

Highly Flexible Chain Cable



APPLICATION

All chain systems (e.g. container cranes, stacking cranes, indoor cranes, material-handling equipment). Specifically designed for outdoor energy chain applications with long travel distances at high travel speeds. Key benefits are reliability, abrasion resistance and a long lifetime.

DESIGN

The power and control conductors in RONDOfLEX (CHAIN) cables consist of Class 5 finely stranded electrolytic copper. The earth conductors consist of very finely stranded electrolytic copper exceeding Class 5. The insulation compound is Protolon MS (refer also DIN VDE 0207) which is a high grade insulation compound based on EPR (at least 3GI3) with improved mechanical and electrical performance; alternative for control cables: ETFE. The inner sheath is a black special compound based on EPR GM1b. The overall shield consists of a tinned copper wire braided screen with greater than 80% coverage. The outer sheath is a high grade compound based on EVA with excellent abrasion and aging characteristics. Core identification is a light coloured compound with black number prints, yellow-green earth.

CHEMICAL PARAMETERS

Resistance to oil	According to DIN VDE 0473, Part 811-2-1 Para. 10
Weather resistance	Unrestricted use indoors and outdoors, resistant to ozone, UV and moisture.

ELECTRICAL PARAMETERS

Rated voltage	$U_0/U = 0.6/1kV$
Max permissible operating voltage in AC systems	$U_0/U = 0.7/1.2kV$
Max permissible operating voltage in DC systems	$U_0/U = 0.9/1.8kV$
AC test voltage	3.5 kV over 5 min

THERMAL PARAMETERS

Ambient temperature	
• Fully flexible operation	-35°C to +80°C
• Fixed installation	-50°C to +80°C
Max permissible operating temperature of the conductor	90°C
Short-circuit temperature of the conductor	200°C

MECHANICAL PARAMETERS

Tensile load	Up to 15 N/mm ²
Torsional stresses	No application
Minimum bending radii	According to DIN VDE 0298, Part 3
Travel speed	
• Trolley	As a guide up to 300 m/min as tested on factory test rig
• Other	As per all other recommended chain application speeds



TRAVEL SPEED

Trolley	As a guide up to 300 m/min as tested on factory test rig.
Other	As per all other recommended chain application speeds.



CORE COLOUR IDENTIFICATION

Control and power conductors are light coloured with numbers printed in black for easy identification and include a green/yellow earth conductor.

Selection and ordering data

	Number of Cores & Nominal Cross-section mm ²	Part No.	Conductor diameter mm	Overall Diameter of Cable		Approx. Net Weight for 1000 m kg/km	Maximum Permissible tensile force N	Unenclosed Spaced	Unenclosed Touching
				Min mm	Max mm			 A	 A
(N) GRDGÖU	1x16	5DG4 011	5.7	7.7	9.7	210	240	110	86
Power cable	1x25	5DG4 012	7.1	10.6	12.6	325	375	150	115
single core	1x35	5DG4 013	8.3	12.1	14.1	445	525	185	145
design	1x50	5DG4 014	9.8	13.9	15.9	605	750	230	175
	1x70	5DG4 015	11.6	15.9	17.9	830	1050	290	225
	1x95	5DG4 016	13.8	19.1	21.1	1120	1425	360	280
	1x120	5DG4 017	14.9	20.8	22.8	1390	1800	420	325
	1x150	5DG4 018	17.2	23.0	26.0	1740	2250	485	375
	1x185	5DG4 019	18.0	25.8	28.8	2130	2775	570	435
	1x240	5DG4 020	22.5	29.9	32.9	2830	3600	680	520



Selection and ordering data

	Number of Cores & Nominal	Part No. Cross-section	Conductor diameter mm	Overall Diameter of Cable		Approx. Net Weight kg/km	Maximum Permissible for 1000 m N	Unenclosed Spaced tensile force 	Unenclosed Touching 
				Min mm	Max mm				
				mm ²					
(N)GRDGCGÖU Power cable, single core design, screened	1x16C	5DG4 211	5.7	10.1	12.1	320	240	110	86
	1x25C	5DG4 212	7.1	12.8	14.8	450	375	150	115
	1x35C	5DG4 213	8.3	13.9	15.9	555	525	185	145
	1x50C	5DG4 214	9.8	15.7	17.7	745	750	230	175
	1x70C	5DG4 215	11.6	18.7	20.7	1090	1050	290	225
	1x95C	5DG4 216	13.8	20.8	22.8	1330	1425	360	280
	1x120C	5DG4 217	14.9	22.8	24.8	1580	1800	420	325
	1x150C	5DG4 218	17.2	25.6	28.6	2000	2250	485	375
	1x185C	5DG4 219	18.0	27.8	30.8	2330	2775	570	435
	1x240C	5DG4 220	22.5	31.9	34.9	3130	3600	680	520
(N)GRDGÖU-J Power cable, 3/4 - core design	4x4	5DG4 111	2.9	12.7	14.7	325	240	38	35
	4x6	5DG4 112	3.6	14.2	16.2	435	360	48	45
	4x10	5DG4 113	4.6	16.6	18.6	650	600	66	62
	4x16	5DG4 114	5.9	20.0	22.0	960	960	88	83
	4x25	5DG4 115	7.2	25.9	28.9	1580	1500	120	110
	3x50+3x25/3	5DG4 117	10.0	31.5	34.5	2510	2250	180	170

Selection and ordering data

	Number of Cores & Nominal Cross-section	Part No.	Conductor diameter	Overall Diameter of Cable		Approx. Net Weight for 1000 m	Maximum Permissible tensile force	Unenclosed Spaced	Unenclosed Touching
				Min mm	Max mm				
	mm ²		mm			kg/km	N	A	A
(N)GRDGCÖU-J	4x2,5C	5DG4 240	1.9	11.3	13.3	390	150	28	26
Power cable,	4x4C	5DG4 241	2.9	15.7	17.7	505	240	38	35
3/4 - core design	4x6C	5DG4 242	3.6	17.0	19.0	650	360	48	45
overall	4x10C	5DG4 243	4.6	19.7	21.7	930	600	66	62
screened	3x16+3x2,5C	5DG4 254	5.9	20.4	22.4	1070	720	88	83
	3x25+3x4C	5DG4 255	7.2	25.8	28.8	1810	1125	120	110
	3x35+3x6C	5DG4 256	8.1	28.6	31.6	2220	1575	145	135
	3x50+3x10C	5DG4 257	10.0	35.0	38.0	3090	2250	180	170
(N)GRDGÖU-J	7x4	5DG4 171	2.9	16.7	18.7	535	420	38	35
Power cable,	5x6	5DG4 122	3.6	15.8	17.8	535	450	48	45
5 & 7 - core	5x10	5DG4 123	4.6	19.7	21.7	850	750	66	62
design	5x16	5DG4 124	5.9	22.8	24.8	1220	1200	88	83

Selection and ordering data

	Number of Cores & Nominal Cross-section	Part No.	Conductor diameter	Overall Diameter of Cable		Approx. Net Weight for 1000 m	Maximum Permissible tensile force	Unenclosed Spaced	Unenclosed Touching
				Min	Max				
				mm	mm			A	A
(N)GRDGÖU-J control cable, overall screened	12x1.5C	5DG4 252	1.5	14.7	16.7	440	270	20	19
	5x2.5C	5DG4 260	1.9	12.7	14.7	435	188	28	26
(N)GRDGÖU-J control cable	12x1.5	5DG4 152	1.5	11.7	13.7	305	270	20	19
	24x1.5	5DG4 154	1.5	17.1	19.1	705	540	20	19
	7x2.5	5DG4 141	1.9	11.3	13.3	290	263	28	26
	12x2.5	5DG4 190	1.9	13.6	15.6	485	450	28	26
	18x2.5	5DG4 191	1.9	16.9	18.9	760	675	28	26
	24x2.5	5DG4 192	1.9	22.5	24.5	1010	900	28	26

Selection and ordering data

	Number of Cores & Nominal Cross-section	Part No.	Conductor Diameter	Overall Diameter of Cable		Approx. Net Weight for 1000 m	Maximum permissible tensile force
				Min mm	Max mm		
			mm			kg/km	N
Fibre optic cable	6xG62,5/125 μ	5DG4 290	-	14	16	260	500
	12xG62,5/125 μ	5DG4 291	-	14	16	260	500
(N)GRDGÖU-J Bus cable	1x(2x0.5)C	5DG4 ---	0.9	8	10	135	15
	4x(2x0.5)C	5DG4 280	0.9	19	21	625	60
	(4x2x0.5)C	5DG4 ---	0.9	19.2	21.2	605	60
	6x(2x0.5)C	5DG4 ---	0.9	20.2	22.2	730	90
	6x(2x1)C	5DG4 ---	1.3	26.3	29.3	1120	180