	37/2.03	1.2	40.0	4610
FGD400 1RV-R 3G120/95	3x120/95	37/2.03	1.2	41.2	4820
FGD400 1RV-R 3G150/50	3x150/50	37/2.25	1.4	41.5	5240
FGD400 1RV-R 3G150/70	3x150/70	37/2.25	1.4	42.3	5450
FGD400 1RV-R 3G150/95	3x150/95	37/2.25	1.4	43.6	5660

FGD400 1RV-R 3G150/120	3x150/120	37/2.25	1.4	44.8	6240
FGD400 1RV-R 3G185/70	3x185/70	37/2.52	1.6	47.5	6680
FGD400 1RV-R 3G185/95	3x185/95	37/2.52	1.6	47.9	6990
FGD400 1RV-R 3G185/120	3x185/120	37/2.52	1.6	48.5	7395
FGD400 1RV-R 3G185/150	3x185/150	37/2.52	1.6	49.2	7580
FGD400 1RV-R 3G240/95	3x240/95	61/2.25	1.7	53.4	8690
FGD400 1RV-R 3G240/120	3x240/120	61/2.25	1.7	54.9	9095
FGD400 1RV-R 3G240/150	3x240/150	61/2.25	1.7	55.6	9380
FGD400 1RV-R 3G240/185	3x240/185	61/2.25	1.7	56.8	9687
FGD400 1RV-R 3G300/120	3x300/120	61/2.52	1.8	58.1	10480
FGD400 1RV-R 3G300/150	3x300/150	61/2.52	1.8	57.3	11170
FGD400 1RV-R 3G300/185	3x300/185	61/2.52	1.8	58.7	11480
FGD400 1RV-R 3G300/240	3x300/240	61/2.52	1.8	62.4	11290
4 CORES					
FGD400 1RV-R 4G1.5	4x1.5	7/0.53	0.7	11.3	169
FGD400 1RV-R 4G2.5	4x2.5	7/0.67	0.7	12.3	220
FGD400 1RV-R 4G4	4x4	7/0.85	0.7	13.6	297
FGD400 1RV-R 4G6	4x6	7/1.04	0.7	15.0	392
FGD400 1RV-R 4G10	4x10	7/1.35	0.7	17.2	585
FGD400 1RV-R 4G16	4x16	7/1.70	0.7	19.7	851
FGD400 1RV-R 4G25	4x25	7/2.14	0.9	23.9	1200
FGD400 1RV-R 4G35	4x35(S)	7/2.52	0.9	25.0	1600
FGD400 1RV-R 4G50	4x50(S)	19/1.78	1.0	28.0	2200
FGD400 1RV-R 4G70	4x70(S)	19/2.14	1.1	32.0	3050
FGD400 1RV-R 4G95	4x95(S)	19/2.52	1.1	37.0	4070
FGD400 1RV-R 4G120	4x120(S)	37/2.03	1.2	42.0	5915
FGD400 1RV-R 4G150	4x150(S)	37/2.25	1.4	46.0	6350
FGD400 1RV-R 4G185	4x185(S)	37/2.52	1.6	50.0	7890
FGD400 1RV-R 4G240	4x240(S)	61/2.25	1.7	57.0	10400
FGD400 1RV-R 4G300	4x300(S)	61/2.52	1.8	63.0	12810

FGD400 1RV-R 4G400	4x400(S)	61/2.85	2.0	71.0	15869
FGD400 1RV-R 4G500	4x500(S)	61/3.20	2.2	78.0	20300
4 CORE + 1 EARTH CONDUCTOR					
FGD400 1RV-R 4G16/6	4x16/6	7/1.70	0.7	19	654
FGD400 1RV-R 4G16/10	4x16/10	7/1.70	0.7	21.9	962
FGD400 1RV-R 4G25/6	4x25/10	7/2.14	0.7	25.3	1256
FGD400 1RV-R 4G25/10	4x25/10	7/2.14	0.7	26.6	1311
FGD400 1RV-R 4G25/16	4x25/16	7/2.14	0.7	27.3	1369
FGD400 1RV-R 4G35/10	4x35/10	19/1.53	0.9	26.8	1658
FGD400 1RV-R 4G35/16	4x35/16	19/1.53	0.9	27.6	1769
FGD400 1RV-R 4G35/25	4x35/25	19/1.53	0.9	28.4	1890
FGD400 1RV-R 4G50/16	4x50/16	19/1.78	1.0	29.4	2369
FGD400 1RV-R 4G50/25	4x50/25	19/1.78	1.0	31.6	2490
FGD400 1RV-R 4G50/35	4x50/35	19/1.78	1.0	33.2	2599
FGD400 1RV-R 4G70/25	4x70/25	19/2.14	1.1	34.2	3340
FGD400 1RV-R 4G70/35	4x70/35	19/2.14	1.1	35.6	3470
FGD400 1RV-R 4G70/50	4x70/50	19/2.14	1.1	37.8	3650
FGD400 1RV-R 4G95/25	4x95/25	19/2.52	1.1	42.6	4360
FGD400 1RV-R 4G95/35	4x95/35	19/2.52	1.1	43.3	4510
FGD400 1RV-R 4G95/50	4x95/50	19/2.52	1.1	44.1	4670
FGD400 1RV-R 4G95/70	4x95/70	19/2.52	1.1	45.3	4783
FGD400 1RV-R 4G120/35	4x120/35	37/2.03	1.2	42.6	6335
FGD400 1RV-R 4G120/50	4x120/50	37/2.03	1.2	43.8	6515
FGD400 1RV-R 4G120/70	4x120/70	37/2.03	1.2	45.9	6725
FGD400 1RV-R 4G120/95	4x120/95	37/2.03	1.2	46.4	6920
FGD400 1RV-R 4G150/50	4x150/50	37/2.25	1.4	47.3	6950
FGD400 1RV-R 4G150/70	4x150/70	37/2.25	1.4	48.5	7160
FGD400 1RV-R 4G150/95	4x150/95	37/2.25	1.4	50.2	7370
FGD400 1RV-R 4G150/120	4x150/120	37/2.25	1.4	53.7	7965
FGD400 1RV-R 4G185/70	4x185/70	37/2.52	1.6	52.4	8490
FGD400 1RV-R 4G185/95	4x185/95	37/2.52	1.6	53.9	8700

FGD400 1RV-R 4G185/120	4x185/120	37/2.52	1.6	55.6	8910
FGD400 1RV-R 4G185/150	4x185/150	37/2.52	1.6	59.4	9260
FGD400 1RV-R 4G240/95	4x240/95	61/2.25	1.7	61.9	11210
FGD400 1RV-R 4G240/120	4x240/120	61/2.25	1.7	63.4	11420
FGD400 1RV-R 4G240/150	4x240/150	61/2.25	1.7	63.9	12010
FGD400 1RV-R 4G240/185	4x240/185	61/2.25	1.7	64.3	12090
FGD400 1RV-R 4G300/120	4x300/120	61/2.52	1.8	64.0	12110
FGD400 1RV-R 4G300/150	4x300/150	61/2.52	1.8	66.1	13830
FGD400 1RV-R 4G300/185	4x300/185	61/2.52	1.8	71.5	14520
FGD400 1RV-R 4G300/240	4x300/240	61/2.52	1.8	72.0	14830
5 CORES					
FGD400 1RV-R 5G1.5	5x1.5	7/0.53	0.7	13.7	205
FGD400 1RV-R 5G2.5	5x2.5	7/0.85	0.7	14.9	265
FGD400 1RV-R 5G4	5x4	7/0.85	0.7	16.3	360
FGD400 1RV-R 5G6	5x6	7/1.04	0.7	18.2	478
FGD400 1RV-R 5G10	5x10	7/1.04	0.7	20.8	720
FGD400 1RV-R 5G16	5x16	7/1.04	0.7	24.2	1050
FGD400 1RV-R 5G25	5x25	7/1.04	0.7	29.4	1485
FGD400 1RV-R 5G35	5x35(S)	7/2.52	0.9	30.3	1940
FGD400 1RV-R 5G50	5x50(S)	19/1.78	1.0	34	2667
FGD400 1RV-R 5G70	5x70(S)	19/2.14	1.1	38.5	3698
FGD400 1RV-R 5G95	5x95(S)	19/2.52	1.1	44.6	4934
FGD400 1RV-R 5G120	5x120(S)	37/2.03	1.2	45.8	7171
FGD400 1RV-R 5G150	5x150(S)	37/2.25	1.4	55.6	7699
FGD400 1RV-R 5G185	5x185(S)	37/2.52	1.6	60.4	9566
FGD400 1RV-R 5G240	5x240(S)	61/2.25	1.7	69.1	12610
FGD400 1RV-R 5G300	5x300(S)	61/2.52	1.8	76.4	15532
FGD400 1RV-R 5G400	5x400(S)	61/2.85	2.0	86.1	19241
FGD400 1RV-R 5G500	5x500(S)	61/3.20	2.2	94.4	24613

ELECTRICAL PROPERTIES

Conductor Operating Temperature : 90°C
Ambient Temperature : 30°C

Current-Carrying Capacities (Amp)

Conductor cross-sectional area	Reference Method 4 (enclosed in conduit in thermally insulating wall etc)		Reference Method 3 (enclosed in conduit on a wall or in trunking etc)		Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated cable tray, horizontal or vertical)		Reference Method 12(free air)		
									Horizontal flat spaced	Vertical flat spaced	Trefoil
	2 cables, single-phase a.c. or d.c.	3 or 4 cables, 3-phase a.c.	2 cables, single-phase a.c. or d.c	3 or 4 cables, 3-phase a.c.	2 cables, single-phase a.c. or d.c. flat and touching	3 or 4 cables, 3-phase a.c. flat and touching or trefoil	2 cables, single-phase a.c. or d.c. or flat and touching	3 or 4 cables, 3-phase a.c. flat and touching or trefoil	2 cables, single-phase a.c. or d.c. or 3 c ables three phase	2 cables, single-phase a.c. or d.c. or 3 cables three phase	3 cables, trefoil 3-phase a.c.
1	2	3	4	5	6	7	8	9	10	11	12
mm^2	A	A	A	A	A	A	A	A	A	A	A
1.5	18	17	22	19	25	23	-	-	-	-	-
2.5	24	23	30	26	34	31	-	-	-	-	-
4	33	30	40	35	46	41	-	-	-	-	-
6	43	39	51	45	59	54	-	-	-	-	-
10	58	53	71	63	81	74	-	-	-	-	-
16	76	70	95	85	109	99	-	-	-	-	-
25	100	91	126	111	143	130	158	140	183	163	138
35	125	111	156	138	176	161	195	176	226	203	171
50	149	135	189	168	228	209	293	215	274	246	209
70	189	170	240	214	293	268	308	279	351	318	270
95	228	205	290	259	355	326	375	341	426	389	330
120	263	235	336	299	413	379	436	398	495	453	385
150	300	270	375	328	476	436	505	461	570	524	445
185	341	306	426	370	545	500	579	530	651	600	511
240	400	358	500	433	644	590	686	630	769	711	606
300	459	410	573	493	743	681	794	730	886	824	701
400	-	-	684	584	868	793	915	849	1065	994	820
500	-	-	783	666	990	904	1044	973	1228	1150	936

Voltage Drop (Per Amp Per Meter)

Size of conductor	2 cables d.c.	2 cables, single-phase a.c.						3 or 4 cables, 3-phase a.c.								
		Ref. Methods 3 and 4 (enclosed in conduit etc, in or on a wall)			Ref. Methods 1 and 11 (clipped direct or on trays touching)			Ref. Methods 3 and 4 (enclosed in conduit etc, in or on a wall)			Ref. Methods 1, 11 and 12 (in trefoil)			Ref. Methods 1 and 11 (Flat and touching)		
1	2	3			4			5			6			7		
mm^2	mV/A/m	mV/A/m			mV/A/m			mV/A/m			mV/A/m			mV/A/m		
1.5	31	31			27			27			27			27		
2.5	19	19			16			16			16			16		
4	33	12			10			10			10			10		
6	7.8	7.9			6.8			6.8			6.8			6.8		
10	4.7	4.7			4.7			4			4			4		
16	2.9	2.9			2.9			2.5			2.5			2.5		
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
25	1.85	1.85	0.31	1.90	1.85	0.190	1.85	1.60	0.27	1.65	1.600	0.165	1.600	1.600	0.190	1.600
35	1.35	1.35	0.29	1.35	1.35	0.180	1.35	1.15	0.25	1.15	1.150	0.155	1.50	1.150	0.180	1.150
50	0.99	1.00	0.29	1.05	0.99	0.180	1.00	0.87	0.25	0.90	0.860	0.155	0.870	0.860	0.180	0.870
70	0.68	0.70	0.28	0.75	0.68	0.175	0.71	0.60	0.24	0.65	0.590	0.150	0.610	0.590	0.175	0.620
95	0.49	0.51	0.27	0.58	0.49	0.170	0.52	0.44	0.23	0.50	0.430	0.145	0.450	0.430	0.170	0.460
120	0.39	0.41	0.26	0.48	0.39	0.165	0.43	0.35	0.23	0.42	0.340	0.140	0.370	0.340	0.165	0.380
150	0.32	0.33	0.26	0.43	0.32	0.165	0.36	0.29	0.23	0.37	0.280	0.140	0.310	0.280	0.165	0.320
185	0.25	0.27	0.26	0.37	0.26	0.165	0.30	0.23	0.23	0.32	0.220	0.140	0.260	0.220	0.165	0.280
240	0.19	0.21	0.26	0.33	0.20	0.160	0.25	0.185	0.22	0.29	0.170	0.140	0.220	0.170	0.165	0.240
300	0.155	0.175	0.25	0.31	0.16	0.160	0.22	0.150	0.22	0.27	0.140	0.140	0.195	0.135	0.160	0.210
400	0.12	0.140	0.25	0.29	0.13	0.155	0.20	0.125	0.22	0.25	0.110	0.135	0.175	0.110	0.160	0.195
500	0.093	0.120	0.25	0.28	0.105	0.155	0.185	0.100	0.22	0.24	0.090	0.135	0.160	0.088	0.160	0.180

Note :
r = conductor resistance at operating temperature
x = reactance z = impedance

Rated Voltage

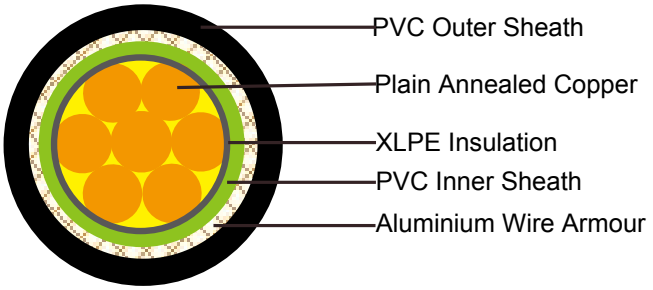
Standard


Reduced Fire Propagation
NF C32-070-2.2(C1)
IEC60332-3-24/EN50266-2-4
Optional


Flame Retardancy
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2
Optional

600/1000V XLPE Insulated, PVC Sheathed, Armoured Power Cables (Single Core)

FGD300 1RVMV-R (CU/XLPE/PVC/AWA/PVC 600/1000V Class 2)



APPLICATION

The cables is mainly used in power stations, mass transit underground passenger systems, airports, petrochemical plants, hotels, hospitals, and high-rise buildings.

STANDARDS

Basic design to BS 5467

FIRE PERFORMANCE

Flame Retardance (Single Vertical Wire Test)**	EN 60332-1-2; IEC 60332-1-2; BS EN 60332-1-2; VDE 0482-332-1 ; NBN C 30-004 (cat. F1); NF C32-070-2.1(C2); CEI 20-35/1-2; EN 50265-2-1*; DIN VDE 0482-265-2-1*
Reduced Fire Propagation (Vertically-mounted bundled wires & cable test)**	EN 60332-3-24 (cat. C); IEC 60332-3-24; BS EN 60332-3-24; VDE 0482-332-3; NBN C 30-004 (cat. F2); NF C32-070-2.2(C1); CEI 20-22/3-4; EN 50266-2-4*; DIN VDE 0482-266-2-4

Note: Asterisk ** denotes that the standard compliance is optional, depending on the oxygen index of the PVC compound and the cable design.

VOLTAGE RATING

600/1000V

CABLE CONSTRUCTION

Conductor: Plain annealed copper wire, stranded according to IEC 60228 class 2.
Insulation: Extruded cross-linked XLPE compound.
Inner sheath : PVC Compound
Armouring : Aluminium Wire
Outer Sheath : Thermoplastic PVC compound .

COLOUR CODE

Insulation Colour: Natural
Sheath Colour: Black (other colors upon request)

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation: -40°C ~ 70°C

Temperature Range during Installation : -5°C ~ 50°C

Minimum Bending Radius: 8 x OD

ELECTRICAL PROPERTIES

Dielectric Test:	3500 V r.m.s. x 5' (core / core)
Insulation Resistance	500 MΩ x km (at 20°C)
Short circuit Temperature	250°C (up to 5 secs)

CONSTRUCTION PARAMETERS

Cable Code	Conductor		Diameter Under Armour	Armour Wire Diameter	Nominal Overall Diameter	Approx. Weight
	No. of Core X Cross Section	No./Nominal Diameter of Strands				
	mm^2	No./mm	mm	mm	mm	kg/km
FFGD300 1RVMV-R 1G70	1x70	19/2.14	15.4	1.25	21.5	960
FFGD300 1RVMV-R 1G95	1x95	19/2.52	17.3	1.25	23.4	1240
FFGD300 1RVMV-R 1G120	1x120	37/2.03	19.1	1.6	25.9	1650
FFGD300 1RVMV-R 1G150	1x150	37/2.25	21.1	1.6	27.9	1970
FFGD300 1RVMV-R 1G185	1x185	37/2.52	23.2	1.6	30.1	2390
FFGD300 1RVMV-R 1G240	1x240	61/2.25	26.2	1.6	33.2	3040
FFGD300 1RVMV-R 1G300	1x300	61/2.52	28.8	1.6	35.8	3790
FFGD300 1RVMV-R 1G400	1x400	61/2.85	32.7	2.0	40.9	4790
FFGD300 1RVMV-R 1G500	1x500	61/3.20	36.2	2.0	44.6	5880
FFGD300 1RVMV-R 1G630	1x630	127/2.52	40.6	2.0	49.2	7400
FFGD300 1RVMV-R 1G800	1x800	127/2.85	45.7	2.5	55.7	9500
FFGD300 1RVMV-R 1G1000	1x1000	127/3.20	50.6	2.5	61.0	11750

ELECTRICAL PROPERTIES

Conductor Operating Temperature : 90°C
Ambient Temperature : 30°C

Current-Carrying Capacities (Amp)

Conductor cross-sectional area	Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated horizontal cable tray or Reference Method 13 [free air])		Reference Method 12 (free air)	In single-way ducts		Laid direct in ground	
	2 cables, single-phase a.c. or d.c.	3 or 4 cables, 3-phase a.c.	2 cables, single-phase a.c. or d.c.	3 or 4 cables, 3-phase a.c.	3 cables 3-phase a.c. trefoil touching	2 cables, single-phase a.c. or d.c.	3 or 4 cables, 3-phase a.c.	2 cables, single-phase a.c. or d.c.	3 or 4 cables, 3-phase a.c.
1	2	3	4	5	6	7	8	9	10
mm^2	A	A	A	A	A	A	A	A	A
70	303	277	322	293	285	310	280	340	290
95	367	333	389	352	346	365	330	405	345
120	425	383	449	405	402	410	370	460	389
150	488	437	516	462	463	445	405	510	435
185	557	496	587	524	529	485	440	580	490
240	656	579	689	612	625	550	500	670	560
300	755	662	792	700	720	610	550	750	630
400	853	717	899	767	815	640	580	830	700
500	962	791	1016	851	918	690	620	910	770
630	1082	861	1146	935	1027	750	670	1000	840
800	1170	904	1246	987	1119	828	735	1117	931
1000	1261	961	1345	1055	1214	919	811	1254	1038

Voltage Drop (Per Amp Per Meter)

Conductor cross-sectional area	2 cables d.c.	2 cables single-phase a.c.			3 or 4 cables three-phase a.c.						2 cables singlephase a.c.		3 or 4 cables, 3-phase a.c. touching	
		Reference Method 1 & 11 (touching)			Reference Method 1, 11 & 12 (in trefoil touching)			Reference Method 1 & 11 (Flat touching)			In ducts	In ground	In ducts	In ground
1	2	3			4			5			6	7	8	9
mm^2	mV/A/m	mV/A/m			mV/A/m			mV/A/m			mV/A/m	mV/A/m	mV/A/m	mV/A/m
		r	x	z	r	x	z	r	x	z				
70	0.67	0.68	0.20	0.71	0.59	0.17	0.62	0.6	0.25	0.65	0.80	0.70	0.70	0.61
95	0.49	0.51	0.195	0.55	0.44	0.17	0.47	0.46	0.24	0.52	0.65	0.53	0.56	0.46
120	0.39	0.41	0.190	0.45	0.35	0.165	0.39	0.38	0.24	0.44	0.55	0.43	0.48	0.37
150	0.31	0.33	0.185	0.38	0.29	0.160	0.33	0.31	0.23	0.39	0.50	0.37	0.43	0.32
185	0.25	0.27	0.185	0.33	0.23	0.160	0.28	0.26	0.23	0.34	0.45	0.31	0.39	0.27
240	0.195	0.21	0.180	0.28	0.18	0.155	0.24	0.21	0.22	0.30	0.40	0.26	0.35	0.23
300	0.155	0.17	0.175	0.25	0.145	0.150	0.21	0.17	0.22	0.28	0.37	0.24	0.32	0.21
400	0.115	0.145	0.170	0.22	0.125	0.150	0.195	0.160	0.21	0.27	0.35	0.21	0.30	0.19
500	0.093	0.125	0.170	0.21	0.105	0.145	0.180	0.145	0.20	0.25	0.33	0.20	0.28	0.18
630	0.073	0.105	0.165	0.195	0.092	0.145	0.170	0.135	0.195	0.24	0.30	0.19	0.26	0.17
800	0.056	0.090	0.160	0.190	0.086	0.140	0.165	0.130	0.180	0.23	0.28	0.18	0.24	0.16
1000	0.045	0.092	0.155	0.180	0.080	0.135	0.155	0.125	0.170	0.21	0.26	0.17	0.22	0.15

Note :
r = conductor resistance at operating temperature
x = reactance
z = impedance

Rated Voltage

Standard

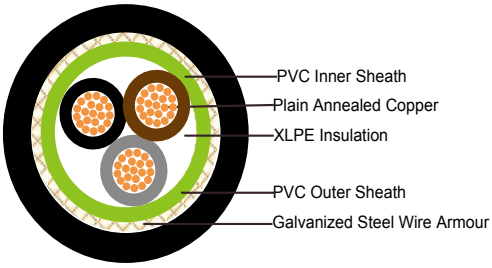

Flame Retardancy
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1
Optional

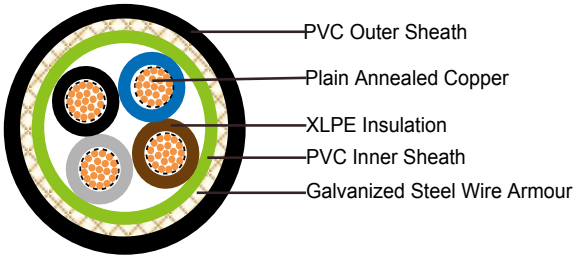

Reduced Fire Propagation
NF C32-070-2.2(C1)
IEC60332-3-24/EN50266-2-4
Optional

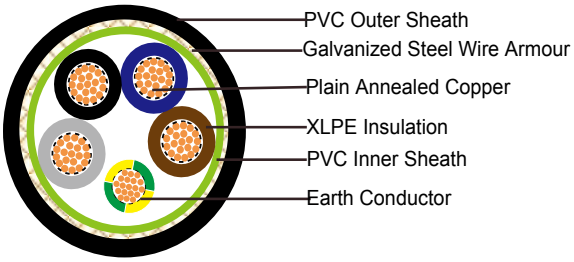
600/1000V XLPE Insulated, PVC Sheathed, Armoured Power Cables (Multicore)

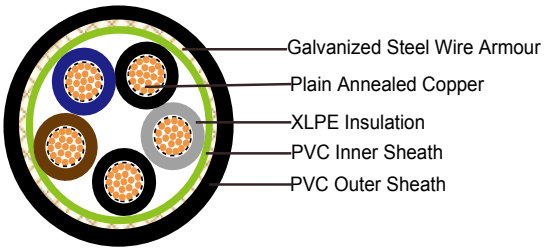
FGD400 1RVMV-R (CU/XLPE/PVC/SWA/PVC CLASS 2)

Outdoor Cabling



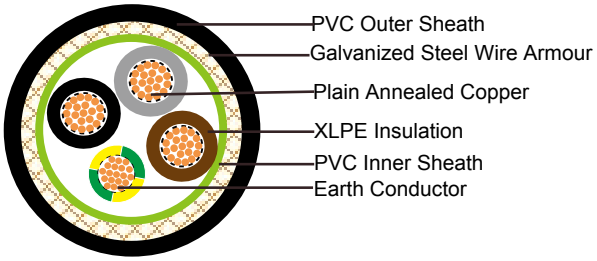






APPLICATION

The cables are mainly used in power stations, mass transit underground passenger systems, airports, petrochemical plants, hotels, hospitals, and high-rise buildings.



STANDARDS

Basic design to BS 5467

FIRE PERFORMANCE

Flame Retardance (Single Vertical Wire Test)**	EN 60332-1-2; IEC 60332-1-2; BS EN 60332-1-2; VDE 0482-332-1 ; NBN C 30-004 (cat. F1); NF C32-070-2.1(C2); CEI 20-35/1-2; EN 50265-2-1*; DIN VDE 0482-265-2-1*
Reduced Fire Propagation (Vertically-mounted bundled wires & cable test)**	EN 60332-3-24 (cat. C); IEC 60332-3-24; BS EN 60332-3-24; VDE 0482-332-3; NBN C 30-004 (cat. F2); NF C32-070-2.2(C1); CEI 20-22/3-4; EN 50266-2-4*; DIN VDE 0482-266-2-4

Note: Asterisk ** denotes that the standard compliance is optional, depending on the oxygen index of the PVC compound and the cable design.

VOLTAGE RATING

600/1000V

CABLE CONSTRUCTION

Conductor: Plain annealed copper wire, stranded according to IEC 60228 class 2.
Insulation: Extruded cross-linked XLPE compound.
Inner Sheath: PVC Compound
Armouring: Galvanized Steel Wire
Outer Sheath: PVC Compound.

COLOUR CODE

Insulation Colour as per BS7671

	With Earth Conductor	Without Earth Conductor
2 Cores	-	Brown, Blue
3 Cores	Yellow/Green, Brown, Blue	Brown, Gray, Black
4 Cores	Yellow/Green, Brown, Gray, Black	Brown, Gray, Black, Blue
5 Cores	Yellow/Green, Brown, Gray, Black, Blue	Brown, Gray, Black, Blue, Black
Above 5 Cores	Yellow/Green, Black Numbered	Black Numbered

Sheath Colour: Black (other colors upon request)

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation: -40°C ~ 70°C

Temperature Range during Installation : -5°C ~ 50°C

Minimum Bending Radius: 8 x OD

ELECTRICAL PROPERTIES

Dielectric Test:	3500 V r.m.s. x 5' (core / core)
Insulation Resistance	500 MΩ x km (at 20°C)
Short circuit Temperature	250°C (up to 5 secs)

CONSTRUCTION PARAMETERS

Cable Code	Conductor		Nominal Insulation Thickness	Diameter Under Armour	Armour Wire Diameter	Nominal Overall Diameter	Approx. Weight
	No. of Core X Cross Section/ CPC Cross Section	No./ Nominal Diameter of Strands					
	No.×mm^2	No./mm	mm	mm	mm	mm	kg/km
3 CORES							

FGD400 1RVMV-R 3G1.5	3x1.5	7/0.53	0.6	9.0	0.9	12.6	340
FGD400 1RVMV-R 3G2.5	3x2.5	7/0.67	0.7	9.9	0.9	14.1	408
FGD400 1RVMV-R 3G4	3x4	7/0.85	0.7	11.0	0.9	15.3	498
FGD400 1RVMV-R 3G6	3x6	7/1.04	0.7	11.6	1.25	16.6	600
FGD400 1RVMV-R 3G10	3x10	7/1.35	0.7	14.3	1.25	19.5	915
FGD400 1RVMV-R 3G16	3x16	7/1.70	0.7	16.5	1.25	21.6	1130
FGD400 1RVMV-R 3G25	3x25	7/2.14	0.9	20.2	1.6	26.7	1710
FGD400 1RVMV-R 3G35	3x35	7/2.52	0.9	22.4	1.6	29.4	2100
FGD400 1RVMV-R 3G50	3x50(S)	19/1.78	1.0	24.2	1.6	28.5	2450
FGD400 1RVMV-R 3G70	3x70(S)	19/2.14	1.1	28.2	2.0	32.2	3120
FGD400 1RVMV-R 3G95	3x95(S)	19/2.52	1.1	31.7	2.0	37.0	4310
FGD400 1RVMV-R 3G120	3x120(S)	37/2.03	1.2	36.0	2.0	40.4	5160
FGD400 1RVMV-R 3G150	3x150(S)	37/2.25	1.4	39.5	2.5	45.5	7160
FGD400 1RVMV-R 3G185	3x185(S)	37/2.52	1.6	43.3	2.5	49.8	8600
FGD400 1RVMV-R 3G240	3x240(S)	61/2.25	1.7	48.4	2.5	55.1	10750
FGD400 1RVMV-R 3G300	3x300(S)	61/2.52	1.8	54.4	2.5	60.2	13080
FGD400 1RVMV-R 3G400	3x400(S)	61/2.85	2.0	57.8	2.5	66.6	15810
3 CORES + 1 EARTH CONDUCTOR							
FGD400 1RVMV-R 3G16/6	3×16/6	7/1.70	0.7	17.6	1.25	22.6	1342
FGD400 1RVMV-R 3G16/10	3x16/10	7/1.70	0.7	20.6	1.25	23.0	1567
FGD400 1RVMV-R 3G25/6	3x25/6	7/2.14	0.9	26.3	1.25	27.1	1876
FGD400 1RVMV-R 3G25/10	3x25/10	7/2.14	0.9	26.3	1.25	27.6	2091
FGD400 1RVMV-R 3G25/16	3x25/16	7/2.14	0.9	26.6	1.25	28.3	2150
FGD400 1RVMV-R 3G35/10	3x35/10	7/2.52	0.9	26.8	1.6	28.9	2210
FGD400 1RVMV-R 3G35/16	3x35/16	7/2.52	0.9	26.8	1.6	29.5	2390
FGD400 1RVMV-R 3G35/25	3x35/25	7/2.52	0.9	27.2	1.6	30.0	2505
FGD400 1RVMV-R 3G50/16	3×50/16	19/1.78	0.9	28.5	1.6	29.0	2916
FGD400 1RVMV-R 3G50/25	3x50/25	19/1.78	1.0	29.2	1.6	30.0	3107
FGD400 1RVMV-R 3G50/35	3x50/35	19/1.78	1.0	30.0	1.6	31.0	3175
FGD400 1RVMV-R 3G70/25	3×70/25	19/2.14	1.1	34.0	2.0	32.9	3203
FGD400 1RVMV-R 3G70/35	3x70/35	19/2.14	1.1	34.5	2.0	34.5	4067
FGD400 1RVMV-R 3G70/50	3x70/50	19/2.14	1.1	35	2.0	36.3	4310
FGD400 1RVMV-R 3G95/25	3×95/25	19/2.52	1.1	36.7	2.0	38.0	5047

FGD400 1RVMV-R 3G95/35	3×95/35	19/2.52	1.1	37.2	2.0	38.6	5115
FGD400 1RVMV-R 3G95/50	3x95/50	19/2.52	1.1	37.6	2.0	39.2	5289
FGD400 1RVMV-R 3G95/70	3x95/70	19/2.52	1.1	37.6	2.0	40.0	5360
FGD400 1RVMV-R 3G120/35	3×120/35	37/2.03	1.2	39.4	2.5	41.2	6160
FGD400 1RVMV-R 3G120/50	3×120/50	37/2.03	1.2	39.9	2.5	42.3	6473
FGD400 1RVMV-R 3G120/70	3x120/70	37/2.03	1.2	40.3	2.5	44.6	6793
FGD400 1RVMV-R 3G120/95	3×120/95	37/2.03	1.2	41.2	2.5	46.2	7120
FGD400 1RVMV-R 3G150/50	3×150/50	37/2.25	1.4	45.2	2.5	57.0	7431
FGD400 1RVMV-R 3G150/70	3×150/70	37/2.25	1.4	45.2	2.5	58.1	7565
FGD400 1RVMV-R 3G150/95	3x150/95	37/2.25	1.4	45.5	2.5	59.4	8196
FGD400 1RVMV-R 3G150/120	3x150/120	37/2.25	1.4	46.0	2.5	50.6	8590
FGD400 1RVMV-R 3G185/70	3×185/70	37/2.52	1.6	50.4	2.5	51.6	8950
FGD400 1RVMV-R 3G185/95	3xI85/95	37/2.52	1.6	50.6	2.5	53.2	9573
FGD400 1RVMV-R 3G185/120	3x185/120	37/2.52	1.6	51.0	2.5	54.3	9968
FGD400 1RVMV-R 3G185/150	3x185/150	37/2.52	1.6	51.6	2.5	55.3	1023
FGD400 1RVMV-R 3G240/95	3×240/95	61/2.25	1.7	58.0	2.5	56.7	11620
FGD400 1RVMV-R 3G240/120	3x240/120	61/2.25	1.7	59.0	2.5	58.3	12015
FGD400 1RVMV-R 3G240/150	3x240/150	61/2.25	1.7	60.0	2.5	60.4	12373
FGD400 1RVMV-R 3G240/185	3x240/185	61/2.25	1.7	60.0	2.5	62.1	1350
FGD400 1RVMV-R 3G300/120	3x300/120	61/2.52	1.8	64.2	2.5	63.5	14197
FGD400 1RVMV-R 3G300/150	3x300/150	61/2.52	1.8	65.7	2.5	64.9	14556
FGD400 1RVMV-R 3G300/185	3x300/I85	61/2.52	1.8	67	2.5	66.2	15015
FGD400 1RVMV-R 3G300/240	3x300/240	61/2.52	1.8	67	2.5	67.4	15697
4 CORES							
FGD400 1RVMV-R 4G1.5	4x1.5	7/0.53	0.7	10.0	0.9	13.3	390
FGD400 1RVMV-R 4G2.5	4x2.5	7/0.67	0.7	10.8	0.9	15.0	470
FGD400 1RVMV-R 4G4	4x4	7/0.85	0.7	12.1	0.9	16.4	580
FGD400 1RVMV-R 4G6	4x6	7/1.04	0.7	13.5	1.25	18.7	705
FGD400 1RVMV-R 4G10	4x10	7/1.35	0.7	15.7	1.25	21.1	1090
FGD400 1RVMV-R 4G16	4x16	7/1.70	0.7	18.2	1.6	23.4	1320
FGD400 1RVMV-R 4G25	4x25	7/2.14	0.9	22.4	1.6	28.9	1840
FGD400 1RVMV-R 4G35	4x35(S)	7/2.52	0.9	24.4	1.6	31.9	2310
FGD400 1RVMV-R 4G50	4x50(S)	19/1.78	1.0	28.0	1.6	32	2970
FGD400 1RVMV-R 4G70	4x70(S)	19/2.14	1.1	32.2	2.0	37.7	4240

FGD400 1RVMV-R 4G95	4x95(S)	19/2.52	1.1	36.0	2.0	41.7	5400
FGD400 1RVMV-R 4G120	4x120(S)	37/2.03	1.2	38.0	2.5	47.1	7000
FGD400 1RVMV-R 4G150	4x150(S)	37/2.25	1.4	42.8	2.5	51.4	8350
FGD400 1RVMV-R 4G185	4x185(S)	37/2.52	1.6	48.4	2.5	56.6	10130
FGD400 1RVMV-R 4G240	4x240(S)	61/2.25	1.7	55.0	2.5	63.0	12840
FGD400 1RVMV-R 4G300	4x300(S)	61/2.52	1.8	59.6	2.5	68.8	15530
FGD400 1RVMV-R 4G400	4x400(S)	61/2.85	2.0	66.1	3.15	78.1	19950
4 CORES + 1 EARTH CONDUCTOR							
FGD400 1RVMV-R 4G16/6	4x16/6	7/1.35	0.7	17.9	1.25	25.1	1356
FGD400 1RVMV-R 4G16/10	4x16/l0	7/1.70	0.7	20.6	1.25	26.0	1390
FGD400 1RVMV-R 4G25/6	4x25/6	7/2.14	0.7	24.1	1.25	29.0	1900
FGD400 1RVMV-R 4G25/10	4x25/10	7/2.14	0.9	24.9	1.25	29.4	1956
FGD400 1RVMV-R 4G25/16	4x25/16	7/2.14	0.9	25.3	1.25	30.0	2012
FGD400 1RVMV-R 4G35/10	4×35/10	7/2.52	0.9	25.4	1.25	32.1	2710
FGD400 1RVMV-R 4G35/16	4×35/16	7/2.52	0.9	25.6	1.6	33.4	2940
FGD400 1RVMV-R 4G35/25	4×35/25	7/2.52	0.9	26.2	1.6	34.0	3050
FGD400 1RVMV-R 4G50/16	4×50/16	19/1.78	1.0	28.5	1.6	33	3560
FGD400 1RVMV-R 4G50/25	4×50/25	19/1.78	1.0	29.2	1.6	35.6	3670
FGD400 1RVMV-R 4G50/35	4x50/35	19/1.78	1.0	30.0	1.6	38.2	3759
FGD400 1RVMV-R 4G70/25	4×70/25	19/2.14	1.1	34	2.0	38.6	4980
FGD400 1RVMV-R 4G70/35	4x70/35	19/2.14	1.1	34.5	2.0	40.6	5036
FGD400 1RVMV-R 4G70/50	4x70/50	19/2.14	1.1	35	2.0	42.9	5468
FGD400 1RVMV-R 4G95/25	4×95/25	19/2.52	1.1	36.7	2.0	43.2	6215
FGD400 1RVMV-R 4G95/35	4×95/35	19/2.52	1.1	37.2	2.0	46.3	6325
FGD400 1RVMV-R 4G95/50	4×95/50	19/2.52	1.1	37.6	2.0	48.5	6455
FGD400 1RVMV-R 4G95/70	4×95/50	19/2.52	1.1	38.0	2.0	50.7	6954
FGD400 1RVMV-R 3G120/35	3×120/35	37/2.03	1.2	39.4	2.5	54.2	7968
FGD400 1RVMV-R 4G120/50	4×120/50	37/2.03	1.2	39.9	2.5	55.3	8280
FGD400 1RVMV-R 4G120/70	4x120/70	37/2.03	1.2	40.3	2.5	55.9	8511
FGD400 1RVMV-R 4G120/95	4×120/95	37/2.03	1.2	41.2	2.5	56.4	8790
FGD400 1RVMV-R 4G150/50	4×150/50	37/2.25	1.4	44.9	2.5	55.3	8723
FGD400 1RVMV-R 4G150/70	4×150/70	37/2.25	1.4	45.2	2.5	56.48	8879
FGD400 1RVMV-R 4G150/95	4x150/95	37/2.25	1.4	45.5	2.5	57.59	10179

FGD400 1RVMV-R 4G150/120	4x150/120	37/2.25	1.4	46.0	2.5	58.65	10739
FGD400 1RVMV-R 4G185/70	4×185/70	37/2.52	1.6	50.4	2.5	62.03	11200
FGD400 1RVMV-R 4G185/95	4xI85/95	37/2.52	1.6	50.6	2.5	63.19	1263
FGD400 1RVMV-R 4G185/120	4x185/120	37/2.52	1.6	51.0	2.5	64.23	13050
FGD400 1RVMV-R 4G185/150	4x185/150	37/2.52	1.6	51.6	2.5	65.38	13680
FGD400 1RVMV-R 4G240/95	4×240/95	61/2.25	1.7	58.0	2.5	71.53	14420
FGD400 1RVMV-R 4G240/120	4x240/120	61/2.25	1.7	59.0	2.5	72.76	14763
FGD400 1RVMV-R 4G240/150	4x240/150	61/2.25	1.7	60.0	2.5	73.10	15241
FGD400 1RVMV-R 4G240/185	4x240/185	61/2.25	1.7	61.5	2.5	74.0	1682
FGD400 1RVMV-R 4G300/120	4x300/150	61/2.52	1.8	64.2	2.5	75.08	18050
FGD400 1RVMV-R 4G300/150	4x300/150	61/2.52	1.8	65.7	2.5	76.44	18662
FGD400 1RVMV-R 4G300/185	4x300/I85	61/2.52	1.8	67	2.5	77.30	19031
FGD400 1RVMV-R 4G300/240	4x300/240	61/2.52	1.8	67	2.5	78.55	19878
5 CORES							
FGD400 1RVMV-R 5G1.5	5x1.5	7/0.53	0.6	9.9	0.9	14.3	430
FGD400 1RVMV-R 5G2.5	5x2.5	7/0.67	0.7	10.8	0.9	16.1	545
FGD400 1RVMV-R 5G4	5x4	7/0.85	0.7	12.1	0.9	17.8	680
FGD400 1RVMV-R 5G6	5x6	7/1.04	0.7	15.8	1.5	20	840
FGD400 1RVMV-R 5G10	5x10	7/1.35	0.7	24	2.8	22.9	1105
FGD400 1RVMV-R 5G16	5x16	7/1.70	0.7	27	2.8	26.6	1450
FGD400 1RVMV-R 5G25	5x25	7/2.14	0.9	34	2.8	31.5	2245
FGD400 1RVMV-R 5G35	5x35(S)	7/2.52	0.9	24.4	1.6	34.8	2840
FGD400 1RVMV-R 5G50	5x50(S)	19/1.78	1.0	28.0	1.6	40.4	3895
FGD400 1RVMV-R 5G70	5x70(S)	19/2.14	1.1	32.2	2.0	46.3	5145
FGD400 1RVMV-R 5G95	5x95(S)	19/2.52	1.1	36.0	2.0	53.2	6941
FGD400 1RVMV-R 5G120	5x120(S)	37/2.03	1.2	38.0	2.5	58.3	9154
FGD400 1RVMV-R 5G150	5x150(S)	37/2.25	1.4	42.8	2.5	64.3	10372
FGD400 1RVMV-R 5G185	5x185(S)	37/2.52	1.6	48.4	2.5	71.5	12828
FGD400 1RVMV-R 5G240	5x240(S)	61/2.25	1.7	55.0	2.5	80	15980
FGD400 1RVMV-R 5G300	5x300(S)	61/2.52	1.8	59.6	2.5	86.1	19521
FGD400 1RVMV-R 5G400	5x400(S)	61/2.85	2.0	66.1	3.15	96.3	25116

(S) - Sectoral Stranded Conductors

ELECTRICAL PROPERTIES

Conductor Operating Temperature : 90°C

Ambient Temperature : 30°C

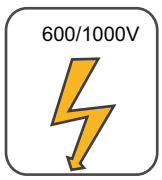
Current-Carrying Capacities (Amp)

Conductor cross-sectional area	Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated horizontal cable trayor Reference Method 13 [free air])		In single-way ducts		Laid direct in ground	
	one 2-core cable single phase a.c. or d.c.	one 3-core or 4-core cable 3-phase a.c.	one 2-core cable single phase a.c. or d.c.	one 3-core or 4-core cable 3-phase a.c.	one 2-core cable single phase a.c. or d.c.	one 3-core or 4-core cable 3-phase a.c.	one 2-core cable single phase a.c. or d.c.	one 3-core or 4-core cable 3-phase a.c.
1	2	3	4	5	6	7	8	9
mm^2	A	A	A	A	A	A	A	A
1.5	27	23	29	25	-	23	-	28
2.5	36	31	39	33	-	30	-	36
4	49	42	52	44	-	40	-	48
6	62	53	66	56	-	50	-	60
10	85	73	90	78	-	65	-	80
16	110	94	115	99	115	94	140	115
25	146	124	152	131	145	125	180	150
35	180	154	188	162	175	150	215	180
50	219	187	228	197	210	175	255	215
70	279	238	291	251	260	215	315	265
95	338	289	354	304	310	260	380	315
120	392	335	410	353	355	300	430	360
150	451	386	472	406	400	335	480	405
185	515	441	539	463	455	380	540	460
240	607	520	636	546	520	440	630	530
300	698	599	732	628	590	495	700	590
400	787	673	847	728	660	560	790	670

Voltage Drop (Per Amp Per Meter)

Conductor cross-sectional area	2-core cable d.c.	2 cables, single-phase a.c.			3 or 4 cables, 3-phase a.c.			2 cables, single-phase a.c.	3 or 4 cables, 3-phase a.c.
								In ducts or in ground	In ducts or in ground
1	2	3			4			5	6
mm^2	mV/A/m	mV/A/m			mV/A/m			mV/A/m	mV/A/m
1.5	31.0	31.0			27.0			31.0	25.0
2.5	19.0	19.0			16.0			19.0	15.0
4	12.0	12.0			10.0			12.0	9.7
6	7.9	7.9			6.8			7.9	6.5
10	4.7	4.7			4.0			4.7	3.9
16	2.9	2.9			2.5			2.9	2.6
		r	x	z	r	x	z		
25	1.850	1.350	0.160	1.900	1.600	0.140	1.650	1.900	1.600
35	1.350	1.350	0.155	1.350	1.150	0.135	1.150	1.350	1.200
50	0.980	0.990	0.155	1.000	0.860	0.135	0.870	1.000	0.870
70	0.670	0.670	0.150	0.690	0.590	0.130	0.600	0.690	0.610
95	0.490	0.500	0.150	0.520	0.430	0.130	0.450	0.520	0.450
120	0.390	0.400	0.145	0.420	0.340	0.130	0.370	0.420	0.360
150	0.310	0.320	0.145	0.350	0.280	0.125	0.300	0.350	0.300
185	0.250	0.260	0.145	0.290	0.220	0.125	0.260	0.290	0.250
240	0.195	0.200	0.140	0.240	0.175	0.125	0.210	0.240	0.210
300	0.155	0.160	0.140	0.210	0.140	0.120	0.185	0.210	0.190
400	0.120	0.130	0.140	0.190	0.115	0.120	0.165	0.190	0.180

Note :
r = conductor resistance at operating temperature
x = reactance
z = impedance



Rated Voltage

Standard


Flame Retardancy
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1
Optional


Reduced Fire Propagation
NF C32-070-2.2(C1)
IEC60332-3-24/EN50266-2-4
Optional

ADDISON

Address:

Marchants Industrial Centre, Mill Lane, Laughton, Lewes,

East Sussex, BN8 6AJ, UK

Tel: 44(0) 207 4195087

Fax: 44(0) 207 8319489

E-mail:sales@caledonian-cables.co.uk

www.caledonian-cables.co.uk