

MULTIFLEX 512®-C-PUR UL/CSA



EMC-preferred type, for extreme mechanical stress



HELUKABEL® MULTIFLEX 512®-C-PUR UL/CSA 12G1 QMM 1000 V E170315 CE

TECHNICAL DATA

PUR drag chain cable acc. to UL-Std. 758 (AWM) Style 21209, CSA-Std. C22.2 No. 210 - AWM I/II A/B

Temperature range	flexible -30°C to +90°C fixed -40°C to +90°C
Permissible operating temperature of the conductor	+90°C
Nominal voltage	UL (AWM) AC 1000 V
Test voltage core/core	3000 V
Coupling resistance	at 30 MHz, approx. 250 Ohm/km
Minimum bending radius	flexible 7.5x Outer-Ø fixed 4x Outer-Ø

CABLE STRUCTURE

- Copper wire bare, extra finely stranded acc. to DIN VDE 0295 Class 6 / IEC 60228 Class 6
- Core insulation: Special-PP
- Core identification acc. to DIN VDE 0293-334, black cores with consecutive labeling in white digits
- Protective conductor: starting with 3 cores, G = with protective conductor GN-YE, in the outer layer, x = without protective conductor
- Cores stranded in layers with optimally matched lay lengths
- Fleece wrapping over each stranding layer, from 4 mm² without fleece wrapping
- Inner sheath: TPE
- Fleece wrapping
- Screen: braided screen of tinned copper wires, approx. coverage 85%
- Fleece wrapping
- Outer sheath: Special grade of full polyurethane acc. to DIN VDE 0207-363-10-2 / DIN EN 50363-10-2 (compound type Tmpu), UL-Std. 758 (AWM) Style 21209
- Sheath colour: grey (RAL 7001)
- Length marking: in metres

PROPERTIES

- resistant to: oil, UV radiation, ozone, oxygen, weathering effects, hydrolysis, microbes, coolants, hydraulic fluids, acids, alkalis, greases, seawater and wastewater, drilling fluids, drilling mud
- highly abrasion-resistant, notch-resistant, tear-resistant, cut-resistant, wear-resistant, low adhesion

- for outdoor use
- suitable for use in drag chains
- halogen-free
- the materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

TESTS

- flame-retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2, UL VW-1, CSA FT1
- oil-resistant acc. to DIN VDE 0473-811-404 / DIN EN 60811-404 / IEC 60811-404
- drilling mud resistant acc. to NEK TS 606
- UV-resistant acc. to DIN EN ISO 4892-2
- weather-resistant acc. to DIN EN ISO 4892-2
- Alternate bending test: tested on approx. 10 million cycles
- Certifications: DNV GL

APPLICATION

Industrial application: UL/CSA approved drag chain cable for use in machine and tool manufacturing, in robotics and in other constantly moving machine parts; for permanently flexible applications moving freely without tensile stress and without movement control in dry, damp and wet rooms as well as outdoors. A slippery PP core insulation, cut-resistance and a low-adhesion PUR outer sheath guarantee an optimum durability and excellent cost-efficiency. Oil and gas sector: for use as control and instrumentation cables on drilling platforms and ships, in land drilling as well as in chemical and petrochemical plants; resistant to drilling mud according to NEK TS 606 and thus ideal for high-performance applications such as pumping stations, compressors, generators and emergency power supply systems. EMC= Electromagnetic Compatibility; in order to optimise EMC properties, we recommend a double-sided and all-round large contact area of the copper braiding.

NOTES

- the conductor is metrically (mm²) constructed, AWG numbers are approximated, and are for reference only
- for use in energy supply systems:
 - 1) the assembly instructions must be observed
 - 2) for further application parameters, please refer to the selection tables
 - 3) for special applications, we recommend contacting us and using our data entry form for energy supply systems

Part no.	No. cores x cross-sec. mm ²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
21630	2 x 0.5	20	7.8	30.0	90.0
21631	3 G 0.5	20	8.1	38.0	105.0
21632	4 G 0.5	20	8.6	50.0	124.0
21633	5 G 0.5	20	9.1	65.0	132.0
21634	7 G 0.5	20	10.2	70.0	175.0
21635	12 G 0.5	20	11.8	100.0	250.0
21636	18 G 0.5	20	13.9	157.0	325.0
21637	20 G 0.5	20	14.7	167.0	350.0

Part no.	No. cores x cross-sec. mm ²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
21638	25 G 0.5	20	16.6	240.0	450.0
21639	30 G 0.5	20	17.0	273.0	510.0
21640	36 G 0.5	20	18.2	306.0	580.0
21641	2 x 0.75	19	8.5	39.0	110.0
21642	3 G 0.75	19	8.9	49.0	120.0
21643	4 G 0.75	19	9.4	60.0	148.0
21644	5 G 0.75	19	10.1	70.0	160.0
21645	7 G 0.75	19	11.6	95.0	205.0

Continued on next page

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Part no.	No. cores x cross-sec. mm ²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
21646	12 G 0.75	19	13.9	140.0	308.0
21647	18 G 0.75	19	15.9	220.0	420.0
21648	20 G 0.75	19	16.8	249.0	450.0
21649	25 G 0.75	19	19.6	313.0	579.0
21650	30 G 0.75	19	19.8	470.0	630.0
21651	36 G 0.75	19	21.5	500.0	745.0
21652	2 x 1	18	8.8	50.0	120.0
21653	3 G 1	18	9.2	60.0	135.0
21654	4 G 1	18	9.8	73.0	173.0
21655	5 G 1	18	10.5	81.0	187.0
21656	7 G 1	18	12.1	114.0	240.0
21657	12 G 1	18	14.7	186.0	360.0
21658	18 G 1	18	17.1	254.0	498.0
21659	20 G 1	18	18.0	322.0	568.0
21660	25 G 1	18	20.9	377.0	670.0
21661	30 G 1	18	21.2	429.0	774.0
21662	36 G 1	18	22.8	516.0	895.0
21663	41 G 1	18	24.6	610.0	1032.0
21664	50 G 1	18	27.1	690.0	1160.0
21665	65 G 1	18	30.7	852.0	1660.0
21666	2 x 1.5	16	9.7	64.0	145.0
21667	3 G 1.5	16	10.1	84.0	168.0
21668	4 G 1.5	16	11.0	99.0	217.0
21669	5 G 1.5	16	11.8	129.0	235.0
21670	7 G 1.5	16	14.0	148.0	325.0
21671	12 G 1.5	16	16.6	279.0	481.0
21672	18 G 1.5	16	19.7	393.0	675.0

Part no.	No. cores x cross-sec. mm ²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
21673	25 G 1.5	16	24.1	584.0	927.0
21674	30 G 1.5	16	24.4	607.0	1025.0
21675	36 G 1.5	16	26.6	702.0	1210.0
21676	42 G 1.5	16	28.7	829.0	1441.0
21677	50 G 1.5	16	31.3	1025.0	1709.0
21678	61 G 1.5	16	34.3	1190.0	2025.0
21679	2 x 2.5	14	10.5	104.0	198.0
21680	3 G 2.5	14	11.1	140.0	284.0
21681	4 G 2.5	14	12.0	164.0	378.0
21682	5 G 2.5	14	12.9	190.0	423.0
21683	7 G 2.5	14	15.6	236.0	486.0
21684	12 G 2.5	14	18.6	390.0	756.0
21685	18 G 2.5	14	22.3	607.0	1127.0
21686	20 G 2.5	14	23.7	661.0	1210.0
21687	25 G 2.5	14	27.4	796.0	1530.0
21688	4 G 4	12	13.9	222.0	448.0
21689	5 G 4	12	15.2	328.0	533.0
21690	7 G 4	12	18.1	360.0	678.0
21691	4 G 6	10	15.6	305.0	636.0
21692	5 G 6	10	17.3	441.0	772.0
21693	7 G 6	10	20.9	505.0	1028.0
21694	4 G 10	8	20.0	485.0	1052.0
21695	5 G 10	8	22.3	610.0	1096.0
21696	7 G 10	8	27.1	820.0	1530.0
21697	4 G 16	6	23.1	840.0	1386.0
21698	5 G 16	6	25.9	1050.0	1759.0
21699	7 G 16	6	31.3	1510.0	2087.0