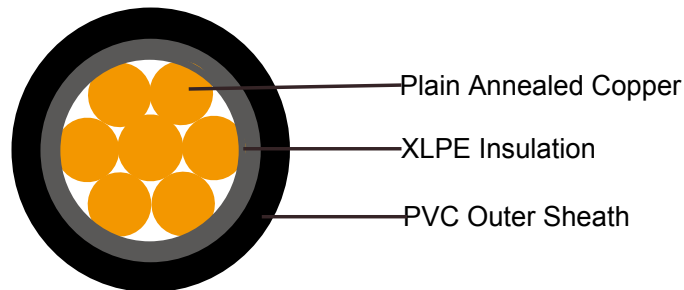




### 600/1000V XLPE Insulated, PVC Sheathed Power Cables (Single Core)

#### 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		Nominal Insulation Thickness	Nominal Overall Diameter	Approx. Weight
	No. of Core X Cross Section	No./Nominal Diameter of Strands			
	mm <sup>2</sup>	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	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 <sup>2</sup>	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 <sup>2</sup>	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



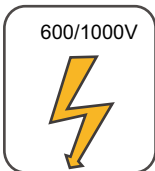
25	1.85	1.85	0.31	1.90	1.85	0.190	1.85	1.60	0.27	1.65	1.600	0.165	1.600	1.600	0.190	1.600
35	1.35	1.35	0.29	1.35	1.35	0.180	1.35	1.15	0.25	1.15	1.150	0.155	1.50	1.150	0.180	1.150
50	0.99	1.00	0.29	1.05	0.99	0.180	1.00	0.87	0.25	0.90	0.860	0.155	0.870	0.860	0.180	0.870
70	0.68	0.70	0.28	0.75	0.68	0.175	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