



RONDOFLEX
(N)GRDGOEU
Round Festoon Cable

ENERGY



Technical Data

	Type	RONDOFLEX
	Type designation	(N)GRDGOEU-J/-O
	Approvals/ standards	VDE certificate with VDE Reg. No. 7841; GOST R
	Application	Flexible power and control cable, for use on festoon systems and for connecting movable parts of machine tools, material handling equipment, etc., associated with high mechanical stresses and frequent bending during operation.
Electrical parameters	Rated voltage	U ₀ /U=0.6/1 kV
	Maximum permissible operating voltage in AC systems	U ₀ /U=0.7/1.2 kV
	Maximum permissible operating voltage in DC systems	U ₀ /U=0.9/1.8 kV
	AC test voltage	
	- Power cores	3.5 kV, 5 min
	- Control cores	2.5 kV, 5 min
Current-carrying capacity	According to DIN VDE 0298, Part 4	
- single core	table 15-section 2	
- multiple core	table 15-section 4	
Thermal parameters	Ambient temperature	
	- Fully flexible operation	-35°C to +80°C
	- Fixed installation	-50°C to +80°C
	Maximum permissible operating temperature of the conductor	90°C
Short-circuit temperature of the conductor	250°C	
Mechanical parameters	Tensile load	Up to 15 N/mm ²
	Torsional stresses	+/- 25°/m
	Minimum bending radii	According to DIN VDE 0298, Part 3
	Minimum distance with S-type directional changes	20xD
	Travel speed	
	- Gantry (reeling operation)	60 m/min
	- Trolley (festoon system)	Up to 240 m/min It is recommended to consult the manufacturer for speeds beyond 240m/min
Additional tests	Bending test	
Chemical parameters	Resistance to oil	DIN VDE 0473, Part 811-2-1, Para. 10
	Weather resistance	Unrestricted use outdoors and indoors, resistant to ozone, UV and moisture



Design features

Type	RONDOfLEX
Conductor (refer also to DIN VDE 0295)	bare Electrolytic copper, finely stranded, class 5
Insulation (refer also to DIN VDE 0207, Part 20)	PROTOLON MS High grade special compound based on high-quality EPR (at least GI3); improved mechanical and electrical characteristics
Shield for individually shielded cores and twisted and shielded pairs	Braid screen made of tinned copper wires, transfer impedance optimized at 30 MHz. Surface covered: at least 60%: for individually shielded cores, at least 80%: for twisted and shielded pairs
Core identification (in line to DIN VDE 0293)	Best identification as a result of light colored insulation with numbers printed in black for power and control cables, earth conductor green/ yellow
Core arrangement	Laid-up in a maximum of 3 layers
Inner sheath (refer also to DIN VDE 0207, Part 21)	Basic material EPR Rubber compound GM 1b Colour: black
Outer sheath (refer also to DIN VDE 0207, Part 21)	high grade special compound (at least 5GM3); based on PCP; Color: black
Marking	RONDOfLEX (N)GRDG0EU-J/-O VDE-Reg.-No.

Selection and ordering data

Number of cores and nominal cross-section	Order No.	Conductor diameter [mm]	Overall diameter of cable Min. value [mm]	Overall diameter of cable Max. value [mm]	Approx. net weight for 1000 m [kg/km]	Maximum permissible tensile force [N]
(N)GRDGOEU - J power cables, four-core design						
4x4	5DG6 642	3,0	13,9	15,5	350	240
4x6	5DG6 643	3,2	15,9	17,9	475	360
4x10	5DG6 644	4,2	18,2	20,2	680	600
4x16	5DG6 645	5,7	22,9	24,9	1070	960
4x25	5DG6 646	6,8	26,9	29,9	1600	1500
4x35	5DG6 647	8,1	30,1	33,1	2090	2100
4x35	5DG6 648	9,6	35,7	38,7	2970	3000
(N)GRDGOEU - O power cables, single-core design						
1x25	5DG6 610	6,8	11,4	12,6	330	375
1x35	5DG6 611	8,1	12,3	13,9	430	525
1x50	5DG6 612	9,6	15,0	16,6	625	750
1x70	5DG6 613	11,2	16,5	18,5	835	1050
1x95	5DG6 614	13,2	18,9	20,9	1070	1425
1x120	5DG6 615	14,9	20,8	22,8	1340	1800
1x150	5DG6 616	16,6	22,9	24,9	1650	2250
1x185	5DG6 617	18,0	24,8	27,8	2010	2775
(N)GRDGOEU - J power cables, five-core design						
5x4	5DG6 652	3,0	15,7	17,7	450	300
5x6	5DG6 653	3,2	17,5	19,5	575	450
5x10	5DG6 654	4,2	20,8	22,8	865	750
5x16	5DG6 655	5,7	24,6	27,6	1300	1200
(N)GRDGOEU - J power cables, three-core design, earth conductor splitted into three parts						
3x35+3x16/3	5DG6 631	8,1	27,7	30,7	1800	1575
3x50+3x25/3	5DG6 632	9,7	32,5	35,5	2540	2250
3x70+3x35/3	5DG6 633	11,2	39,1	42,1	3570	3150
(N)GRDGOEU - J control cables						
12x1,5	5DG6 662	1,6	16,2	18,2	440	270
18x1,5	5DG6 663	1,6	18,7	20,7	615	405
24x1,5	5DG6 664	1,6	22,1	24,1	805	540
30x1,5	5DG6 665	1,6	23,3	25,3	930	675
36x1,5	5DG6 666	1,6	24,6	27,6	1090	810
4x2,5	5DG6 641	2,0	14,6	16,2	375	150
7x2,5	5DG6 671	2,0	18,6	20,6	595	262
12x2,5	5DG6 672	2,0	17,9	19,9	580	450
18x2,5	5DG6 673	2,0	21,5	23,5	865	650
24x2,5	5DG6 674	2,0	24,0	27,0	1110	900
30x2,5	5DG6 675	2,0	26,4	29,4	1330	1125
36x2,5	5DG6 676	2,0	28,4	31,4	1550	1350

Selection and ordering data

Number of cores and nominal cross-section	Order No.	Conductor diameter	Overall diameter of cable Min. value	Overall diameter of cable Max. value	Approx. net weight for 1000 m	Maximum permissible tensile force
		[mm]	[mm]	[mm]	[kg/km]	[N]

(N)GRDGOEU - O bus cables

3x(2x1)C	5DG6 689	1,3	20,8	22,8	685	625
6x(2x0,5)C	5DG6 693	0,9	22,1	25,1	850	180
6x(2x1)C	5DG6 694	1,3	28,1	31,3	1250	180
9x(2x0,5)C	5DG6 691	0,9	28,3	31,3	1340	270
9x(2x1)C	5DG6 692	1,3	35,9	38,9	2010	270
12x(2x0,5)C	5DG6 521	0,9	29,8	32,8	1540	360
12x1(C)	5DG6 681	1,3	18,0	20,0	590	180