Power cables in line with VDE 0250 part. 814

Cable type

FESTOONFLEX-LX 0,6/1 kV
(N)3GRD3GÖU -J / -O rubber cables suitable for festoon systems

Main application

Flexible power and cables for use on festoon system and for connecting movable parts of machine tools and any material handling equipment with fast movement strong acceleration and frequent bending during operation.

Construction

Conductor:	Bare copper conductor, flexible cl. 5 IEC 60228
Insulation:	EPR compound better than 3GI3 Specially developed crushproof compound with improved electrical and mechanical characteristics
Cores identification:	Colours according to DIN VDE 0293 part 308 / HD 308 S2 Standard colours: - 1 core: black - 3 cores: brown, black, grey - 3 + 3 cores: brown, black, grey + 3 green/yellow - 4 cores: green/yellow, brown, black, grey - 5 cores: green/yellow, blue, brown, black, grey - >5 cores: black with printed numbers, with (G) or without (x) green/yellow core in the outer layer
Screen:	For individually screened pairs Made of tinned copper, surface covered: approx 80%
Laying-up:	Short lay length for better flexibility Cores arrangement in maximum 3 layers
Separation (if any):	Tape(s)
Outer sheath:	Black polychloroprene rubber based compound UV resistant, oil and chemical resistant better than 5GM3
Marking:	PALAZZO - FESTOONFLEX-LX 0,6/1 kV *nc x (or G) cross section*

Parameters

Electrical	Rated voltage	Uo/U = 0,6/1 kV
	Maximum permissible operating voltage in AC systems	Um = 1,2 kV
	AC test voltage over 5 minutes	3,5 kV - power cores & control 2,5 kV - screened pairs cables
	Current Carrying Capacity	According to DIN VDE 0298 part 4
Thermal	Fully flexible operation	- 30 °C
	Fixed installation	- 40 °C
	Maximum permissible operating temperature of the conductor	90 °C
	Short-circuit temperature of the conductor	250 °C
Mechanical	Tensile load	Up to 15 N/mm²
	Minimum bending radii	According to DIN VDE 0298 part 3
	Reeling operation (Gantry)	60 m/min
	Festoon systems (Trolley)	Up to 240 m/min
Chemical	Resistance to oil	According to VDE / IEC standard
	Weather resistance	Unrestricted use outdoor and indoor, UV resistant, moisture resistant.

Power cables in line with VDE 0250 part. 814

Table 1: FESTOONFLEX-LX 0,6/1 kV (N)3GRD3GÖU-J/ -0

N. of cores and nominal section (n·mm²)	Main conductor D.C. resist. at 20 °C Ohm/km	Main conductor nom. diam. mm	Protective earth cond. nom. diam. mm	Overall diameter min. mm	Overall diameter max. mm	Net weight approx. kg/km	Maximum permissible tensile force N	Current carrying capacity at 30 °C* Laid straight A	Current carrying capacity at 30 °C* Suspended in free air A
1x16	1,21	5,1		9,9	12,0	233	240	141	148
1x25	0,780	6,5		11,8	13,9	333	375	187	196
1x35	0,554	7,5		12,8	14,9	425	525	231	243
1x50	0,386	9,1		15,3	17,4	603	750	288	302
1x70	0,272	10,8		17,1	19,2	816	1.050	357	375
1x95	0,206	12,1		18,4	20,5	1.012	1.425	430	452
1x120	0,161	14,3		21,4	23,5	1.323	1.800	503	528
1x150	0,129	16,1		23,6	25,7	1.627	2.250	577	606
1x185	0,106	17,5		25,8	27,9	1.950	2.775	658	691
1x240	0,0801	19,9		28,0	31,2	2.466	3.600	771	810
3x25+3G16/3	0,780	6,5	3,0	25,5	27,6	1.354	1.125	131	138
3x35+3G16/3	0,554	7,5	3,0	27,4	30,6	1.685	1.575	162	170
3x50+3G25/3	0,386	9,1	4,0	32,0	35,2	2.329	2.250	202	212
3x70+3G35/3	0,272	10,8	4,9	36,2	39,4	3.188	3.150	250	263
3x95+3G50/3	0,206	12,1	5,4	39,9	43,1	4.032	4.275	301	316
3x120+3G70/3	0,161	14,3	6,6	46,3	50,3	5.382	5.400	352	370
4x1,5	13,3	1,5		11,5	13,6	201	90	23	24
4x2,5	7,98	2,0		12,5	14,6	260	150	30	32
4x4	4,95	2,4		14,1	16,2	354	240	41	43
4x6	3,30	3,0		16,4	18,5	476	360	53	56
4x10	1,91	4,0		19,2	21,3	696	600	74	78
4x16	1,21	5,1		22,3	24,4	1.020	960	99	104
4x25	0,780	6,5		27,2	30,4	1.536	1.500	131	138
4x35	0,554	7,5		30,0	33,2	1.963	2.100	162	170
4x50	0,386	9,1		35,4	38,6	2.764	3.000	202	212
4x70	0,272	10,8		40,2	43,4	3.798	4.200	250	263
4x95	0,206	12,1		44,0	48,0	4.764	5.700	301	316
5x4	4,95	2,4		16,0	18,1	450	300	41	43
5x6	3,30	3,0		17,8	19,9	565	450	53	56
5x10	1,91	4,0		20,1	22,2	835	750	74	78
5x16	1,210	5,1		24,3	26,4	1.232	1.200	99	104
5x25	0,780	6,5		29,7	32,9	1.860	1.875	131	138
5x35	0,554	7,5		33,1	36,3	2.408	2.625	162	170
7x1,5	13,3	1,5		15,0	17,1	340	158	23	24
12x1,5	13,3	1,5		20,0	22,1	573	270	23	24
18x1,5	13,3	1,5		20,5	22,6	637	405	23	24
24x1,5	13,3	1,5		23,8	25,9	837	540	23	24
30x1,5	13,3	1,5		27,2	29,3	1.090	675	23	24
36x1,5	13,3	1,5		27,0	30,2	1.135	810	23	24
7x2,5	7,98	2,0		16,4	18,5	443	263	30	32
12x2,5	7,98	2,0		22,4	24,5	785	450	30	32
18x2,5	7,98	2,0		22,6	24,7	868	675	30	32
24x2,5	7,98	2,0		27,1	29,2	1.203	900	30	32
30x2,5	7,98	2,0		29,7	32,9	1.495	1.125	30	32
36x2,5	7,98	2,0		29,9	33,1	1.582	1.350	30	32
3x(2x1)C	19,5	1,3		18,5	20,6	500	90	-	-
4x(2x1)C	19,5	1,3		20,5	22,6	615	120	-	-
6x(2x1)C	19,5	1,3		24,1	26,2	850	180	-	-
3x(2x1,5)C	13,3	1,5		19,6	21,7	563	135	-	-
4x(2x1,5)C	13,3	1,5		21,7	23,8	693	180	-	-
6x(2x1,5)C	13,3	1,5		26,4	28,5	1.003	270	-	-

* Tabulated values are valid up to 3 loaded conductors with or without earth core.
Derating factor shall be applied for multicores cables depending on loaded conductor. See page 57.
Correction factor for temperature other than 30 °C, see page 57.