


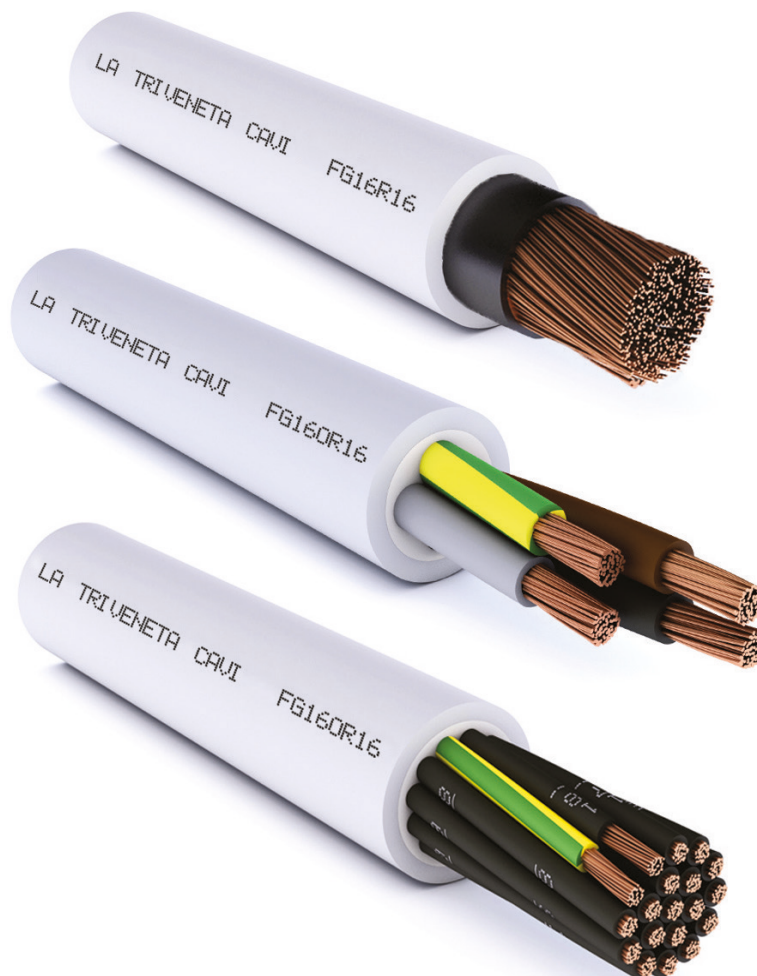
FG16R16-0,6/1 kV

FG16OR16-0,6/1 kV

Structure and electrical, physical, mechanical requirements:	CEI 20-13
	IEC 60502-1
	CEI UNEL 35318 (energy)
	CEI UNEL 35322 (control)
Low Voltage Directive:	2014/35/UE
RoHS Directive:	2011/65/UE

REACTION TO FIRE

 CPR COMPLIANT REGULATION 305/2011/EU	
Standard:	EN 50575:2014+A1:2016
Class:	C _{ca} -s3, d1, a3
Classification: (CEI UNEL 35016)	EN 13501-6
Heat and smoke emission and flame development:	EN 50399
Flame propagation:	EN 60332-1-2
Notified Body:	0051 - IMQ
CE	2017



Description

- Conductor: class 5, flexible, plain copper wire
- Insulation: rubber compound, G16 quality
- Filler: thermoplastic, penetrating between the cores (only in multi-core cables)
- Sheath: PVC, R16 quality
Colour: grey

Functional characteristics

- Rated voltage U_0/U : 600/1000 V a.c.
1500 V d.c.
- Max. rated voltage U_m : 1200 V a.c.
1800 V d.c. also earthwards
- Voltage test: 4000 V
- Max. operating temperature: 90°C
- Min. operating temperature: -15°C (without mechanical shocks)
- Max. short circuit temperature: 250°C

Special features

Good resistance to grease and mineral oils. Good flexibility and behaviour at low temperatures. UV resistance.

Colours of the cores

- SINGLE-CORE ●
- TWO-CORE ● ●
- THREE-CORE ● ● ● or ● ● ●
- FOUR-CORE ● ● ● ● or ● ● ● ●
- FIVE-CORE ● ● ● ● ● or ● ● ● ● ●

The cores in multiple cables for signal and control are black, numbered, with or without GREEN/YELLOW

Marking

[company] FG16(O)R16 0,6/1 kV [form.] Cca-s3,d1,a3 IEMMEQU EFP [year] [traceability] [metric]
[company] FG16(O)R16 0,6/1 kV [form.] Cca-s3,d1,a3 [year] [traceability] [metric]

Installation conditions

- Minimum installation temperature: 0°C
- Recommended minimum bending radius: 4 times the cable diameter
- Recommended maximum tensile stress: 50 N/mm² of the cross-section of the copper

Use and installation method

Reference Guidance CEI 20-67:

Cable suitable for energy supply in industry, building sites and construction industry. For fixed wiring indoors and outdoors, even wet (AD7); for direct and indirect underground wiring. Suitable for installation at open air, on walls, metal structures, cable trays, pipes, wiring holders and similar devices. Suitable for bundle installations in environments at risk of fire.

Reference Construction Products Regulation 305/2011 EU and Standard EN 50575:

Given its properties of limiting the development of fire and heat emission, the cable is suitable for the supply of electricity in buildings and other civil engineering works.

Single-core

Formation	Approx. conductor Ø	Average insulation thickness	Average sheath thickness	Max. external Ø	Max. electrical resistance at 20°C	Approx. cable weight	Current rating A					
							in air a 30°C	in pipe in air at 30°C	buried at 20°C		buried pipe at 20°C	
n° x mm ²	mm	mm	mm	mm	Ω/km	kg/km			K = 1	K = 1,5	K = 1	K = 1,5
1 x 1,5	1,5	0,7	1,4	8,2	13,3	55	24	20	26	24	23	21
1 x 2,5	2,0	0,7	1,4	8,7	7,98	69	33	28	34	31	29	27
1 x 4	2,5	0,7	1,4	9,3	4,95	84	45	37	43	40	38	35
1 x 6	3,0	0,7	1,4	9,9	3,30	115	58	48	55	51	48	44
1 x 10	4,0	0,7	1,4	10,9	1,91	155	80	66	73	68	64	59
1 x 16	5,0	0,7	1,4	11,4	1,21	225	107	88	96	89	83	77
1 x 25	6,2	0,9	1,4	13,2	0,780	320	141	117	124	115	108	100
1 x 35	7,4	0,9	1,4	14,6	0,554	420	176	144	150	139	131	121
1 x 50	8,9	1,0	1,4	16,4	0,386	585	216	175	186	173	162	150
1 x 70	10,5	1,1	1,4	18,3	0,272	790	279	222	229	212	199	184
1 x 95	12,2	1,1	1,5	20,4	0,206	990	342	269	270	250	234	217
1 x 120	13,8	1,2	1,5	22,4	0,161	1020	400	312	312	289	271	251
1 x 150	15,4	1,4	1,6	24,8	0,129	1550	464	355	356	330	310	287
1 x 185	16,9	1,7	1,6	27,2	0,106	1870	533	417	401	371	349	323
1 x 240	19,5	1,8	1,7	30,4	0,0801	2400	634	490	471	436	409	379
1 x 300	23,0	1,8	1,8	33,0	0,0641	2955	736	-	533	493	463	429
1 x 400	26,5	2,0	1,9	37,7	0,0486	3835	868	-	621	575	540	500
1 x 500 (*)	28,5	2,2	2,1	45,0	0,0384	4785	998	-	689	650	599	565
1 x 630 (*)	32,8	2,4	2,3	51,1	0,0287	6465	1151	-	785	741	683	645

(*) = This formation is not part of the CEI UNEL
 Permissible current rating values are according to:
 - three-phase circuit
 - laying depth of 0,8 m for buried cables

N.B. K=1: resistivity of the ground equal to 1,0 K·m/W
 K=1,5: resistivity of the ground equal to 1,5 K·m/W

Two-core

Formation	Approx. conductor Ø	Average insulation thickness	Average sheath thickness	Max. external Ø	Max. electrical resistance at 20°C	Approx. cable weight	Current rating A					
							in air at 30°C	in pipe in air at 30°C	buried at 20°C		buried pipe at 20°C	
n° x mm ²	mm	mm	mm	mm	Ω/km	kg/km			K = 1	K = 1,5	K = 1	K = 1,5
2 x 1,5	1,5	0,7	1,8	12,0	13,3	130	26	22	28	26	25	23
2 x 2,5	2,0	0,7	1,8	13,0	7,98	165	36	30	37	35	32	30
2 x 4	2,5	0,7	1,8	14,2	4,95	210	49	40	48	45	41	39
2 x 6	3,0	0,7	1,8	15,4	3,30	270	63	51	60	56	52	49
2 x 10	4,0	0,7	1,8	17,3	1,91	390	86	69	80	76	70	66
2 x 16	5,0	0,7	1,8	19,4	1,21	520	115	91	105	99	91	86
2 x 25	6,2	0,9	1,8	23,0	0,780	765	149	119	135	128	118	111
2 x 35	7,4	0,9	1,8	25,7	0,554	1020	185	140	166	156	144	136
2 x 50	8,9	1,0	1,8	29,3	0,386	1400	225	175	205	193	178	168

Permissible current rating values are according to:
 - two-phase circuit for two-core cables
 - laying depth of 0,8 m for buried cables

N.B. K=1: resistivity of the ground equal to 1,0 K·m/W
 K=1,5: resistivity of the ground equal to 1,5 K·m/W

Three-core

Formation	Approx. conductor Ø	Average insulation thickness	Average sheath thickness	Max. external Ø	Max. electrical resistance at 20°C	Approx. cable weight	Current rating A					
							in air at 30°C	in pipe in air at 30°C	buried at 20°C		buried pipe at 20°C	
n° x mm ²	mm	mm	mm	mm	Ω/km	kg/km			K = 1	K = 1,5	K = 1	K = 1,5
3 x 1,5	1,5	0,7	1,8	12,5	13,3	150	23	19	23	22	20	19
3 x 2,5	2,0	0,7	1,8	13,6	7,98	190	32	26	30	29	27	25
3 x 4	2,5	0,7	1,8	14,9	4,95	250	42	35	39	37	34	32
3 x 6	3,0	0,7	1,8	16,2	3,30	320	54	44	50	47	43	41
3 x 10	4,0	0,7	1,8	18,2	1,91	470	75	60	67	63	58	55
3 x 16	5,0	0,7	1,8	20,6	1,21	640	100	80	88	83	76	72
3 x 25	6,2	0,9	1,8	24,5	0,780	960	127	105	113	107	99	93
3 x 35	7,4	0,9	1,8	27,3	0,554	1290	158	128	139	131	121	114
3 x 50	8,9	1,0	1,8	31,2	0,386	1785	192	154	172	162	149	141
3 x 70	10,5	1,1	1,9	35,6	0,272	2700	246	194	212	200	184	174
3 x 95	12,2	1,1	2,0	40,0	0,206	3410	298	233	251	237	218	206
3 x 120	13,8	1,2	2,1	44,4	0,161	4340	346	268	290	274	252	238
3 x 150	15,4	1,4	2,3	49,5	0,129	5404	399	300	332	313	288	272
3 x 185	16,9	1,6	2,4	55,2	0,106	6550	456	340	373	352	324	306
3 x 240	19,5	1,7	2,6	61,9	0,0801	8475	538	398	439	414	382	360
3 x 300	23,0	1,8	2,8	68,0	0,0641	10440	621	-	-	-	-	-

Permissible current rating values are according to:
 - three-phase circuit for three-core cables
 - laying depth of 0,8 m for buried cables

N.B. K=1: resistivity of the ground equal to 1,0 K·m/W
 K=1,5: resistivity of the ground equal to 1,5 K·m/W

Four-core

Formation	Approx. conductor Ø	Average insulation thickness	Average sheath thickness	Max. external Ø	Max. electrical resistance at 20°C	Approx. cable weight	Current rating A					
							in air at 30°C	in pipe in air at 30°C	buried at 20°C		buried pipe at 20°C	
n° x mm ²	mm	mm	mm	mm	Ω/km	kg/km			K = 1	K = 1,5	K = 1	K = 1,5
4 x 1,5	1,5	0,7	1,8	13,4	13,3	170	23	19	23	22	20	19
4 x 2,5	2,0	0,7	1,8	14,6	7,98	220	32	26	30	29	27	25
4 x 4	2,5	0,7	1,8	16,0	4,95	295	42	35	39	37	34	32
4 x 6	3,0	0,7	1,8	17,5	3,30	385	54	44	50	47	43	41
4 x 10	4,0	0,7	1,8	19,8	1,91	575	75	60	67	63	58	55
4 x 16	5,0	0,7	1,8	22,4	1,21	795	100	80	88	83	76	72
4 x 25	6,2	0,9	1,8	26,8	0,780	1205	127	105	113	107	99	93
4 x 35 (*)	7,4	0,9	1,8	30,5	0,554	1750	158	128	139	131	121	114
4 x 50 (*)	8,9	1,0	1,8	34,1	0,386	2530	192	154	172	162	149	141
4 x 70 (*)	10,5	1,1	1,8	36,6	0,272	3600	246	194	212	200	184	174
4 x 95 (*)	12,2	1,1	2,1	41,5	0,206	4380	298	233	251	237	218	206
4 x 120 (*)	13,8	1,2	2,2	45,8	0,161	5585	346	268	290	274	252	238
4 x 150 (*)	15,4	1,4	2,4	52,1	0,129	6920	399	300	332	313	288	272
4 x 185 (*)	16,9	1,6	2,5	61,1	0,106	8364	456	340	373	352	324	306
4 x 240 (*)	19,5	1,7	2,7	68,8	0,0801	10830	538	398	439	414	382	360
3x35+25	7,4/6,2	0,9/0,9	1,8	29,2	0,554/0,780	1535	158	128	139	131	121	114
3x50+25	8,9/6,2	1,0/0,9	1,8	32,4	0,386/0,780	2020	192	154	172	162	149	141
3x70+35	10,5/7,4	1,1/0,9	1,8	37,0	0,272/0,554	3030	246	194	212	200	184	174
3x95+50	12,2/8,9	1,1/1,0	2,1	42,0	0,206/0,386	3915	298	233	251	237	218	206
3x120+70	13,8/10,5	1,2/1,1	2,2	46,9	0,161/0,272	5040	346	268	290	274	252	238
3x150+95	15,4/12,2	1,4/1,1	2,4	52,5	0,129/0,206	6300	399	300	332	313	288	272
3x185+95	16,9/12,2	1,6/1,1	2,5	57,3	0,106/0,206	8325	456	340	373	352	324	306
3x240+150	19,5/15,4	1,7/1,4	2,7	65,5	0,0801/0,129	9930	538	398	439	414	382	360

(*) = This formation is not part of the CEI UNEL
 Permissible current rating values are according to:
 - three-phase circuit
 - laying depth of 0,8 m for buried cables

N.B. K=1: resistivity of the ground equal to 1,0 K·m/W
 K=1,5: resistivity of the ground equal to 1,5 K·m/W

Five-core

Formation	Approx. conductor Ø	Average insulation thickness	Average sheath thickness	Max. external Ø	Max. electrical resistance at 20°C	Approx. cable weight	Current rating A					
							in air at 30°C	in pipe in air at 30°C	buried at 20°C		buried pipe at 20°C	
									K = 1	K = 1,5	K = 1	K = 1,5
n° x mm ²	mm	mm	mm	mm	Ω/km	kg/km						
5G1,5	1,5	0,7	1,8	14,4	13,3	195	23	19	23	22	20	19
5G2,5	2,0	0,7	1,8	15,6	7,98	260	32	26	30	29	27	25
5G4	2,5	0,7	1,8	17,3	4,95	345	42	35	39	37	34	32
5G6	3,0	0,7	1,8	18,9	3,30	455	54	44	50	47	43	41
5G10	4,0	0,7	1,8	21,5	1,91	680	75	60	67	63	58	55
5G16	5,0	0,7	1,8	24,4	1,21	970	100	80	88	86	76	72
5G25	6,2	0,9	1,8	29,3	0,780	1470	127	105	113	107	99	93
5G35	7,4	0,9	1,8	32,8	0,554	1990	158	128	139	131	121	114
5G50	8,9	1,0	2,0	38,2	0,386	3030	192	154	172	162	149	141
5G70 (*)	10,5	1,1	2,2	43,7	0,272	4190	246	194	212	200	184	174

(*) = This formation is not part of the CEI UNEL

Permissible current rating values are according to:

- three-phase circuit
- laying depth of 0,8 m for buried cables

N.B. K=1: resistivity of the ground equal to 1,0 K·m/W
K=1,5: resistivity of the ground equal to 1,5 K·m/W

Multi-core / signalling and control

Formation (*)	Approx. conductor Ø	Average insulation thickness	Average sheath thickness	Max. external Ø	Max. electrical resistance at 20°C	Approx. cable weight	Current rating A					
							in air at 30°C	in pipe in air at 30°C	buried pipe at 20°C			
									K = 1	K = 1,5		
n° x mm ²	mm	mm	mm	mm	Ω/km	kg/km						
7 x 1,5	1,5	0,7	1,8	15,4	13,3	260	13	11,5	18,5	16		
10 x 1,5	1,5	0,7	1,8	18,7	13,4	340	13	11,5	18,5	16		
12 x 1,5	1,5	0,7	1,8	19,3	13,4	380	11	9,5	14,5	12,5		
16 x 1,5	1,5	0,7	1,8	21,1	13,4	480	11	9,5	14,5	12,5		
19 x 1,5	1,5	0,7	1,8	22,1	13,4	535	9	8	13	11,5		
24 x 1,5	1,5	0,7	1,8	25,4	13,5	640	9	8	13	11,5		
7 x 2,5	2,0	0,7	1,8	16,8	7,98	381	17,5	15,5	24	21		
10 x 2,5	2,0	0,7	1,8	20,6	8,06	462	17,5	15,5	24	21		
12 x 2,5	2,0	0,7	1,8	21,3	8,06	530	13,5	12	20	17,5		
16 x 2,5	2,0	0,7	1,8	23,3	8,06	670	13,5	12	20	17,5		
19 x 2,5	2,0	0,7	1,8	24,5	8,06	755	12	10,5	16	14		
24 x 2,5	2,0	0,7	1,8	28,3	8,10	915	12	10,5	16	14		

N.B. Permissible current rating values are according to:
- all conductors are charged (except for the green/yellow).
- laying depth of 0,8 m for buried cables

N.B. K=1: resistivity of the ground equal to 1,0 K·m/W
K=1,5: resistivity of the ground equal to 1,5 K·m/W