

MULTIFLEX 512®-C-PUR UL/CSA special cable for

drag chains, 80°C, 600V, two approvals control cable, EMC-preferred type, halogen-free, meter marking



HELUKABEL MULTIFLEX 512-C-PUR UL/CSA 12G1 QMM / 21657 600 V 001062141 CE



Technical data

- Special cables for drag chains with high degree of resistance to mechanical stress according to UL -Style -20939
- **Temperature range**
flexing -40 °C to +80 °C
fixed installation -50 °C to +80 °C
- **Nominal voltage** UL/CSA 600 V
- **Test voltage**
3000 V
- **Insulation resistance**
min. 100 MΩm x km
- **Minimum bending radius**
flexing 7,5x cable ø
fixed installation 4x cable ø
- **Test of alternating bending cycles**
approx. **10 million**
- **Radiation resistance**
up to 50x10⁶ cJ/kg (up to 50 Mrad)
- **Coupling resistance**
max. 250 Ωm/km

Cable structure

- Bare copper, extra fine wire conductors, bunch stranded to DIN VDE 0295 cl. 6, col. 4, BS 6360 cl. 6 and IEC 60228 cl. 6
- Special core insulation, modified TPE
- Black cores with continuous white numbering
- Green-yellow earth core in the outer layer (3 cores and above)
- Cores stranded in layers with optimal selected lay-length
- Special core wrapping over each layers and an additional fleece over outer layer
- **TPE-inner sheath**, halogen-free
- Wrapping with special tapes
- Tinned copper braided screening, approx. 85% coverage
- Special core wrapping of fleece (up to 4 mm² without core wrapping over the outer layer)
- Special **full-polyurethane** outer jacket TMPU, to DIN VDE 0282 part 10, appendix A
- Colour grey (RAL 7001) outer surface mat
- with meter marking, change-over in 2011

Properties

- Very good oil resistant, test method according to DIN VDE 0472 part 803
- Guaranteed permanent application in multi-shift operation under extreme high bending stress
- Adhesion-low
- High resistant to mechanical strain
- High property of alternating bending strength
- Long life durabilities through low friction-resistance by using the TPE insulation
- High tensile strength-, abrasion- and impact resistant at low temperature
- Resistant to Weather, Ozone and UV-radiation, Solvents, acids and alkalis, Hydraulic liquidity and Hydrolysis
- PUR-jacket flame retardant according to VDE 0482-332-1-2, DIN EN 60332-1-2/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Note

- G = with green-yellow earth core;
x = without green-yellow earth core (OZ).
- AWG sizes are approximate equivalent values. The actual cross-section is in mm².
- Please note the cleanroom qualification when ordering.
- **unscreened analogue type:**
MULTIFLEX 512® PUR UL/CSA, see page N 87

Application

The special screened UL/CSA cables for drag chains are mainly applied for impulse transmission to prevent external interference effects and used for permanent flexible applications in machineries, machine tools, robot technics, for movable automated machinery parts and multi-shift operation. Those cables are developed according to the newest state of technology improvement. These high flexible control cables with sliding abilities guaranteed an optimum service life durabilities and also very economic by using the TPE-core insulation and the PUR-outer jacket which is adhesive-free and cut-resistant.

EMC = Electromagnetic compatibility

To optimise the EMC features we recommend a large round contact of the copper braiding on both ends.

CE The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

Part no.	No. cores x cross-sec. mm ²	AWG-No.	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
21630	2 x 0,5	20	8,3	30,0	90,0
21631	3 G 0,5	20	8,5	38,0	105,0
21632	4 G 0,5	20	9,0	50,0	124,0
21633	5 G 0,5	20	9,7	65,0	132,0
21634	7 G 0,5	20	11,1	70,0	175,0
21635	12 G 0,5	20	12,7	100,0	250,0

Part no.	No. cores x cross-sec. mm ²	AWG-No.	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
21636	18 G 0,5	20	14,7	157,0	325,0
21637	20 G 0,5	20	15,4	167,0	350,0
21638	25 G 0,5	20	17,1	240,0	450,0
21639	30 G 0,5	20	17,9	273,0	510,0
21640	36 G 0,5	20	19,2	306,0	580,0

Continuation ►

MULTIFLEX 512®-C-PUR UL/CSA special cable for

drag chains, 80°C, 600V, two approvals control cable, EMC-preferred type, halogen-free, meter marking



Part no.	No. cores x cross-sec. mm²	AWG-No.	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
21641	2 x 0,75	18	8,8	39,0	110,0
21642	3 G 0,75	18	9,3	49,0	120,0
21643	4 G 0,75	18	9,7	60,0	148,0
21644	5 G 0,75	18	10,5	70,0	160,0
21645	7 G 0,75	18	11,9	95,0	205,0
21646	12 G 0,75	18	14,2	140,0	308,0
21647	18 G 0,75	18	16,3	220,0	420,0
21648	20 G 0,75	18	16,9	249,0	450,0
21649	25 G 0,75	18	19,2	313,0	579,0
21650	30 G 0,75	18	19,7	470,0	630,0
21651	36 G 0,75	18	21,2	500,0	745,0
21652	2 x 1	17	9,7	50,0	120,0
21653	3 G 1	17	10,0	60,0	135,0
21654	4 G 1	17	10,8	73,0	173,0
21655	5 G 1	17	11,7	81,0	187,0
21656	7 G 1	17	13,4	114,0	240,0
21657	12 G 1	17	16,0	186,0	360,0
21658	18 G 1	17	18,5	254,0	498,0
21659	20 G 1	17	19,4	322,0	568,0
21660	25 G 1	17	21,7	377,0	670,0
21661	30 G 1	17	22,5	429,0	774,0
21662	36 G 1	17	24,3	516,0	895,0
21663	41 G 1	17	26,1	610,0	1032,0
21664	50 G 1	17	28,4	690,0	1160,0
21665	65 G 1	17	32,2	852,0	1660,0
21666	2 x 1,5	16	10,2	64,0	145,0
21667	3 G 1,5	16	11,0	84,0	168,0
21668	4 G 1,5	16	11,6	99,0	217,0
21669	5 G 1,5	16	12,6	129,0	235,0
21670	7 G 1,5	16	14,5	148,0	325,0
21671	12 G 1,5	16	17,4	279,0	481,0
21672	18 G 1,5	16	19,9	393,0	675,0
21673	25 G 1,5	16	23,7	584,0	927,0

Part no.	No. cores x cross-sec. mm²	AWG-No.	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
21674	30 G 1,5	16	24,6	607,0	1025,0
21675	36 G 1,5	16	26,4	702,0	1210,0
21676	42 G 1,5	16	28,4	829,0	1441,0
21677	50 G 1,5	16	31,2	1025,0	1709,0
21678	61 G 1,5	16	34,2	1190,0	2025,0
21679	2 x 2,5	14	11,9	104,0	198,0
21680	3 G 2,5	14	12,6	140,0	284,0
21681	4 G 2,5	14	13,6	164,0	378,0
21682	5 G 2,5	14	14,7	190,0	423,0
21683	7 G 2,5	14	17,4	236,0	486,0
21684	12 G 2,5	14	20,9	390,0	756,0
21685	18 G 2,5	14	24,2	607,0	1127,0
21686	20 G 2,5	14	25,6	661,0	1210,0
21687	25 G 2,5	14	29,1	796,0	1530,0
21688	4 G 4	12	16,8	222,0	448,0
21689	5 G 4	12	18,4	328,0	533,0
21690	7 G 4	12	21,6	360,0	678,0
21691	4 G 6	10	18,1	305,0	636,0
21692	5 G 6	10	19,6	441,0	772,0
21693	7 G 6	10	23,2	505,0	1028,0
21694	4 G 10	8	22,5	485,0	1052,0
21695	5 G 10	8	24,7	610,0	1096,0
21696	7 G 10	8	29,3	820,0	1530,0
21697	4 G 16	6	25,7	840,0	1386,0
21698	5 G 16	6	28,2	1050,0	1759,0
21699	7 G 16	6	33,6	1510,0	2087,0

Dimensions and specifications may be changed without prior notice. (RN05)