

Power cables 1 kV

Standard: PN-HD 603-3G



Design

1. Copper conductor
2. PVC insulation
3. Taped or extruded bedding
4. PVC sheath

Application

Cables are designed for fixed installation, indoors and outdoors, in the ground and in concrete.

Installation of the product should only be carried out by personnel trained and qualified for electrical works. The product is designed according to recognized standards. Applicable rules of installation must be applied at all times.

Properties

Rated voltage U ₀ /U	0,6/1 kV	Self-extinguishing of one cable	IEC 60332-1-2
Test voltage	4 (AC) kV	CPR-Classification	Eca
Maximal short-circuit temperature	160 (≤300 mm ²); 140 (>300 mm ²) °C	UV stability	yes
Maximal operating conductor temperature	70 °C	Packaging	drum
Temperature range	from -35 up to 70 °C	Certificate	BBJ
Minimal temperature for laying and manipulation	-5 °C	RoHS	yes
Minimal storage temperature	-35 °C	REACH	yes
Colour of insulation	HD 308 S2	Declaration of Conformity UE (CE)	yes
Colour of sheath	black	LVD Conformity	yes

Technical data

No. of cores and cross-section mm ²	Shape of conductor *1	Diameter (height) of conductor mm	Thickness - nominal insulation mm	Thickness - nominal sheath mm	Diameter informative mm	Weight informative kg/km	Minimal radius of bend mm	Max. permitted pulling force *6 N
1x16	RE	4,4	1,0	1,8	10	239	155	800
1x25	RMV	5,9	1,2	1,8	12	355	183	1250
1x35	RMV	7,0	1,2	1,8	13	456	200	1750
1x50	RMV	8,2	1,4	1,8	15	601	225	2500
1x70	RMV	10,0	1,4	1,8	17	808	252	3500
1x95	RMV	11,7	1,6	1,8	19	1083	284	4750
1x120	RMV	13,2	1,6	1,8	20	1323	306	6000
1x150	RMV	14,6	1,8	1,8	22	1593	333	7500
1x185	RMV	16,4	2,0	1,8	24	1965	366	9250
1x240	RMV	18,6	2,2	1,8	27	2528	405	12000
1x300	RMV	21,1	2,4	1,9	30	3148	452	15000
1x400	RMV	24,2	2,6	2,0	34	3988	507	20000
1x500	RMV	27,3	2,8	2,1	38	5055	563	25000
3x10	RE	3,5	1,0	1,8	18	624	214	1500
3x16	RE	4,4	1,0	1,8	20	847	236	2400
3x25	RMV	5,9	1,2	1,8	24	1278	286	3750
3x35	RMV	7,0	1,2	1,8	26	1638	314	5250
3x50	SM	6,8	1,4	1,8	26	1727	306	7500
3x70	SM	8,2	1,4	2,0	29	2371	347	10500
3x95	SM	9,6	1,6	2,1	33	3212	396	14250
3x120	SM	10,8	1,6	2,2	36	3948	430	18000
3x150	SM	12,2	1,8	2,3	40	4849	479	22500
3x185	SM	13,6	2,0	2,5	44	6022	529	27750
3x240	SM	15,6	2,2	2,7	50	7817	596	36000
4x10	RE	3,5	1,0	1,8	19	752	230	2000
4x16	RE	4,4	1,0	1,8	21	1034	257	3200
4x25	RMV	5,9	1,2	1,8	26	1578	311	5000
4x35	SM	6,3	1,2	1,8	24	1706	292	7000
4x50	SM	7,3	1,4	1,9	28	2253	332	10000
4x70	SM	9,0	1,4	2,1	32	3106	383	14000
4x95	SM	10,6	1,6	2,2	37	4230	439	19000
4x120	SM	11,8	1,6	2,4	40	5219	476	24000
4x150	SM	13,4	1,8	2,5	44	6425	533	30000
4x185	SM	15,1	2,0	2,7	50	7980	594	37000
4x240	SM	17,4	2,2	2,9	56	10360	672	48000
5x10	RE	3,5	1,0	1,8	21	918	250	2500
5x16	RE	4,4	1,0	1,8	23	1268	280	4000
5x25	RMV	5,9	1,2	1,8	28	1974	341	6250
5x35	RMV	7,0	1,2	1,9	32	2587	379	8750
5x50	SM	7,9	1,4	2,1	32	2864	388	12500
5x70	SM	9,7	1,4	2,2	37	3931	444	17500

No. of cores and cross-section	Shape of conductor *1	Diameter (height) of conductor mm	Thickness - nominal insulation mm	Thickness - nominal sheath mm	Diameter informative mm	Weight informative kg/km	Minimal radius of bend mm	Max. permitted pulling force *6 N
5x95	SM	11,0	1,6	2,4	42	5338	499	23750
5x120	SM	12,6	1,6	2,5	46	6584	551	30000

No. of cores and cross-section	Shape of conductor *1	Max. effective resistance conductor at 20°C Ω/km	Short circuit current (1s) kA	Current carrying capacity single cable in air *2 A	Current carrying capacity in air - trefoil *3 A	Current carrying capacity single cable in ground *4 A	Current carrying capacity in ground - trefoil *5 A	Inductance mH/km	Inductance - trefoil mH/km
1x16	RE	1,15	1,84	--	83	--	105	--	0,353
1x25	RMV	0,727	2,87	--	112	--	137	--	0,330
1x35	RMV	0,524	4,02	--	138	--	165	--	0,312
1x50	RMV	0,387	5,74	--	168	--	196	--	0,305
1x70	RMV	0,268	8,04	--	214	--	241	--	0,289
1x95	RMV	0,193	10,91	--	264	--	289	--	0,282
1x120	RMV	0,153	13,78	--	306	--	329	--	0,274
1x150	RMV	0,124	17,23	--	353	--	370	--	0,270
1x185	RMV	0,0991	21,25	--	408	--	418	--	0,265
1x240	RMV	0,0754	27,56	--	484	--	483	--	0,260
1x300	RMV	0,0601	34,45	--	563	--	547	--	0,256
1x400	RMV	0,0470	41,06	--	652	--	618	--	0,251
1x500	RMV	0,0366	51,33	--	761	--	700	--	0,245
3x10	RE	1,83	1,15	61	--	80	--	0,281	--
3x16	RE	1,15	1,84	82	--	105	--	0,264	--
3x25	RMV	0,727	2,87	111	--	137	--	0,258	--
3x35	RMV	0,524	4,02	136	--	164	--	0,248	--
3x50	SM	0,387	5,74	161	--	194	--	0,219	--
3x70	SM	0,268	8,04	203	--	237	--	0,209	--
3x95	SM	0,193	10,91	250	--	284	--	0,207	--
3x120	SM	0,153	13,78	290	--	322	--	0,201	--
3x150	SM	0,124	17,23	334	--	362	--	0,201	--
3x185	SM	0,0991	21,25	384	--	408	--	0,200	--
3x240	SM	0,0754	27,56	454	--	469	--	0,196	--
4x10	RE	1,83	1,15	64	--	82	--	0,302	--
4x16	RE	1,15	1,84	84	--	106	--	0,286	--
4x25	RMV	0,727	2,87	115	--	139	--	0,279	--
4x35	SM	0,524	4,02	137	--	166	--	0,246	--
4x50	SM	0,387	5,74	168	--	197	--	0,245	--
4x70	SM	0,268	8,04	210	--	240	--	0,235	--
4x95	SM	0,193	10,91	260	--	287	--	0,231	--
4x120	SM	0,153	13,78	299	--	323	--	0,224	--
4x150	SM	0,124	17,23	344	--	363	--	0,221	--
4x185	SM	0,0991	21,25	395	--	406	--	0,218	--
4x240	SM	0,0754	27,56	464	--	465	--	0,210	--
5x10	RE	1,83	1,15	66	--	83	--	0,311	--

No. of cores and cross-section mm ²	Shape of conductor *1	Max. effective resistance conductor at 20°C Ω/km	Short circuit current (1s) kA	Current carrying capacity single cable in air *2 A	Current carrying capacity in air - trefoil *3 A	Current carrying capacity single cable in ground *4 A	Current carrying capacity in ground - trefoil *5 A	Inductance mH/km	Inductance - trefoil mH/km
5x16	RE	1,15	1,84	87	--	108	--	0,295	--
5x25	RMV	0,727	2,87	119	--	141	--	0,288	--
5x35	RMV	0,524	4,02	147	--	169	--	0,278	--
5x50	SM	0,387	5,74	176	--	200	--	0,252	--
5x70	SM	0,268	8,04	222	--	245	--	0,237	--
5x95	SM	0,193	10,91	270	--	290	--	0,234	--
5x120	SM	0,153	13,78	313	--	328	--	0,223	--

*1 RE - Conductor class 1 - round solid; RMV - Conductor class 2 - round stranded compacted; SM - Conductor class 2 - sector-shaped stranded

*2 Air temperature: 30 °C; Load factor: 1

*3 Air temperature: 30 °C; Cable distance: 0 mm; Load factor: 1

*4 Ground temperature: 20 °C; Thermal resistivity of ground: 1,0 K.m/W; Depth of cable laying: 0,7 m; Load factor: 1

*5 Ground temperature: 20 °C; Thermal resistivity of ground: 1,0 K.m/W; Depth of cable laying: 0,7 m; Cable distance: 0 mm; Load factor: 1

*6 Force is distributed over all cable conductors; Force for the pulling head or conductor grip