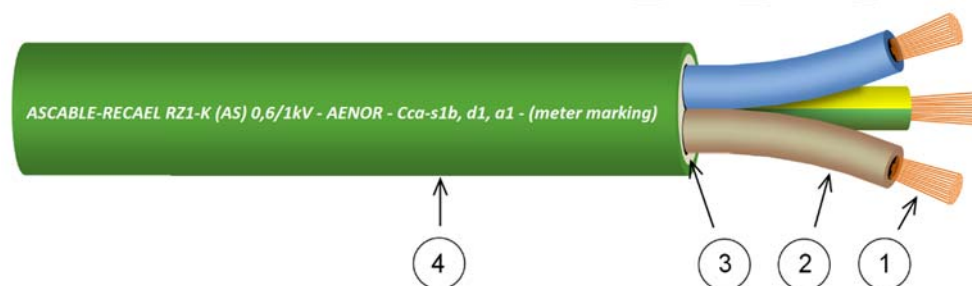


DESCRIPTION

Power cables with fine wire strands of plain electrolytic copper wire, cross-linked polyethylene insulation and halogen free outer sheath. Suitable for transport and distribution of electric power in fixed installations, indoor and outdoor and industrial use. Construction is according to UNE 21123-4

CONSTRUCTION

1 - Conductor:	Flexible bare copper, class 5	a/EN 60228
2 - Insulation:	Cross linked polyethylene, type DIX-3	
	· Identification (colours)	a/HD 308
	- 1x: natural (uncoloured)	
	- up to 5c: blue, brown, black, grey, yellow/green	
	- 6c or more: black numbered with yellow/green	
	· Assembly of cores: concentric stranded	
3 – Bedding:	Thermoplastic compound LSZH	
4 – Outer sheath:	Halogen free compound, type DMZ-E	
	· Standard colour: Green (*)	a/RAL 6018



TECHNICAL SPECIFICATIONS

Rated voltage:	0,6 / 1 kV ac	
Rated voltage:	0,9 / 1,5 kV dc	
Test voltage:	3.500 Vac	
Operating temperature:	-15 °C to +90 °C (Fixed installation, Occasional movements) -40 °C to +90 °C (Fixed installation, no movement)	
Maximum short-circuit temperature:	250 °C (max. 5 s)	a/IEC 60724
Water resistant:	AD7 (IP7)	a/IEC 60364-3, IEC 60529
Impact resistance (Medium):	AG2 (IP5)	a/IEC 60364-3, IEC 60529
Oil and fuel resistant:	O.K.	a/ICEA S-73-532
UV resistant:	O.K.	a/UNE 21123-4
CPR classification (class)	Cca-s1b,d1,a1	a/EN 50575

MINIMUM BENDING RADIUS

During installation the radius of curvature should never be below the following values:

Unarmoured cables	
Ø (*)	Minimum bending radius
Ø < 25	4 Ø
25 ≤ Ø ≤ 50	5 Ø

(*) Ø = Outside cable diameter

(*) Possibility of manufacturing the outer cover in other colors other than green, but outside the AENOR license.

	RZ1-K 1kV CPR AENOR reg. N° 042/00961 - 0099/CPR/B85/0026 Construction Products Regulation (EU) No 305/2011		ETP-38 CPR Ed. 11/2023 Rev. 24
Halogen free power cables			

FEATURES FRONT FIRE

TESTS	STANDARDS	VALUES
Flame retardant	EN 60332-1-2 / IEC 60332-1-2	OK
Fire retardant	EN 50399	OK
Low smoke emission (transmittance > 60%)	EN 61034-2, IEC 61034-1-2	OK
Halogen free (HCl) (<0,5%)	EN 60754-1, IEC 60754-1	OK
Corrosivity test	EN 60754-2, IEC 60754-2	pH ≥ 4,3 / Conductivity ≤ 100 µS/cm

DATA AND DIMENSIONS

Dimensions are approximates, subject to small variations due to process. Other sizes are possible on request.

Cross section mm²	Resistance Ω/km at 20 °C	Voltage Drop V/Axkm		Intensity maximum, A		Insulation thickness, mm	Sheath		Pulling force (**) max., N	Weight Kg/km
		Cos φ 0,8	Cos φ 1	In air	buried		thickness, mm	Ø outer, mm		
1x1,5	13,3	23,66	29,374	21	21	0,7	1,4	7,4	75	70
1x2,5	7,98	14,25	17,624	30	27	0,7	1,4	7,8	125	80
1x4	4,95	8,887	10,933	40	35	0,7	1,4	8,5	200	105
1x6	3,30	5,964	7,288	52	44	0,7	1,4	9,1	300	130
1x10	1,91	3,495	4,218	72	58	0,7	1,4	10,0	500	175
1x16	1,21	2,238	2,673	97	75	0,7	1,4	11,3	800	245
1x25	0,780	1,487	1,723	122	96	0,9	1,4	12,9	1.250	345
1x35	0,554	1,082	1,223	153	117	0,9	1,4	14,3	1.750	455
1x50	0,386	0,782	0,852	188	138	1,0	1,4	15,9	2.500	605
1x70	0,272	0,576	0,601	243	170	1,1	1,5	18,5	3.500	860
1x95	0,206	0,458	0,456	298	202	1,1	1,5	20,2	4.750	1.075
1x120	0,161	0,377	0,355	350	230	1,2	1,6	22,4	6.000	1.360
1x150	0,129	0,318	0,284	401	260	1,4	1,6	24,4	7.500	1.655
1x185	0,106	0,277	0,234	460	291	1,6	1,7	26,8	9.250	2.000
1x240	0,0801	0,23	0,177	545	336	1,7	1,8	30,9	12.000	2.625
1x300	0,0641	0,201	0,142	630	380	1,8	1,9	34,0	15.000	3.305
2x1,5	13,3	27,371	33,918	23	24	0,7	1,25	8,8	150	140
2x2,5	7,98	16,502	20,35	32	32	0,7	1,25	9,6	250	107
2x4	4,95	10,308	12,624	44	42	0,7	1,25	11,9	400	220
2x6	3,30	6,931	8,416	57	53	0,7	1,25	13	600	280
2x10	1,91	4,082	4,87	78	70	0,7	1,4	15,2	1.000	400
2x16	1,21	2,614	3,086	104	91	0,7	1,4	17,5	1.600	575
2x25	0,780	1,772	1,99	135	116	0,9	1,6	21,6	2.500	870
2x35	0,554	1,304	1,412	168	140	0,9	1,6	23,9	3.500	1.140
2x50	0,386	0,96	0,984	204	166	1,0	1,7	27,6	5.000	1.555
2x70	0,272	0,724	0,694	262	204	1,1	1,9	32,4	7.000	2.190
3G1,5	13,3	27,371	33,918	23	24	0,7	1,25	9,3	225	125
3G2,5	7,98	16,502	20,35	32	32	0,7	1,25	10,1	375	160
3G4	4,95	10,308	12,624	44	42	0,7	1,25	12,5	600	260
3G6	3,30	6,931	8,416	57	53	0,7	1,25	13,7	900	335
3G10	1,91	4,082	4,87	78	70	0,7	1,4	16,3	1.500	490
3x16	1,21	2,201	2,673	91	75	0,7	1,5	18,7	2.400	710

Halogen free power cables

Cross section mm ²	Resistance Ω/km at 20 °C	Voltage Drop V/Axkm		Intensity maximum, A		Insulation thickness, mm	Sheath		Pulling force (**) max., N	Weight Kg/km
		Cos φ 0,8	Cos φ 1	In air	buried		thickness, mm	Ø outer, mm		
3x25	0,780	1,457	1,723	115	96	0,9	1,6	22,9	3.750	1.085
3x35	0,554	1,054	1,223	143	117	0,9	1,7	25,8	5.250	1.460
3x50	0,386	0,757	0,852	174	138	1,0	1,8	29,5	7.500	1.975
3x70	0,272	0,555	0,601	223	170	1,1	1,9	35,1	10.500	2.855
3x95	0,206	0,436	0,456	271	202	1.1	2,0	38,4	14.250	3.565
4G1,5	13,3	23,602	29,374	20	21	0,7	1,25	11,4	300	185
4G2,5	7,98	14,196	17,624	28	27	0,7	1,25	12,3	500	235
4G4	4,95	8,837	10,933	38	35	0,7	1,25	13,5	800	305
4G6	3,30	5,917	7,288	49	44	0,7	1,4	15,2	1.200	405
4G10	1,91	3,455	4,218	68	58	0,7	1,4	17,7	2.000	610
4x16	1,21	2,201	2,673	91	75	0,7	1,5	20,8	3.200	905
4x25	0,780	1,457	1,723	115	96	0,9	1,7	25,2	5.000	1.335
4x35	0,554	1,054	1,223	143	117	0,9	1,7	28,2	7.000	1.805
4x50	0,386	0,757	0,852	174	138	1,0	1,9	32,8	10.000	2.485
4x70	0,272	0,555	0,601	223	170	1,1	2,0	38,7	14.000	3.575
5G1,5	13,3	23,602	29,374	20	21	0,7	1,25	12,2	375	210
5G2,5	7,98	14,196	17,624	28	27	0,7	1,25	13,3	625	275
5G4	4,95	8,837	10,933	38	35	0,7	1,4	14,9	1.000	360
5G6	3,30	5,917	7,288	49	44	0,7	1,4	16,6	1.500	490
5G10	1,91	3,455	4,218	68	58	0,7	1,5	19,6	2.500	735
5G16	1,21	2,201	2,673	91	75	0,7	1,6	22,8	4.000	1.075
5G25	0,780	1,457	1,723	115	96	0,9	1,7	27,7	6.250	1.620
5G35	0,554	1,054	1,223	143	117	0,9	1,8	31,0	8.750	2.180
5G50	0,386	0,757	0,852	174	138	1,0	2,0	36,4	12.500	3.030
7x1,5	13,3	27,371	33,918	11	---	0,7	1,25	13,1	525	255
7x2,5	7,98	16,502	20,35	16	---	0,7	1,4	14,6	875	340
7x4	4,95	10,308	12,624	21	---	0,7	1,4	16,3	1.400	460
10x1,5	13,3	27,371	33,918	10	---	0,7	1,4	16,6	750	395
10x2,5	7,98	16,502	20,35	14	---	0,7	1,5	18,4	1.250	525
10x4	4,95	10,308	12,624	19	---	0,7	1,5	20,8	2.000	735
12x2,5	7,98	16,502	20,35	12	---	0,7	1,5	18,9	1.500	575
12x4	4,95	10,308	12,624	17	---	0,7	1,6	21,6	2.400	810
14x2,5	7,98	16,502	20,35	11	---	0,7	1,5	20,2	1.750	650

() CALCULATION FOR PULLING FORCE**

By means of a pulling head on the conductors or by means of a pulling sleeve with a friction connection between the pulling sleeve and the cable conductors, a maximum tensile load value of 50 N/mm² is allowed.

This maximum pulling force takes into account the permitted elongation of 0,2 % for the conductor.

	RZ1-K 1kV CPR AENOR reg. N° 042/00961 - 0099/CPR/B85/0026 Construction Products Regulation (EU) No 305/2011		ETP-38 CPR Ed. 11/2023 Rev. 24
Halogen free power cables			

REFERENCE CONDITIONS FOR THE CALCULATION OF INTENSITY

(Other conditions are possible, consult standards HD 60364-5-52 and IEC 60364-5-52)

According EN 60364-5-52 and IEC 60364-5-52

Maximum intensity to air in tray, temperature ambient 40 °C:

Installation type F	XLPE3	column 11 (1x triphasic)
Installation type E	XLPE2	column 12 (2x, 3G monophasic)
Installation type E	XLPE2	column 10b (3x, 4x, 4G, 5G triphasic)
Installation type E	XLPE2	column 12 with reduction factor according to point 1 table B.52.17 (> 5 cores)

Maximum intensity directly buried (method D2) or under conduit (method D1), thermal resistivity of soil de 2,5 K.m/W and ambient temperature on the ground of 25 °C:

Installation type D1/D2	XLPE2	2x, 3G monophasic
Installation type D1/D2	XLPE3	1x, 3x, 4x, 4G, 5G triphasic

VOLTAGE DROP:

Monophasic method	2x, 3G, > 5 cores
Triphasic method	1x, 3x, 4x, 4G, 5G