

## OnGcekż-G2 FLEX 0,6/1 kV



**Mining power cables for mobile and portable power devices, shielded, elastomeric sheath and insulation. With double set of power cores, rated voltage 0,6/1 kV**

**According to** ZN-FKR-065:2016/A4:2017; PN-EN 60332-1-2:2010/A1:2016-02

### CONSTRUCTION

<b>Conductor</b>	Annealed multi-stranded tinned copper, class 5 flexible conductor according to PN-EN 60228
<b>Protective conductor</b>	Multi-stranded tinned copper wire with single strand diameter of 0,2 mm placed on top of the conductive tape wrapped around auxiliary cores set. Nominal diameter of protective conductor is calculated based on cross-section of wires used to braid shields around power cores and auxiliary cores shield
<b>Insulation</b>	Heat resistant polymer material with properties corresponding to IEP type material according to PN-89/E-29100
<b>Auxiliary cores sheath</b>	Heat resistant polymer material with properties corresponding to IEP type material according to PN-89/E-29100
<b>Shield</b>	Power cores shielded individually, auxiliary cores shielded by a common screen, shield made of a layer of conductive tape and a braided copper wire and synthetic yarn with an opacity of at least 30%
<b>Insulation colour</b>	Power cores: 2 green, 2 natural, 2 red 3 auxiliary cores: green, natural, red 6 auxiliary cores : 2 green, 2 natural, 2 red 7 auxiliary cores : 2 green, 2 natural, 2 red, blue
<b>Cable core</b>	Cable core consists of two sets of power cores (6 insulated and individually screened power cores) stranded around auxiliary cores set (placed in common sheath and protective conductor in a form of a braided shield). Twist pitch of a shield, braided around auxiliary cores set, should be lower than the 10 times cable core diameter. In case of two sets of power cores differing in conductor size, differently sized cores are stranded alternately.
<b>Sheath</b>	Polymer material with flame retarding and oil-proof properties corresponding to material type ON4 according to PN-E-90140:1986
<b>Sheath colour</b>	Black

### CHARACTERISTIC

<b>Rated voltage Uo/U</b>	0,6/1 kV
<b>Test voltage for power cores</b>	3,2 kV
<b>Test voltage for auxiliary cores</b>	2 kV
<b>Maximum core temperature during operation</b>	+90 °C
<b>Maximum core temperature during short circuit</b>	+250 °C
<b>Ambient temperature range for permanently installed cables</b>	-40°C to +90°C
<b>Ambient temperature range for mobile connections</b>	-25°C to +80°C
<b>Minimum bending radius</b>	Fixed installation – 3D; Mobile connections – 4D

<b>Cable name explanation</b>	OnGcekż-G2 FLEX – Sheathed (O) power cable with heatproof insulation (Gc), sheath made of elastomeric flame retardant material (n), shielded cores (ekż), designed for mining applications (G) with double set of power cores (2) an increased flexibility (FLEX)		
<b>Cable marking</b>	OnGcekż-G2 FLEX 0,6/1kV 6x95+25+7x4 mm <sup>2</sup> ROGUM KABLE Sp. z o.o. + cable ID + meter mark + year of production Each cable has a legible and permanent marking repeated cyclically, printed or embossed (in case of power cores with diameter equal or greater than 25 mm <sup>2</sup> ) longitudinally on outer sheath including in particular: manufacturer's name, cable / wire type, cross-section, number of wires, rated voltage, identifier, year of production and the length of the delivered section.		
<b>APPLICATION</b>			
Cables designed for powering fixed and portable power devices operating in open pit and underground mines in the fields of non-methane and in excavations classified as "a" "b" or "c" methane explosion class and "A" or "B" coal dust explosion.			
<b>CERTIFICATES AND APPROVALS</b>			
EMAG certificate (Łukasiewicz Research Network – Institute of Innovative Technologies)			
<b>ADDITIONAL INFORMATION</b>			
On request there is a possibility: <ul style="list-style-type: none"> <li>to change the colour of the sheath</li> </ul> In all cases concerning detailed technical data please contact our Client Advisor: <a href="mailto:doradztwotechniczne@rogum.com.pl">doradztwotechniczne@rogum.com.pl</a>			
<b>CARD NUMBER</b>	19	<b>EDITION</b>	21.03.2023

NUMBER OF CORES				
Total number of cores	Core type			
	Power cores I	Power cores II	Protective conductor	Auxiliary cores
n	n	n	n	n
10	3	3	1	3
11	3	3	1	4
13	3	3	1	6
14	3	3	1	7



<b>CABLE CONSTRUCTION</b>			
<b>Total number of cores</b>	<b>Number of cores and cross-sectional area</b>	<b>Maximum cable diameter</b>	<b>Approximated cable weight</b>
	<b>Power cores I + power cores II + protective conductor + auxiliary cores</b>		
<b>n</b>	<b>n x mm<sup>2</sup></b>	<b>mm</b>	<b>kg/km</b>
<b>10</b>	3x35+3x25+25+3x4	57,8	4850
	3x35+3x35+25+3x4	57,8	5150
	3x50+3x25+25+3x4	57,8	5500
	3x50+3x35+25+3x4	57,8	5700
	3x50+3x50+25+3x4	57,8	5900
	3x70+3x25+25+3x4	65,0	6750
	3x70+3x35+25+3x4	65,0	7000
	3x70+3x50+25+3x4	65,0	7300
<b>11</b>	3x70+3x70+25+3x4	65,5	7750
<b>11</b>	3x70+3x35+25+4x4	65,0	7100
<b>13</b>	3x35+3x25+25+6x2,5	65,0	5000
	3x35+3x35+25+6x2,5	65,0	5250
	3x50+3x16+25+6x2,5	65,0	5400
	3x50+3x25+25+6x2,5	65,0	5600
	3x50+3x35+25+6x2,5	65,5	5800
	3x50+3x50+25+6x2,5	68,0	6100
	3x70+3x16+25+6x2,5	68,0	6800
	3x70+3x25+25+6x2,5	68,0	7000
	3x70+3x35+25+6x2,5	68,0	7200
	3x70+3x50+25+6x2,5	68,0	7550
	3x70+3x70+25+6x2,5	68,0	8050
	3x70+3x70+25+6x4	68,0	8200
3x95+3x95+25+6x4	68,0	10100	
<b>14</b>	3x95+3x95+25+7x2,5	75,5	10000
	3x95+3x95+25+7x4	75,5	10200
	3x95+3x95+35+7x4	75,5	10400



PARAMETERS		
Nominal cross-section of the power conductor	Highest core resistance at 20 °C	Current carrying capacity at ambient temperature at 25 °C
mm <sup>2</sup>	Ω/km	A
16	1,24	136
25	0,795	167
35	0,565	207
50	0,393	258
70	0,277	321
95	0,210	377

### Current carrying capacity of OnGcekž-G2 and O2nGcekž-G2 cables

Long term current capacity [A] for sheathed mining cables type OnGcekž-G2 and O2nGcekž-G2 with double set of power cores, for a rated voltage of 0,6/1kV used in underground mining sites and with an ambient temperature below 25°C

I set 35mm <sup>2</sup>	II set 25mm <sup>2</sup>	I set 35mm <sup>2</sup>	II set 35mm <sup>2</sup>	I set 50mm <sup>2</sup>	II set 16mm <sup>2</sup>	I set 50mm <sup>2</sup>	II set 25mm <sup>2</sup>	I set 50mm <sup>2</sup>	II set 35mm <sup>2</sup>	I set 50mm <sup>2</sup>	II set 50mm <sup>2</sup>
0	167	0	207	0	136	0	174	0	211	0	258
10	167	10	207	10	136	10	174	10	211	10	257
20	167	20	206	20	136	20	174	20	210	20	257
30	166	30	205	30	135	30	173	30	210	30	256
40	165	40	204	40	135	40	172	40	209	40	255
50	163	50	202	50	134	50	171	50	207	50	253
60	161	60	200	60	133	60	170	60	206	60	252
70	159	70	197	70	132	70	168	70	204	70	249
80	156	80	194	80	130	80	167	80	202	80	247
90	153	90	190	90	129	90	165	90	199	90	244
100	150	100	185	100	127	100	162	100	197	100	240
110	146	110	180	110	125	110	160	110	194	110	236
120	141	120	175	120	123	120	157	120	190	120	232
130	136	130	168	130	120	130	154	130	186	130	227
140	130	140	161	140	118	140	150	140	182	140	222
150	124	150	153	150	115	150	146	150	177	150	216
160	116	160	141	160	111	160	142	160	172	160	210
170	107	170	127	170	107	170	137	170	166	170	203
180	93	180	110	180	103	180	132	180	160	180	195
190	75	190	89	190	99	190	126	190	152	190	186
200	50	200	59	200	94	200	119	200	145	200	174
207	0	207	0	210	88	210	112	210	133	210	160
				220	81	220	101	220	120	220	144
				230	70	230	88	230	104	230	125
				240	57	240	71	240	84	240	101
				250	38	250	47	250	56	250	67
				258	0	258	0	258	0	258	0