

**PLANOFLEX
NGFLGÖU
Flat Rubber-Sheathed
Festoon Cables**

**RONDOFLEX
NGRDGÖU
Round Rubber-
Sheathed Festoon
Cables also Suitable
for Simple Reeling**



SK1_12_052.tif

SK1.12_049.tif



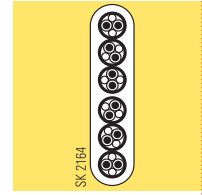
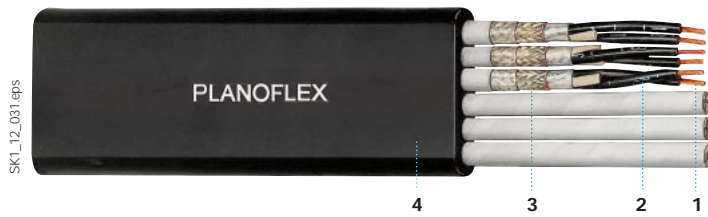
Selection and dimensioning criteria

Refer to Section 4 for further details

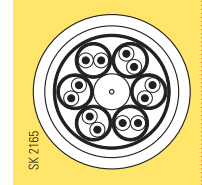


	Type	PLANOFLEX	RONDOFLEX	Page	4/2
	Type designation	NGFLGÖU-J/-O	NGRDGÖU-J/-O	Page	4/3
	Approvals/standards	DIN VDE 0250, Part 809 File E 113313	VDE certificate with VDE Reg. No. 9809	Pages and	4/4 4/5
	Application	Flexible power and control cable, for use on festoon systems and for connecting movable parts of machine tools, material handling equipment, etc., associated with high mechanical stresses and frequent bending during operation and for bending in one plane only.	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. Suitable for simple reeling.	Pages and	4/6 4/7
Electrical parameters	Rated voltage	$U_0/U = 300/500$ V	$U_0/U = 0.6/1$ kV	Pages	4/8
	Maximum permissible operating voltage in AC systems	$U_0/U = 0.7/1.2$ kV	$U_0/U = 0.7/1.2$ kV	to	4/13
	Maximum permissible operating voltage in DC systems	$U_0/U = 0.9/1.8$ kV	$U_0/U = 0.9/1.8$ kV		
	AC test voltage	2.5 kV over 5 min	2.5 kV over 5 min		
	Current-carrying capacity	According to DIN VDE 0298, Part 4	According to DIN VDE 0298, Part 4		
Thermal parameters	Ambient temperature			Pages	4/14
	• Fully flexible operation	- 35 °C to + 60 °C	- 35 °C to + 60 °C	and	4/15
	• Fixed installation	- 50 °C to + 80 °C	- 50 °C to + 80 °C		
	Maximum permissible operating temperature of the conductor	90 °C	90 °C		
Short-circuit temperature of the conductor	250 °C	200 °C			
Mechanical parameters	Tensile load	Up to 15 N/mm ²	Up to 15 N/mm ²	Page	4/16
	Torsional stresses	Not permissible	± 90 °/m	Page	4/16
	Minimum bending radii	According to DIN VDE 0298, Part 3	According to DIN VDE 0298, Part 3	Page	4/17
	Minimum distance with S-type directional changes	No application	20 x D	Page	4/17
	Travel speed			Page	4/18
	• Gantry (reeling operation) • Trolley (festoon system)	No application Guidance value: up to 180 m/min Consult the manufacturer for higher values	60 m/min Guidance value: up to 180 m/min Consult the manufacturer for higher values		
Additional tests	Bending test	Bending test	Page	4/19	
Chemical parameters	Resistance to oil	Given to DIN VDE 0473, Part 811-2-1, Para.10	Given to DIN VDE 0473, Part 811-2-1, Para.10	Page	4/21
	Weather resistance	Unrestricted use outdoors and indoors, resistant to ozone, UV and moisture	Unrestricted use outdoors and indoors, resistant to ozone, UV and moisture		

- 1 Conductor
- 2 Insulation
- 3 Twisted and shielded pair
- 4 Outer sheath



- 1 Conductor
- 2 Insulation
- 3 Twisted and shielded pair
- 4 Inner sheath
- 5 Outer sheath



Design features

Refer to Section 4 for further details →

Type	PLANOFLEX	RONDOFLEX	Page	4/2
Conductor (refer also to DIN VDE 0295)	Electrolytic copper, not tinned Up to 25 mm ² : extremely finely stranded, class 6 Above 35 mm ² : finely stranded, class 5	Electrolytic copper, tinned finely stranded, class 5	Pages and	4/22 4/23
Insulation (refer also to DIN VDE 0207, Part 20)	PROTOLON Basic material EPR Rubber compound 3GI3	PROTOLON MS Newly developed special compound based on high-quality EPR (at least 3GI3); improved mechanical and electrical characteristics	Pages to	4/24 4/26
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: approx. 60 % for shielded cores, approx. 80 % for twisted and shielded pairs	Braid screen made of tinned copper wires, transfer impedance optimized at 30 MHz. Surface covered: approx. 60 % for shielded cores, approx. 80 % for twisted and shielded pairs	Page	4/27
Core identification (in line with DIN VDE 0293)	Up to 5 cores, coloured: green/yellow (or black for version ...-O) black, blue, brown, black; For more than 5 cores: black with white numbering	Optimal identification as a result of light insulation with numbers printed in black for power and control cables, protective-earth conductor green/yellow		
Core arrangement	Parallel, for more than 12 cores: parallel bundles	Laid-up in a maximum of 3 layers Length of lay 10 x D	Pages and	4/28 4/29
Inner sheath (refer also to DIN VDE 0207, Part 21)		Basic material EPR Rubber compound GM1b Colour: black	Pages to	4/22 4/26
Outer sheath (refer also to DIN VDE 0207, Part 21)	Basic material PCP Rubber compound 5GM3 Colour: black	Basic material PCP Rubber compound 5GM3 Colour: black	Pages to	4/22 4/26
Marking	<VDE>PLANOFLEX NGFLGÖU-J/-O (number of cores) x (cross-section) 600 V, 90 °C, (UL), PLANOFLEX (cross-section)AWG/(number of cores) (type of core) OUTDOOR	RONDOFLEX NGRDGÖU-J/-O (number of cores) x (cross-section)	Page	4/31

**Round Rubber-Sheathed Festoon Cables also
Suitable for Simple Reeling**

Selection and ordering data

Number of cores and nominal cross-section mm ²	Order No.	Conductor diameter (guidance value) mm	Overall diameter of cable		Approx. net weight for 1000 m kg	Maximum permissible tensile force N
			Min. value (guidance value) mm	Max. value (guidance value) mm		
NGRDGÖU - O power cables, single-core design						
1 x 35 *	5DG6 611	8.1	12.3	13.9	430	525
1 x 50 *	5DG6 612	9.6	15.0	16.6	625	750
1 x 70 *	5DG6 613	11.2	16.5	18.5	835	1050
1 x 95 *	5DG6 614	13.2	18.9	20.9	1070	1425
1 x 120 *	5DG6 615	14.9	20.8	22.8	1340	1800
1 x 150 *	5DG6 616	16.6	22.9	24.9	1650	2250
1 x 185	5DG6 617	18.0	24.8	27.8	2010	2775
NGRDGÖU - J power cables, four and five-core design						
4 x 4 *	5DG6 642	3.0	13.9	15.5	350	240
4 x 6 *	5DG6 643	3.2	15.9	17.9	475	360
4 x 10 *	5DG6 644	4.2	18.2	20.2	680	600
4 x 16 *	5DG6 645	5.7	22.9	24.9	1070	960
4 x 25 *	5DG6 646	6.8	26.9	29.9	1600	1500
4 x 35 *	5DG6 647	8.1	30.1	33.1	2090	2100
4 x 50 *	5DG6 648	9.6	35.7	38.7	2970	3000
5 x 4 *	5DG6 652	3.0	15.7	17.7	450	300
5 x 6 *	5DG6 653	3.2	17.5	19.5	575	450
5 x 10 *	5DG6 654	4.2	20.8	22.8	865	750
5 x 16 *	5DG6 655	5.7	24.6	27.6	1300	1200
5 x 25 *	5DG6 656	6.8	29.5	32.5	1940	1875
NGRDGÖU - J power cables, three-core design with protective-earth conductor split into 3						
3 x 35 + 3 x 16/3	5DG6 631	8.1	27.7	30.7	1800	1575
3 x 50 + 3 x 25/3	5DG6 632	9.7	32.5	35.5	2540	2250
3 x 70 + 3 x 35/3	5DG6 633	11.2	39.1	42.1	3570	3150
NGRDGÖU-J control cables						
12 x 1.5	5DG6 662	1.6	16.2	18.2	440	270
18 x 1.5	5DG6 663	1.6	18.7	20.7	615	405
24 x 1.5 *	5DG6 664	1.6	22.1	24.1	805	540
30 x 1.5	5DG6 665	1.6	23.3	25.3	930	675
36 x 1.5	5DG6 666	1.6	24.6	27.6	1090	810
12 x 2.5 *	5DG6 672	2.0	17.9	19.9	580	450
18 x 2.5 *	5DG6 673	2.0	21.5	23.5	865	650
24 x 2.5 *	5DG6 674	2.0	24.0	27.0	1110	900
30 x 2.5 *	5DG6 675	2.0	26.4	29.4	1330	1125
36 x 2.5	5DG6 676	2.0	28.4	31.4	1550	1350
NGRDGÖU-O bus cables						
6 x (2 x 0.5) *	5DG6 693	0.9	22.1	25.1	850	180
6 x (2 x 1)C *	5DG6 694	1.3	28.1	31.1	1250	180
9 x (2 x 0.5)C *	5DG6 691	0.9	28.3	31.3	1340	270
9 x (2 x 1)C *	5DG6 692	1.3	35.9	38.9	2010	270
12 x 1(C)	5DG6 681	1.3	18.0	20.0	590	180