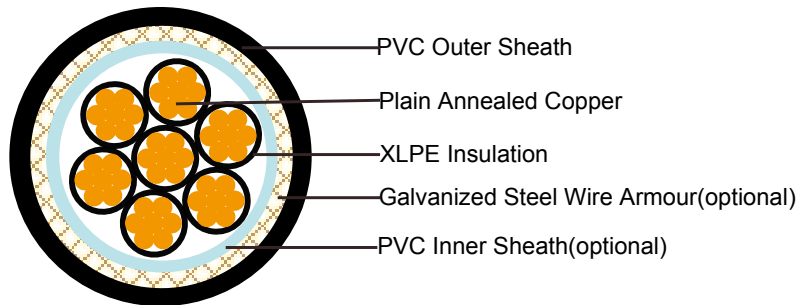


600/1000V XLPE Insulated, PVC Sheathed, Armoured Power Cables (Multicore)

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

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



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 adapted to IEC 60502-1; 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(EN) 60228 class 2.

Insulation: Extruded cross-linked XLPE compound.

Inner Sheath(optional): PVC Compound

Armouring(optional): Galvanized Steel Wire

Outer Sheath: Thermoplastic PVC compound. UV resistance, hydrocarbon resistance, oil resistance, anti rodent and anti termite properties can be offered as option. Compliance to fire performance



standard (IEC 60332-1, IEC 60332-3, UL 1581, UL 1666 etc) depends on the oxygen index of the PVC compound and the overall cable design. LSPVC can also be provided upon request.

COLOUR CODE

Insulation Colour as per BS7671

	With Earth Conductor	Without Earth Conductor
2Cores	-	Brown, Blue
3Cores	Yellow/Green, Brown, Blue	Brown, Gray, Black
4Cores	Yellow/Green, Brown, Gray, Black	Brown, Gray, Black, Blue
5Cores	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: Max.90°C for XLPE
250°C in short-circuit for 5secs max.

Minimum bending radius: 8 x Overall Diameter (unarmoured cable)
10 x Overall Diameter (armoured cable)

CONSTRUCTION PARAMETERS

No. of Core X Cross Section	Conductor		FGD400 1RV-R Unarmoured		FGD400 1RVMV-R Armoured			
	Nominal Diameter of Strands	Nominal Insulation Thickness	Nominal Overall Diameter	Approx. Weight	Diameter Under Armour	Armour Wire Diameter	Nominal Overall Diameter	Approx. Weight
mm ²	No./mm	mm	mm	kg/km	mm	mm	mm	kg/km
7 Core								
7x1.5	7/0.53	0.7	12.4	225	11.2	0.9	16.0	490
7x2.5	7/0.67	0.7	13.8	303	12.4	0.9	17.2	602
7x4	7/0.85	0.7	15.5	422	14.1	1.25	19.8	871
10 Core								
10x1.5	7/0.53	0.7	15.6	325	14.3	1.25	20.0	761
10x2.5	7/0.67	0.7	17.5	426	15.9	1.25	21.8	943
10x4	7/0.85	0.7	19.7	597	18.5	1.25	24.4	1213
12 Core								
12x1.5	7/0.53	0.7	16.2	370	14.8	1.25	20.5	827
12x2.5	7/0.67	0.7	18.1	489	16.5	1.25	22.4	1020
12x4	7/0.85	0.7	20.3	690	19.1	1.6	25.7	1462
19 Core								
19x1.5	7/0.53	0.7	19.0	516	17.4	1.6	24.0	1186

19x2.5	7/0.67	0.7	21.3	725	19.9	1.6	26.7	1498
19x4	7/0.85	0.7	24.0	1037	22.6	1.6	29.4	1931
27 Core								
27x1.5	7/0.53	0.7	22.7	712	21.3	1.6	28.1	1537
27x2.5	7/0.67	0.7	25.5	1004	23.9	1.6	30.9	1933
27x4	7/0.85	0.7	28.8	1445	27.2	1.6	34.4	2532
37 Core								
37x1.5	7/0.53	0.7	25.5	941	23.9	1.6	30.7	1856
37x2.5	7/0.67	0.7	28.7	1334	26.9	1.6	33.9	2372
37x4	7/0.85	0.7	32.5	1932	31.1	2.0	39.3	3448
48 Core								
48x1.5	7/0.53	0.7	29.0	1186	27.5	1.6	34.6	2276
48x2.5	7/0.67	0.7	32.9	1706	31.3	2.0	39.6	3252
48x4	7/0.85	0.7	37.3	2479	35.7	2.0	44.2	4273

Note : Other conductor sizes & core configurations are available upon request.

ELECTRICAL PROPERTIES

Conductor Operating Temperature : 90°C

Ambient Temperature : 30°C

FGD400 1RV-R

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	Horizontal flat spaced	Vertical flat spaced	Trefoil	Horizontal flat spaced	Vertical flat spaced	Trefoil	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. 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	A



1.5	18	17	22	19	25	23	-	-	-	-	-
2.5	24	23	30	26	34	31	-	-	-	-	-
4	33	30	40	35	46	41	-	-	-	-	-

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

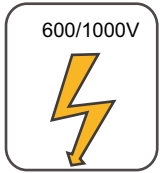
FGD400 1RVMV-R

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])		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

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



Rated Voltage



Standard



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