

RG7H1R Description

Single-core cables, insulated with HEPR rubber of G7 quality, under PVC sheath.

- . Conductor: class 2, compact stranded wire, plain copper
- . Semiconductor layer: extruded (only cables $U_0/U \geq 6/10$ kV)
- . Insulation: HEPR rubber, G7 quality, Pb free
- . Semiconductor layer: extruded, cold stripping (only cables $U_0/U \geq 6/10$ kV)
- . Screen: plain copper wires with helically wound tape . Sheath: PVC based compound, Rz quality
- . Colour: red

N.B. The cable can be built in the three-pole version with helically wound cores. In this case, the initials becomes RG7H1RX, followed by rated voltage.

RG7H1OR Description

Three-pole cables insulated with HEPR rubber of G7 quality, under PVC sheath.

- . Conductor(*): class 2, compact stranded wire, plain copper
- . Semiconductor layer: extruded (only cables $U_0/U \geq 6/10$ kV)
- . Insulation: HEPR rubber, G7 quality, Pb free
- . Semiconductor layer: extruded, cold stripping
- . (only cables $U_0/U \geq 6/10$ kV)
- . Screen: plain copper tapes wrapped
- . Identification of phases: threads or colored bands . Filler: extruded, penetrating between the cores
- . Sheath: PVC based compound, Rz quality
- . Colour: red

Functional characteristics

Rated voltage

RG7H1R: U_0/U 1,8/3 ÷ 26/45 kV

RG7H1OR: U_0/U 1,8/3 ÷ 18/30 kV

- . Max. operating temperature: 90°C
- . Min. operating temperature: -15°C (without mechanical shocks)
- . Max. short circuit temperature: 250°C Installation conditions; Minimum installation temperature: 0°C
- . Recommended minimum bending radius: 12 times the cable diameter
- . Recommended maximum tensile stress: 60 N/mm² of the cross-section of the copper

Use and installation method

Suitable for energy transmission between transformer rooms and big power users. For laying on air, into tube or open pass. Can be laid underground, also if not protected, complying with art. 4.3.11 of CEI 11-17 standard.

RG7H1R - 1,8/3 kV

U_0/U : 1,8/3 kV

U max: 3,6 kV

Formation	Approx. conductor \varnothing	Average insulation thickness	Max. external \varnothing	Approx. cable weight	Current rating			
					A		buried*	
$n^\circ \times \text{mm}^2$	mm	mm	mm	kg/km	trefoil	flat	trefoil	flat
1 x 10	4,0	2,0	14,0	290	87	111	99	104
1 x 16	4,8	2,0	15,0	350	114	145	126	133
1 x 25	6,0	2,0	16,0	450	149	190	162	171
1 x 35	7,0	2,0	17,0	550	181	230	193	204
1 x 50	8,1	2,0	18,5	670	219	276	227	241

1 x 70	9,7	2,0	20,5	880	275	345	278	294
1 x 95	11,4	2,0	22,0	1100	339	422	332	351
1 x 120	12,9	2,0	24,5	1400	393	487	377	399
1 x 150	14,3	2,0	26,0	1650	446	550	421	445
1 x 185	16,0	2,0	27,5	2000	516	635	477	500
1 x 240	18,3	2,0	30,0	2550	617	745	550	580
1 x 300	21,0	2,0	32,5	3150	709	855	621	650
1 x 400	23,2	2,0	35,5	3950	824	990	702	735
1 x 500	26,1	2,2	40,0	5050	954	1140	790	830
1 x 630	30,3	2,4	44,0	6300	1102	1300	885	930

Electrical characteristics

Formation	Max. electrical resistance at 20°C /Km	Conductor apparent resistance at 90°C and 50Hz Ω/km		Phase reactance Ω/km		Capacity at 50Hz μF/km
		trefoil	flat	trefoil	flat	
n° x mm2	/Km	trefoil	flat	trefoil	flat	μF/km
1 x 10	1,83	2,34	2,34	0,13	0,19	0,19
1 x 16	1,15	1,47	1,47	0,12	0,18	0,23
1 x 25	0,727	0,927	0,927	0,12	0,18	0,27
1 x 35	0,524	0,669	0,668	0,11	0,17	0,30
1 x 50	0,387	0,494	0,494	0,11	0,16	0,34
1 x 70	0,268	0,342	0,342	0,10	0,16	0,40
1 x 95	0,193	0,246	0,246	0,098	0,16	0,45
1 x 120	0,153	0,196	0,196	0,095	0,15	0,50
1 x 150	0,124	0,159	0,158	0,092	0,15	0,55
1 x 185	0,0991	0,128	0,127	0,089	0,15	0,60
1 x 240	0,0754	0,0985	0,0974	0,086	0,14	0,68
1 x 300	0,0601	0,0797	0,0781	0,084	0,14	0,75
1 x 400	0,0470	0,0638	0,0628	0,083	0,14	0,83
1 x 500	0,0366	0,0517	0,0492	0,081	0,14	0,88
1 x 630	0,0283	0,0425	0,0392	0,079	0,14	0,92

RG7H1R - 3,6/6 kV
U₀/U: 3,6/6 kV
U max: 7,2 kV
Technical characteristics

Formation	Approx. conductor	Average insulation	Max. external	Approx. cable	Current rating A
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n° x mm ²	∅ mm	thickness mm	∅ mm	weight kg/km	in air		buried*	
					trefoil	flat	trefoil	flat
1 x 10	4,0	3,0	16,0	330	87	105	95	100
1 x 16	4,8	3,0	17,0	410	113	136	122	128
1 x 25	6,0	3,0	18,5	510	150	180	156	165
1 x 35	7,0	3,0	20,0	630	182	220	187	197
1 x 50	8,1	3,0	21,5	750	219	261	220	233
1 x 70	9,7	3,0	23,5	1010	275	328	271	286
1 x 95	11,4	3,0	25,0	1250	337	402	324	342
1 x 120	12,9	3,0	26,5	1500	390	465	370	390
1 x 150	14,3	3,0	28,0	1800	443	525	412	435
1 x 185	16,0	3,0	30,0	2100	512	605	468	491
1 x 240	18,3	3,0	32,5	2650	608	715	540	570
1 x 300	21,0	3,0	35,3	3200	700	820	610	640
1 x 400	23,2	3,0	37,5	4000	813	950	690	725
1 x 500	26,1	3,2	41,6	5100	940	1100	780	820
1 x 630	30,3	3,2	46,0	6500	1082	1260	875	915

* Ground thermal resistivity 100°C cm/W

RG7H1R - 6/10 kV

U₀/U: 6/10 kV

U max: 12 kV

Technical characteristics

Formation	Approx. conductor ∅ mm	Average insulation thickness mm	Max. external ∅ mm	Approx. cable weight kg/km	Current rating A			
					in air		buried*	
n° x mm ²	mm	mm	mm	kg/km	trefoil	flat	trefoil	flat
1 x 10	4,0	3,4	19,5	420	91	105	93	98
1 x 16	4,8	3,4	21,0	530	117	136	120	128
1 x 25	6,0	3,4	22,2	650	154	178	155	163
1 x 35	7,0	3,4	23,0	760	186	219	185	195
1 x 50	8,1	3,4	24,5	880	223	260	218	231
1 x 70	9,7	3,4	26,5	1100	279	325	270	285
1 x 95	11,4	3,4	28,0	1400	340	398	320	340
1 x 120	12,9	3,4	29,3	1630	395	460	365	385
1 x 150	14,3	3,4	31,0	1900	448	520	410	432
1 x 185	16,0	3,4	33,3	2350	516	600	464	490
1 x 240	18,3	3,4	35,6	2900	610	705	540	565
1 x 300	21,0	3,4	38,5	3500	703	810	605	635
1 x 400	23,2	3,4	41,0	4300	815	935	690	720
1 x 500	26,1	3,4	45,0	5420	945	1080	780	810
1 x 630	30,3	3,4	48,0	6850	1085	1230	875	900

* Ground thermal resistivity 100°C cm/W

Electrical characteristics

Formation	Max. electrical resistance at 20°C	Conductor apparent resistance at 90°C and 50Hz		Phase reactance Ω/km		Capacity at 50Hz $\mu\text{F}/\text{km}$	Formation	Max. electrical resistance at 20°C
		trefoil	flat	trefoil	flat			
$n^\circ \times \text{mm}^2$	/Km	trefoil	flat	trefoil	flat	$\mu\text{F}/\text{km}$	$n^\circ \times \text{mm}^2$	/Km
1 x 10	1,83	2,34	2,34	0,16	0,21	0,16	1 x 10	1,83
1 x 16	1,15	1,47	1,47	0,15	0,20	0,18	1 x 16	1,15
1 x 25	0,727	0,927	0,927	0,14	0,19	0,21	1 x 25	0,727
1 x 35	0,524	0,669	0,669	0,13	0,19	0,23	1 x 35	0,524
1 x 50	0,387	0,494	0,494	0,12	0,18	0,26	1 x 50	0,387
1 x 70	0,268	0,342	0,342	0,12	0,17	0,29	1 x 70	0,268
1 x 95	0,193	0,246	0,246	0,11	0,17	0,32	1 x 95	0,193
1 x 120	0,153	0,196	0,196	0,11	0,16	0,36	1 x 120	0,153
1 x 150	0,124	0,159	0,158	0,10	0,16	0,38	1 x 150	0,124
1 x 185	0,0991	0,128	0,127	0,10	0,16	0,42	1 x 185	0,0991
1 x 240	0,0754	0,0985	0,0973	0,097	0,16	0,47	1 x 240	0,0754
1 x 300	0,0601	0,0797	0,0780	0,095	0,15	0,52	1 x 300	0,0601
1 x 400	0,0470	0,0638	0,0617	0,092	0,15	0,57	1 x 400	0,0470
1 x 500	0,0366	0,0517	0,0490	0,089	0,15	0,64	1 x 500	0,0366

RG7H1R - 8,7/15 kV
U₀/U: 8,7/15 kV
U max: 17,5 kV
Technical characteristics

Formation	Approx. conductor \varnothing	Average insulation thickness	Max. external \varnothing	Approx. cable weight	Current rating A			
					trefoil	flat	trefoil*	flat
$n^\circ \times \text{mm}^2$	mm	mm	mm	kg/km	trefoil	flat	trefoil	flat
1 x 16	4,8	4,5	23,3	650	120	135	118	123
1 x 25	6,0	4,5	24,5	750	155	177	152	158
1 x 35	7,0	4,5	25,8	850	190	215	181	190
1 x 50	8,1	4,5	27,0	1000	225	258	213	224
1 x 70	9,7	4,5	28,5	1220	282	323	262	276
1 x 95	11,4	4,5	30,1	1500	345	393	313	330
1 x 120	12,9	4,5	32,5	1900	400	455	358	375
1 x 150	14,3	4,5	33,5	2100	450	515	396	420
1 x 185	16,0	4,5	35,5	2500	518	590	453	475
1 x 240	18,3	4,5	38,0	3030	615	700	525	550
1 x 300	21,0	4,5	41,5	3800	704	800	590	620
1 x 400	23,2	4,5	43,3	4600	816	920	670	700
1 x 500	26,1	4,5	47,4	5700	945	1060	760	785

1 x 630	30,3	4,5	52,6	7100	1088	1210	850	870
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* Ground thermal resistivity 100°C cm/W

Electrical characteristics

Formation	Max. electrical resistance at 20°C /Km	Conductor apparent resistance at 90°C and 50Hz Ω/km		Phase reactance Ω/km		Capacity at 50Hz μF/km
		trefoil	flat	trefoil	flat	
1 x 16	1,15	1,47	1,47	0,15	0,21	0,15
1 x 25	0,727	0,927	0,927	0,14	0,20	0,18
1 x 35	0,524	0,669	0,669	0,14	0,19	0,19
1 x 50	0,387	0,494	0,494	0,13	0,19	0,21
1 x 70	0,268	0,342	0,342	0,12	0,18	0,24
1 x 95	0,193	0,246	0,246	0,12	0,17	0,26
1 x 120	0,153	0,196	0,196	0,11	0,17	0,29
1 x 150	0,124	0,159	0,158	0,11	0,17	0,31
1 x 185	0,0991	0,128	0,127	0,11	0,16	0,34
1 x 240	0,0754	0,0985	0,0973	0,10	0,16	0,37
1 x 300	0,0601	0,0797	0,0780	0,099	0,16	0,42
1 x 400	0,0470	0,0638	0,0617	0,096	0,15	0,45
1 x 500	0,0366	0,0517	0,0490	0,092	0,15	0,51
1 x 630	0,0283	0,0425	0,0390	0,090	0,15	0,58

RG7H1R - 12/20 kV

U₀/U: 12/20 kV

U max: 24 kV

Technical characteristics

Formation	Approx. conductor Ø mm	Average insulation thickness mm	Max. external Ø mm	Approx. cable weight kg/km	Current rating A in air		Current rating A buried*	
					trefoil	flat	trefoil	flat
1 x 25	6,0	5,5	25,0	814	158	176	153	158
1 x 35	7,0	5,5	27,7	960	190	213	182	189
1 x 50	8,1	5,5	29,0	1100	230	255	216	225
1 x 70	9,7	5,5	30,5	1350	285	320	265	275
1 x 95	11,4	5,5	33,0	1650	348	390	315	329
1 x 120	12,9	5,5	34,8	1950	400	450	360	374
1 x 150	14,3	5,5	36,2	2300	450	510	402	416

1 x 185	16,0	5,5	37,6	2600	520	585	455	472
1 x 240	18,3	5,5	40,2	3200	615	690	528	545
1 x 300	21,0	5,5	43,0	3900	705	790	595	611
1 x 400	23,2	5,5	45,8	4800	815	910	674	690
1 x 500	26,1	5,5	50,0	5900	945	1050	762	776
1 x 630	30,3	5,5	54,0	7300	1087	1190	858	875

* Ground thermal resistivity 100°C cm/W

Electrical characteristics

Formation	Max. electrical resistance at 20°C /Km	Conductor apparent resistance at 90°C and 50Hz Ω/km		Phase reactance Ω/km		Capacity at 50Hz μF/km
		trefoil	flat	trefoil	flat	
n° x mm2						
1 x 25	0,727	0,927	0,927	0,14	0,20	0,16
1 x 35	0,524	0,669	0,669	0,14	0,20	0,17
1 x 50	0,387	0,494	0,494	0,13	0,19	0,18
1 x 70	0,268	0,342	0,342	0,13	0,19	0,21
1 x 95	0,193	0,246	0,246	0,12	0,18	0,23
1 x 120	0,153	0,196	0,196	0,12	0,18	0,25
1 x 150	0,124	0,159	0,158	0,11	0,17	0,27
1 x 185	0,0991	0,128	0,127	0,11	0,17	0,29
1 x 240	0,0754	0,0985	0,0972	0,11	0,16	0,32
1 x 300	0,0601	0,0797	0,0779	0,10	0,16	0,35
1 x 400	0,0470	0,0638	0,0616	0,099	0,16	0,39
1 x 500	0,0366	0,0517	0,0489	0,096	0,15	0,43
1 x 630	0,0283	0,0425	0,0389	0,093	0,15	0,49

RG7H1R - 18/30 kV

U₀/U: 18/30 kV

U max: 36 kV

Technical characteristics

Formation	Approx. conductor Ø mm	Average insulation thickness mm	Max. external Ø mm	Approx. cable weight kg/km	Current rating A in air		Current rating A buried*	
					trefoil	flat	trefoil	flat
n°x mm ²								
1x50	81	80	341	1400	229	254	214	222
1x70	97	80	362	1700	285	316	263	272
1x95	114	80	382	1950	347	387	314	325
1 x120	129	80	400	2230	401	445	358	370
1x150	143	80	410	2550	452	505	400	415

1x185	160	80	431	3000	520	580	453	469
1x240	183	80	450	3600	615	680	525	540
1x300	210	80	470	4300	705	775	593	606
1x400	232	80	511	5200	815	895	671	685
1x500	261	80	530	6300	943	1030	761	775
1x630	303	80	602	7800	1085	1170	860	875

RG7H1R - 26/45 kV

U₀/U: 26/45 kV

U max: 52 kV

Technical characteristics

Formation	Approx. conductor ∅	Average insulation thickness	Max. external ∅	Approx. cable weight	Current rating		Current rating	
					A in air		A buried*	
n°x mm ²	mm	mm	mm	kg/km	trefoil	flat	trefoil	flat
1x50	81	103	399	1945	225	250	205	212
1x70	97	103	419	2150	280	315	255	260
1x95	114	103	438	2490	340	380	300	310
1x120	129	100	448	2735	395	440	355	365
1x150	143	95	451	3020	445	495	385	395
1x185	160	93	471	3395	510	570	440	450
1x240	183	93	492	4025	600	665	510	520
1x300	210	90	522	4725	695	760	570	580
1x 400	232	90	548	5635	800	875	650	655
1x500	261	90	586	6825	930	1010	735	740
1x630	303	90	627	8260	1070	1180	835	845

RG7H1OR - 1,8/3 kV

U₀/U: 1,8/3 kV

U max: 3,6 kV

Technical characteristics

Formation	Approx. conductor ∅	Average insulation thickness	Max. external ∅	Approx. cable weight	Current rating	
					A	
n°xmm ²	mm	mm	mm	kg/km	in air	buried*
3x10	40	20	260	1050	85	93
3x16	48	20	280	1200	109	120
3x25	60	20	302	1600	145	155
3x35	70	20	340	2000	175	185
3x50	81	20	360	2250	208	216
3x70	97	20	400	3200	260	265
3x95	114	20	434	4100	318	315
3x120	129	20	480	5000	367	360
3x150	143	20	520	5960	415	400
3x185	160	20	550	7100	476	453
3x240	183	20	620	9300	555	520
3x300	210	20	680	13000	635	585

3x400	232	20	750	14000	716	651
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RG7H1OR - 3,6/6 kV
U₀/U: 3,6/6 kV
U max: 7,2 kV

Technical characteristics

Formation	Approx. conductor Ø	Average insulation thickness	Max. external Ø	Approx. cable weight	Current rating A	
					in air	buried*
n°xmm ²	mm	mm	mm	kg/km		
3x10	40	30	305	1220	85	93
3x16	48	30	325	1500	109	120
3x25	60	30	355	1850	145	153
3x35	70	30	375	2300	175	183
3x50	81	30	405	2800	211	216
3x70	97	30	445	3560	262	263
3x95	114	30	485	4510	318	315
3x120	129	30	520	5500	370	359
3x150	143	30	550	6350	415	400
3x185	160	30	595	7700	477	451
3x240	183	30	655	9700	555	518
3x300	210	30	705	11800	635	583
3x400	232	30	770	15000	717	651

RG7H1OR - 6/10 kV
U₀/U: 6/10 kV
U max: 12 kV

Formation	Approx. conductor Ø	Average insulation thickness	Max. external Ø	Approx. cable weight	Current rating A	
					in air	buried*
n°x mm ²	mm	mm	mm	kg/km		
3x10	40	34	370	1650	73	78
3x16	48	34	400	2100	107	112
3x25	60	34	425	2550	145	149
3x35	70	34	450	2850	175	178
3x50	81	34	480	3600	208	210
3x70	97	34	520	4200	260	257
3x95	114	34	560	5400	316	307
3x120	129	34	600	6300	365	350
3x150	143	34	630	7400	407	390
3x185	160	34	680	8600	469	440
3x240	183	34	740	11000	550	510
3x300	210	34	790	13000	630	580
3x400	232	34	850	16000	720	655

RG7H1OR - 8,7/15 kV
U₀/U: 8,7/15 kV
U max: 17,5 kV

Formation	Approx. conductor Ø	Average insulation thickness	Max. external Ø	Approx. cable weight	Current rating A	
					in air	buried*
n°x mm ²	mm	mm	mm	kg/km		
3x16	48	45	460	2500	98	101
3x25	60	45	500	2900	145	145
3x35	70	45	520	3500	177	173
3x50	81	45	540	4000	210	204
3x70	97	45	580	4800	262	250
3x95	114	45	620	5900	315	298
3x120	129	45	660	6950	361	339
3x150	143	45	700	8000	407	378
3x185	160	45	740	9500	470	429
3x240	183	45	780	11800	550	500
3x300	210	45	850	14200	630	565

RG7H1OR - 12/20 kV

U₀/U: 12/20 kV

U max: 24 kV

n°x mm ²	mm	mm	mm	kg/km	in air	buried*
3x35	70	55	563	3950	177	175
3 x50	81	55	580	4500	210	207
3x70	97	55	640	5500	262	253
3 x95	114	55	670	6600	315	301
3x120	129	55	705	7600	361	342
3x150	143	55	736	8600	407	381
3x185	160	55	780	11000	470	431
3x240	183	55	840	12500	550	500
3 x300	210	55	900	15000	630	562

RG7H1OR - 18/30 kV

U₀/U: 18/30 kV

U max: 36 kV

Formation	Approx. conductor Ø	Average insulation thickness	Max. external Ø	Approx. cable weight	Current rating A	
					in air	buried*
n°x mm ²	mm	mm	mm	kg/km		
3 x50	81	80	730	5980	210	205
3x70	97	80	760	6800	260	250
3x95	114	80	810	8400	315	300
3x120	129	80	840	9400	360	340
3 x150	143	80	860	11000	405	380
3 x185	160	80	900	13000	465	430

3 x240	183	80	960	15000	545	496
3x150	143	45	700	8000	407	378
3x185	160	45	740	9500	470	429
3x240	183	45	780	11800	550	500