



Cables according to Overseas standards

Cables according to Overseas standards

The installation of cables and wires according to overseas standards are getting more and more important for the machine and plant industries.

HELUKABEL® knows this problem from his customers and delivers since long time single core and multicore cables according to the following standards. Due to our extensive stock capacity, we are in a position to cover your requirements quick and correctly.

F

Please enquire to our sales department.

UL	Underwriters Laboratories Inc.
AWM	Appliance Wiring Material
MTW	Machine Tool Wire
CEI	Comitato Elettrotecnico Italiano
CSA	Canadian Standard Association
SEV	Schweizerischer Elektrotechnischer Verein
USASI	USA Standard Institute
CNOMO	Comité De Normalisation Des Moyens De Production

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HELUKABEL® is not only selling cables and wires for all fields of communication techniques, but they are also using exhibitions as a medium of communication all over the world. The active and regular participation on exhibitions is an essential part of our Marketing-Mix.

Exhibitions are seen as an information and Communication Centre which allow HELUKABEL® to be at the forefront of the competitive market. Because national and international exhibition participations are an answer for your cable enquiries.

UL-Style 1007, CSA TR 64 300 V

PVC-single cores, UL-CSA approved, 80°C



Technical data

PVC-insulated jumper wire to UL-Style and CSA-AWM

- UL-Style 1007
- CSA-AWM I A/B or TR 64
 - **Temperature range**
 - flexible - 5°C bis +80°C
 - fixed installation -30°C bis +80°C
 - CSA-AWM I A/B or TR 64 +90°C
 - **Nominal voltage** 300 V
 - **Test voltage** 2000 V
 - **Test voltage (Spark test)**
 - AWG 26 - 20 = 4 kV
 - AWG 10 - 18 = 5 kV
 - **Bending radius**
 - once ca. 5x cable \varnothing
 - multiple ca. 10x cable \varnothing

Cable structure*

- Stranded copper conductor, tinned to UL-Std. 785 section G
- PVC-core insulation according to UL-Std. 1587 class 43 Tab. 50.182, heat and damp resistant
- PVC self-extinguishing and flame retardant, test method to UL VW-1/CSA FT1
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Standards

- UL** = Underwriters Laboratories Inc. (USA)
- CSA** = Canadian Standards Association (Canada)

Application

For the internal wiring of switchboards, electrical equipment, e. g. households, radio or televisions and control desks. Connecting wires in machines laid in protective tubes and flexible pipes and also for motors and transformers.

AWM: Appliance Wiring Material

For internal wirings for electrical equipment and control apparatus e.g. electronic assembly components.

Resistance

- Conditionally resistant to
- Oils
 - Solvents
 - Acids
 - Lyes

CE = The product is conformed with the EC Low-Voltage Directive 73/23/EEC and 93/68/EEC.

Part No.	AWG-no.¹)	cross-section ca. mm²	Outer \varnothing ca. mm	Cop kg/km	Weight ca. kg/km
635	26	0,13	1,3	1,6	3,2
620	24	0,21	1,4	2,3	4,3
621	22	0,33	1,6	3,4	6,0
622	20	0,52	1,9	5,3	8,5
623	18	0,82	2,2	8,2	12,5
624	16	1,32	2,5	13,0	18,5
636	14	2,08	3,0	20,0	29,0
637	12	3,31	3,9	33,0	40,0
638	10	5,26	4,1	51,6	61,0

Style 1569, +80°C/+90°C/+105°C on request.

¹) Note

AWG sizes are approximate equivalent values.
The actual cross-section is in mm² - see page T 15.

► You can find further information regarding UL/CSA-Cables on pages T 71 - T 77.

Please complete the above part-no. for the colour required, using the following table:

- ___00 green
- ___01 black
- ___02 blue
- ___03 brown
- ___04 red
- ___05 white
- ___06 grey
- ___07 violet
- ___08 yellow
- ___09 orange
- ___10 transparent
- ___11 pink
- ___12 beige
- ___13 green-yellow

- * Due to design the constructional alternations may be possible.
- ** Plain copper conductor on request

PVC cables will be changed to lead free PVC successively.

For further single cores see the following pages:

- for PVC, see pages D 1 - D 10.
 - for PUR, see page G 32.
 - for rubber, see pages G 31, O 15.
 - halogen-free, see pages G 23 - G 24, E 5, E 15 - E 16, E 24 - E 26.
 - heat-resistant, see pages E 5 - E 6, E 10 - E 11, E 13 - E 16, E 21, E 23 - E 25.
 - vehicle cables, see pages K 1 - K 4.
- Further sizes and jacket colours available on request.
Type **THHN**, **TEW-AWM** see page F 5. Further types on request.



Technical data

- PVC-insulated jumper wire as per UL AWM Style 1015/MTW and CSA-AWM/TEW
 - as per **UL-Style 1015 and CSA-TEW**
- **Temperature range**
 - flexible -5°C to +105°C
 - fixed installation -30°C to +105°C
- **Temperature at conductor** max. UL and CSA: +105°C
- **Nominal voltage** 600 V
- **Test voltage (Spark test)**
 - AWG 24 : 4 kV
 - AWG 22 and 20 : 5 kV
 - AWG 18 to 10 : 6 kV
 - ≥ AWG 8 : 7,5 kV
- UL-type **AWM + MTW** 105°C 600 V
- CSA-type **AWM + TEW** 105°C 600 V
- **Bending radius**
 - once ca. 5x cable Ø
 - multiple ca. 10x cable Ø

Cable structure*

- Stranded copper conductor, tinned or plain**, AWG-sizes as per table below
- PVC-core insulation according to UL-Standard 1581, class 43 and CSA-C22.2 No. 210 UL VW-1 and CSA FT1, heat and damp resistant
- PVC self-extinguishing and flame retardant, test method to UL VW-1
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Standards

- UL** = Underwriters Laboratories Inc. (USA)
- CSA** = Canadian Standards Association (Canada)

Application

For the internal wiring of switchboards, electrical equipment, e. g. households, radio or televisions and control desks. Connecting wires in machines laid in predictive tubes and flexible pipes and also for motors and transformers.

UL bzw. CSA:

AWM: Appliance Wiring Material
For internal wirings for electrical equipment and control apparatus e. g. electronic assembly components.
UL-MTW: Machine Tool-Wires
CSA-TEW: Equipment/Lead Wires
MTW: Machine Tool Wire
For the electronical installation of machine tools and the relative control

Resistance

- Conditionally resistant to
- Oils
 - Solvents
 - Acids
 - Lyes

CE = The product is conformed with the EC Low-Voltage Directive 73/23/EEC and 93/68/EEC.

UL/CSA AWM = 105°C, UL MTW, CSA TEW = 105°C, 600 V

Part No.	AWG-no.¹)	as per UL-AWM MTW	CSA AWM TEW	cross-section ca. mm²	Outer Ø ca. mm	Cop kg / km	Weight ca. kg / km
601	24	1015/MTW	AWM/TEW	0,21	2,2	2,3	8
602	22	1015/MTW	AWM/TEW	0,33	2,4	3,2	10
603	20	1015/MTW	AWM/TEW	0,52	2,5	5,0	12
604	18	1015/MTW	AWM/TEW	0,81	2,8	7,9	16
605	16	1015/MTW	AWM/TEW	1,31	3,0	12,6	22
606	14	1015/MTW	AWM/TEW	2,08	3,6	20,7	31
607	12	1015/MTW	AWM/TEW	3,52	4,2	33,0	45
608	10	1015/MTW	AWM/TEW	5,26	4,8	51,6	65
609	8	1015/MTW	AWM/TEW	8,35	6,4	80,6	110
610	6	1015/MTW	AWM/TEW	13,29	8,2	125,0	175
611	4	1015/MTW	AWM/TEW	21,14	9,3	201,0	260
612	3	1015/MTW	AWM/TEW	26,65	9,5	253,0	340
613	2	1015/MTW	AWM/TEW	33,61	11,8	317,0	380
614	1	1015/MTW	AWM/TEW	42,38	14,0	399,0	500
615	1/0	1015/MTW	AWM/TEW	53,47	15,0	500,0	615
616	2/0	1015/MTW	AWM/TEW	67,40	16,0	631,0	750
617	3/0	1015/MTW	AWM/TEW	84,97	18,5	792,0	900
618	4/0	1015/MTW	AWM/TEW	107,17	20,2	996,0	1070
62501	250 kcmil	1015/MTW		127	19,6	1178,0	1280
62601	300 kcmil	1015/MTW		152	20,9	1410,0	1518
62701	350 kcmil	1015/MTW		178	22,2	1645,0	1756
62801	400 kcmil	1015/MTW		203	24,5	1902,0	2002
62901	500 kcmil	1015/MTW		254	25,8	2345,0	2475

► You can find further information regarding UL/CSA-Cables on pages T71 – T77.

Type **THHN, TEW-AWM** see page F5.

Please complete the above part no. for the colour required, using the following table:

___00 green	___06 grey	___12 beige
___01 black	___07 violet	___13 green-yellow
___02 blue	___08 yellow	___14 blue/white
___03 brown	___09 orange	___15 dark blue
___04 red	___10 transparent	
___05 white	___11 pink	

- * Due to design the constructional alternations may be possible.
- ** Plain copper conductor on request (cross-section in metric dimensions). PVC cables will be changed to lead free PVC successively.
- For further single cores see the following pages:
 - for PVC, see pages D1 – D10.
 - for PUR, see page G32.
 - for rubber, see pages G31, O15.
 - halogen-free, see pages G23 – G24, E5, E15 – E16, E24 – E26.
 - heat-resistant, see pages E5 – E6, E10 – E11, E13 – E16, E21, E23 – E25.
- vehicle cables, see pages K1 – K4.
- Further sizes and jacket colours available on request.

*) Note

AWG sizes are approximate equivalent values.
The actual cross-section is in mm² – see page T 15.



Technical data

- PVC-single cores according to DIN VDE 0281 part 3 and HD 21.3 S3 UL-Style 1011 and CSA, CSA-AWM I/A/B
- **Temperature range²⁾**
 - H05 V-K/H07 V-K flexing + 5°C to +70°C
 - fixed installation -10°C to +70°C
 - UL/CSA +80°C
- **Nominal voltage**
 - H05 V-K U_0/U 300/500 V ($\leq 1 \text{ mm}^2$)
 - H07 V-K U_0/U 450/750 V ($\geq 1,5 \text{ mm}^2$)
 - UL/CSA 600 V AC
- **Test voltage**
 - H05 V-K/H07 V-K 2000 V
- **Spark Test**
 - AWG 20 : 5 kV
 - >AWG 20 : 6 kV
- **Insulation resistance**
 - min. 20 M Ω ·km
- **Minimum bending radius**
 - for permanent bending
 - ca. 10 – 15x core \varnothing

Cable structure

- Bare copper fine wire¹⁾ stranded to DIN VDE 0295 cl. 5, BS 6360 cl. 5, HD 383 and IEC 60228 cl. 5
- UL-Subject 758 Section G resp. ASTM B 174
- PVC core insulation T11 to DIN VDE 0281 part 1 and UL-Std. 1581, class 43, CSA-C 22.2 No. 210 Tab. 12 class H
- Core colours to DIN VDE 0293
- PVC self-extinguishing and flame retardant according to DIN VDE 0482 part 265-2-1/EN 50265-2-1/IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B),UL-VW1 CSA FT1
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

¹⁾ Tinned conductor on request

Application

Three norms approved connecting jumper wire primarily designed for exportes, used in machine tools. This wire is used for internal wiring of switchboards and electrical equipment. The approbation of HAR-UL-CSA AWM make possible an economical store-keeping and simplification of parts list.

***) Note

AWG equivalent values – see page T 15.

CE = The product is conformed with the EC Low-Voltage Directive 73/23/EEC and 93/68/EEC.

Type cross-sec.	Outer \varnothing mm	Cop. weight kg/km	Colour																
			black-white	gn-ye	blue	brown	red	white	grey	viol.	yellow	pink	green	trans.	dark blue	orange	other colours	twintone	
ca. RAL			9005	6018/1021	5015	8003	3000	1013	7000	4005	1021	3015	6018	-	5010	2003	-	-	
H05 V-K/mm²																			
Part No.			63815	63816	63817	63818	63819	63820	63821	63822	63823	63824	63825	63826	63827	63828	63829	63830	
0,5/AWG 20	2,5	4,8																	
Part No.			63831	63832	63833	63834	63835	63836	63837	63838	63839	63840	63841	63842	63843	63844	63845	63846	
0,75/AWG 19	2,65	7,2																	
Part No.			63847	63848	63849	63850	63851	63852	63853	63854	63855	63856	63857	63858	63859	63860	63861	63862	
1/AWG 18	2,8	9,6																	
H07 V-K/mm²																			
Part No.			63863	63864	63865	63866	63867	63868	63869	63870	63871	63872	63873	63874	63875	63876	63877	63878	
1,5/AWG 16	3,05	14,4																	
Part No.			63879	63880	63881	63882	63883	63884	63885	63886	63887	63888	63889	63890	63891	63892	63893	63894	
2,5/AWG 14	3,6	24,0																	
Part No.			63895	63896	63897	63898	63899	63900	63901	63902	63903	63904	63905	63906	63907	63908	63909	63910	
4/AWG 12	4,1	38,0																	
Part No.			63911	63912	63913	63914	63915	63916	63917	63918	63919	63920	63921	63922	63923	63924	63925	63926	
6/AWG 10	4,8	58,0																	
Part No.			63927	63928	63929	63930	63931	63932	63933	63934	63935	63936	63937	63938	63939	63940	63941	63942	
10/AWG 8	6,4	96,0																	
Part No.			63943	63944	63945	63946	63947	63948	63949	63950	63951	63952	63953	63954	63955	63956	63957	63958	
16/AWG 6	8,1	154,0																	
Part No.			63959	63960	63961	63962	63963	63964	63965	63966	63967	63968	63969	63970	63971	63972	63973	63974	
25/AWG 4	9,6	240,0																	
Part No.			63975	63976	63977	63978	63979	63980	63981	63982	63983	63984	63985	63986	63987	63988	63989	63990	
35/AWG 2	10,8	336,0																	
Part No.			63991	63992	63993	63994	63995	63996	63997	63998	63999	64000	64001	64002	64003	64004	64005	64006	
50/AWG 1	13,6	480,0																	
Part No.			64007	64008	64009	64010	64011	64012	64013	64014	64015	64016	64017	64018	64019	64020	64021	64022	
70/AWG 2/0	15,2	672,0																	
Part No.			64023	64024	64025	64026	64027	64028	64029	64030	64031	64032	64033	64034	64035	64036	64037	64038	
95/AWG 3/0	16,8	912,0																	
Part No.			64039	64040	64041	64042	64043	64044	64045	64046	64047	64048	64049	64050	64051	64052	64053	64054	
120/AWG 4/0	19,5	1152,0																	
Part No.			64055	64056	64057	64058	64059	64060	64061	64062	64063	64064	64065	64066	64067	64068	64069	64070	
150/300 kcmil	22,2	1440,0																	

PVC cables will be changed to lead free PVC successively.

²⁾ The cross-sections 0,5, 0,75 and 1,0 mm² are according to H05 V-K, the cross-sections 1,5 up to 120 mm² according to H07 V-K.



Technical data

- PVC-single cores according to DIN VDE 0281 part 3 and HD 21.3 S3, UL-Std. 1063, UL-Style 1015 and CSA-TEW and CSA-AWM I/A/B
- **Temperature range²⁾**
 - H05 V2-K/H07 V-K flexing + 5°C to + 90°C
 - fixed installation -10°C to +105°C
 - UL/CSA +105°C
- **Nominal voltage**
 - H05 V2-K U₀/U 300/500 V (≤ 1 mm²)
 - H07 V2-K U₀/U 450/750 V (≥ 1,5 mm²)
 - UL/CSA 600 V AC, 750 V DC
- **Test voltage**
 - H05 V2-K/H07 V2-K 2000 V
- **Spark Test**
 - AWG 20 : 5 kV
 - >AWG 20 : 6 kV
- **Insulation resistance**
 - min. 20 MOhm x km
- **Minimum bending radius**
 - for permanent bending ca. 10 – 15x core ∅

Cable structure

- Bare copper fine wire¹⁾ stranded to DIN VDE 0295 cl. 5, BS 6360 cl. 5, HD 383 and IEC 60228 cl. 5 and UL-Subject 758 Section G
- PVC core insulation T13 to DIN VDE 0281 part 1 and UL-Std. 1581, class 43, CSA-C 22.2 No. 210 Tab. 12 class H
- Core colours to DIN VDE 0293
- PVC self-extinguishing and flame retardant according to DIN VDE 0482 part 265-2-1/EN 50265-2-1/IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B), CSA FT1
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

¹⁾ Tinned conductor on request

Application

Five norms approved connecting jumper wire primarily designed for export, used in machine tools. This wire is used for internal wiring of switchboards and electrical equipment. The approbation of HAR, UL-AWM, UL-MTW, CSA-AWM, CSA-Equipment-wire make possible an economical storekeeping and simplification of parts list.

**) Note

AWG equivalent values – see page T 15.

PVC cables will be changed to lead free PVC successively.

CE = The product is conformed with the EC Low-Voltage Directive 73/23/EEC and 93/68/EEC.

Type cross-sec.	Outer ∅ mm	Cop. weight kg/km	black-white	gn-ye	blue	brown	red	white	grey	viol.	yellow	pink	green	trans.	dark blue	orange	other colours	twintone
ca. RAL			9005	6018/1021	5015	8003	3000	1013	7000	4005	1021	3015	6018	-	5010	2003	-	-
H05 V2-K/mm²																		
Part No.			64075	64076	64077	64078	64079	64080	64081	64082	64083	64084	64085	64086	64087	64088	64089	64090
0,5/AWG 20	2,5	4,8																
Part No.			64091	64092	64093	64094	64095	64096	64097	64098	64099	64100	64101	64102	64103	64104	64105	64106
0,75/AWG 19	2,65	7,2																
Part No.			64107	64108	64109	64110	64111	64112	64113	64114	64115	64116	64117	64118	64119	64120	64121	64122
1/AWG 18	2,8	9,6																
H07 V2-K/mm²																		
Part No.			64123	64124	64125	64126	64127	64128	64129	64130	64131	64132	64133	64134	64135	64136	64137	64138
1,5/AWG 16	3,05	14,4																
Part No.			64139	64140	64141	64142	64143	64144	64145	64146	64147	64148	64149	64150	64151	64152	64153	64154
2,5/AWG 14	3,6	24,0																
Part No.			64155	64156	64157	64158	64159	64160	64161	64162	64163	64164	64165	64166	64167	64168	64169	64170
4/AWG 12	4,1	38,0																
Part No.			64171	64172	64173	64174	64175	64176	64177	64178	64179	64180	64181	64182	64183	64184	64185	64186
6/AWG 10	4,8	58,0																
Part No.			64187	64188	64189	64190	64191	64192	64193	64194	64195	64196	64197	64198	64199	64200	64201	64202
10/AWG 8	6,4	96,0																
Part No.			64203	64204	64205	64206	64207	64208	64209	64210	64211	64212	64213	64214	64215	64216	64217	64218
16/AWG 6	8,1	154,0																
Part No.			64219	64220	64221	64222	64223	64224	64225	64226	64227	64228	64229	64230	64231	64232	64233	64234
25/AWG 4	9,6	240,0																
Part No.			64235	64236	64237	64238	64239	64240	64241	64242	64243	64244	64245	64246	64247	64248	64249	64250
35/AWG 2	10,8	336,0																
H07 V-K/mm²																		
Part No.			64251	64252	64253	64254	64255	64256	64257	64258	64259	64260	64261	64262	64263	64264	64265	64266
50/AWG 1	13,6	480,0																
Part No.			64267	64268	64269	64270	64271	64272	64273	64274	64275	64276	64277	64278	64279	64280	64281	64282
70/AWG 2/0	15,2	672,0																
Part No.			64283	64284	64285	64286	64287	64288	64289	64290	64291	64292	64293	64294	64295	64296	64297	64298
95/AWG 3/0	16,8	912,0																
Part No.			64299	64300	64301	64302	64303	64304	64305	64306	64307	64308	64309	64310	64311	64312	64313	64314
120/AWG 4/0	19,5	1152,0																
Part No.			64315	64316	64317	64318	64319	64320	64321	64322	64323	64324	64325	64326	64327	64228	64329	64330
150/300 kcmil	22,2	1440,0																

²⁾ The cross-sections 0,5, 0,75 and 1,0 mm² are according to H05 V-K, the cross-sections 1,5 up to 35 mm² according to H07 V-K, the cross-sections > 35 mm² are identified as H07V-K. Cross-sections up to 35 mm² is according to DIN VDE 0281 part 5. Due to this cross-sections > 35 mm² is the type H07VK, but with an increased heat-resistant PVC-compound.



Technical data

- PVC+Nylon insulated single cores as per UL-Styles and NEC standard
- **Temperature range as per Styles**
 - **THHN:** 90°C dry – NEC standard
 - **THWN:** 75°C wet – NEC standard
 - **AWM:** UL-Styles 1316 to 1321
 - 105°C dry
 - 80°C in oil
 - **AWM:** UL-Styles 1452, 1453
 - 90°C dry
 - 80°C in oil
 - 1000 V
 - **MTW:**
 - UL-Styles 1408 to 1414
 - 90°C dry
 - 80°C in oil
 - 600 V
- **Nominal voltage** 600 V
- **Test voltage (Spark test)**
 - AWG 14 to AWG 10 : 7,5 kV
 - AWG 8 to AWG 2/0 :10 kV
 - AWG 3/0 to AWG 4/0 :12,5 kV
 - kcmil 250 to kcmil 500 :15 kV
 - kcmil 600 to kcmil 1000 :17,5 kV

Cable structure

- Bare copper conductor, AWG-sizes as per given table below and ASTM B-3 and ASTM B-8
- Core insulation of PVC+Nylon-outer sheath
- Cores colour coded, colour identification see below
- Surface of jacket printed with markings:
 - 14 to 1000 MCM THHN (stranded) – (size) AWG TYPE MTW OR THHN OR THWN 600 V OR GASOLINE AND OIL RESISTANT II (UL) OR AWM E-51554
 - 14 to 10 AWG THHN (solid) – (size) AWG TYPE THHN OR THWN 600 V OR GASOLINE AND OIL RESISTANT II (UL) OR AWM

Resistant against

- Oils
- Gasoline
- Water
- Acids
- Ozone
- Lyes
- Sunlight
- Abrasion

Application

As flexible connecting cable in machines, switch and distribution cabinets, cable assemblies and for fixed indoor installation, in tubes and in cable conduits.

AWM: Appliance Wiring Material

For internal wirings for electrical equipment and control apparatus e.g. radio and televisions, electronic assembly component

MTW: Machine Tool Wire

For the electronical installation of machine tools and the relative control

THW: Thermoplastic PVC-insulated building wire, Heat resistant 75°C, for Wet and dry locations, flame retardant.

THHN: Thermoplastic PVC-insulated building wire, Nylon jacketed, 90°C 600 V, for dry and damp locations.

Normen

UL = Underwriters Laboratories Inc. (USA)

CE = The product is conformed with the EC Low-Voltage Directive 73/23/EEC and 93/68/EEC.

PVC+Nylon-Single Cores, UL Listed Type THHN/THWN (90°C) 600 V

Part No.	AWG-no.¹)	cross-section mm²	conductor make-up		conductor Ø ca. mm	Wall-thickness (guiding value)		Outer Ø ca. mm	Cop. weight kg/km	Weight ca. kg/km
			AWG-size	n x wire Ø		PVC-insulation mm	Nylon-jacket mm			
6320	14	2,08	19/0,0147	19x0,38	1,88	0,38	0,102	2,95	20,7	25
6321	12	3,32	19/0,0185	19x0,48	2,35	0,38	0,102	3,43	33,0	37
6322	10	5,26	19/0,0234	19x0,60	2,97	0,51	0,102	4,29	51,6	60
6323	8	8,35	19/0,0295	19x0,75	3,66	0,76	0,127	5,49	80,6	95
6324	6	13,39	19/0,0378	19x0,96	4,78	0,76	0,127	6,60	125,0	143
6325	4	21,14	19/0,0469	19x1,19	5,92	1,02	0,152	8,41	201,0	229
6326	3	26,65	19/0,053	19x1,336	6,65	1,02	0,152	9,14	253,0	282
6327	2	33,61	19/0,0591	19x1,50	7,47	1,02	0,152	10,01	317,0	349
6328	1	42,38	19/0,0664	19x1,686	8,4	1,27	0,178	11,43	399,0	449
6329	1/0	53,47	19/0,0745	19x1,89	9,4	1,27	0,178	12,45	500,0	557
6330	2/0	67,40	19/0,0837	19x2,126	10,6	1,27	0,178	13,72	631,0	691
6331	3/0	84,97	19/0,094	19x2,387	11,9	1,27	0,178	14,99	792,0	861
6332	4/0	107,17	19/0,1055	19x2,68	13,4	1,27	0,178	16,51	996,0	1069
63331	250 kcmil	127	37/0,0822	37x2,088	14,6	1,52	0,203	18,29	1178,0	1277
63341	300 kcmil	152	37/0,0900	37x2,286	16,0	1,52	0,203	19,56	1410,0	1515
63351	350 kcmil	178	37/0,0973	37x2,47	17,3	1,52	0,203	21,08	1645,0	1753
63361	400 kcmil	203	37/0,104	37x2,7	18,9	1,52	0,203	22,35	1902,0	1998
63371	500 kcmil	254	37/0,1162	37x2,95	20,7	1,52	0,203	24,13	2345,0	2466
63381	600 kcmil	304	61/0,0992	61x2,52	22,7	1,78	0,229	26,75	2920,0	3000
63391	750 kcmil	380	61/0,1109	61x2,82	25,3	1,79	0,229	29,36	3658,0	3713
63401	1000 kcmil	507	61/0,1280	61x3,25	29,3	1,78	0,229	33,27	4858,0	4796

1 kcmil = 1000 circ. mils = 0,5067 mm².

► You can find further information regarding UL/CSA-Cables on pages T71 – T77.

Further types on request.

Please complete the above part no. for the colour required, using the following code:

- | | | | |
|------|-------|------|--------|
| ___0 | green | ___5 | white |
| ___1 | black | ___6 | grey |
| ___2 | blue | ___7 | yellow |
| ___3 | brown | ___8 | orange |
| ___4 | red | ___9 | pink |

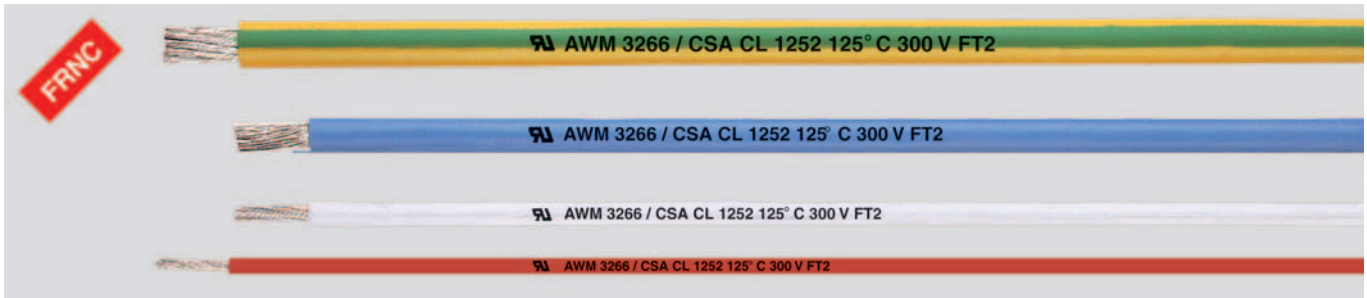
*) Note

AWG sizes are approximate equivalent values. The actual cross-section is in mm² – see page T 15.

For further single cores see the following pages:

- for PVC, see pages D1 – D10.
- for PUR, see page G32.
- for rubber, see pages G31, O15.
- halogen-free, see pages G23 – G24, E5, E15 – E16, E24 – E26.
- heat-resistant, see pages E5 – E6, E10 – E11, E13 – E16, E21, E23 – E25.
- vehicle cables, see pages K1 – K4.

Further sizes and jacket colours available on request.



Technical data

- Halogen-free single cores with increased heat resistance according to **UL Style 3266**
CSA CL 1252
- **Temperature range**
flexing –35° C to +120° C
fixed installation –55° C to +145° C
in short circuit +250° C
- **Nominal voltage**
U₀/U 300/300 V
- **Test voltage** 3500 V
- **Minimum bending radius**
approx. 4 x cable Ø

Tests

- Flame test to DIN VDE 0482 part 266-2/ HD 405.3, BS 4066 part 3/EN 50266-2/ IEC 60332-3 (equivalent DIN VDE 0472 part 804 test method C)
- Corrosiveness of combustion gases according to DIN VDE 0482 part 267/ EN 50267-2-2/IEC 60754-2 (equivalent DIN VDE 0472 part 813)
- Halogen-free according to DIN VDE 0482 part 267/EN 50267-2-1/IEC 60754-1 (equivalent DIN VDE 0472 part 815)
- Smoke density to VDE 0482 part 268-1 and 2, test method C, IEC 61034-1/ 61034-2, HD 606 and BS 7622 part 1 and 2 (DIN VDE 0472 part 816)
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers
- **Caloric load values** see page T 69
- **Power ratings table** see page T 27

Cable structure

- Tinned Cu wires, according to AWG-sizes
Conductor make-up:
AWG 24 to AWG 14 19-wires
AWG 12 65-wires
AWG 10 105-wires
- Core insulation of polyolefin-copolymer, electron beam cross-linked, flame retardant, halogen-free
- Core colours see table below

Advantages

- Halogen-free, no liberation of corrosive or toxic vapours, in that way this helps saving valuable time when trying to evacuate a building in a disciplined manner and prevents unnecessary loss of life.
- Lower propagation of fire
- Low development of smoke and fumes
- Good abrasion and notch resistance
- Good resistance to oils and weathering
- Resistant to UV radiation and ozone
- Resistant to soldering temperatures
- Thermal class B
- These single-core cables are resistant to melting, even when in contact with a soldering iron at temperatures of between 300° C and 380° C, because of the electron-beam cross-linking for the insulation material.
- Due to the high temperature profile the cross-section of conductor can under certain circumstances be reduced, hereby enabling a saving in space requirement and weight.

Application

These temperature resistant single-core cables are used for the internal wiring of lighting fixtures, heaters, electrical machinery, switching systems and distributors in equipment and plant and machinery, suitable for installation on, in and beneath plaster, in closed installation ducts, as well as for traffic systems and outdoor applications. These cables are not approved for direct routing on racks, gutters or tanks. For a protected installation, these cables may be used at a nominal voltage of up to 1000 V alternating current or a direct current up to 750 V when earthed. The maximum operating d.c. voltage used in rail vehicles shall not exceed 900 V when earthed. These halogen-free single core cables are characterised by their amazingly high long-time resistance to temperature and feature among the leading halogen-free. Flame resistant products in the world. These single core cables significantly contribute to safety and the environment.

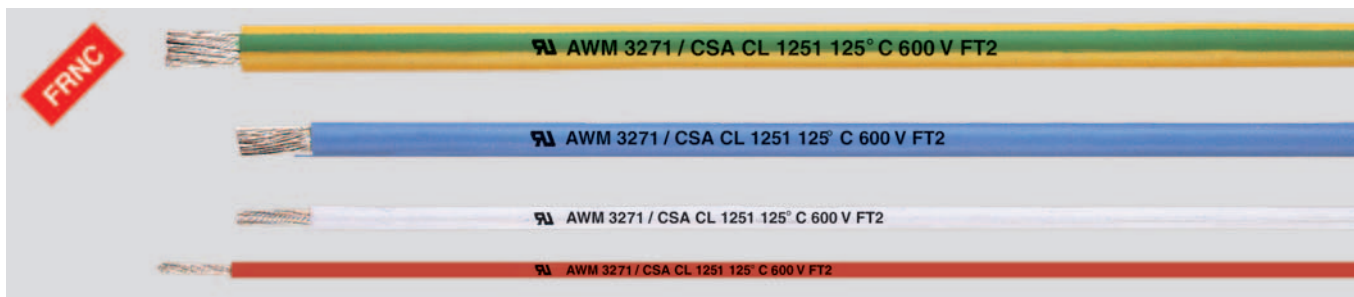
CE = The product is conformed with the EC Low-Voltage Directive 73/23/EEC and 93/68/EEC.

Part No. Cross- sec. mm ²	Outer Ø ca. mm	Cop. weight kg / km	Weight ca. kg / km	gn/ye															
				black	light blue	brown	red	white	grey	violet	yellow	orange	green	pink	beige	twintone			
Part No. AWG 24	1,5	2,3	4	61816	61817	61818	61819	61820	61821	61822	61823	61824	61825	61826	61827	61828	61829		
Part No. AWG 22	1,6	3,2	6	61830	61831	61832	61833	61834	61835	61836	61837	61838	61839	61840	61841	61842	61843		
Part No. AWG 20	1,9	5,0	9	61844	61845	61846	61847	61848	61849	61850	61851	61852	61853	61854	61855	61856	61857		
Part No. AWG 18	2,1	7,9	12	61858	61859	61860	61861	61862	61863	61864	61865	61866	61867	61868	61869	61870	61871		
Part No. AWG 16	2,4	12,6	16	61872	61873	61874	61875	61876	61877	61878	61879	61880	61881	61882	61883	61884	61885		
Part No. AWG 14	2,9	20,7	27	61886	61887	61888	61889	61890	61891	61892	61893	61894	61895	61896	61897	61898	61899		
Part No. AWG 12	3,3	33,0	36	61900	61901	61902	61903	61904	61905	61906	61907	61908	61909	61910	61911	61912	61913		
Part No. AWG 10	4,1	51,6	58	61914	61915	61916	61917	61918	61919	61920	61921	61922	61923	61924	61925	61926	61927		

*) Note

- AWG sizes are approximate equivalent values.
The actual cross-section is in mm² – see page T 15.
- For further single cores see the following pages:
– for PVC, see pages D1 – D10.
– for PUR, see page G 32.
– for rubber, see pages G 33, O15.

- halogen-free, see pages G 23 – G 24, E 5, E 15 – E 16, E 24 – E 26.
- heat-resistant, see pages E 5 – E 6, E 10 – E 11, E 13 – E 16, E 21, E 23 – E 25.
- vehicle cables, see pages K 1 – K 4.



Technical data

- Halogen-free single cores with increased heat resistance according to **UL Style 3271, CSA CL 1251**
- **Temperature range**
flexing -35° C to +120° C
fixed installation -55° C to +145° C
in short circuit +250° C
- **Nominal voltage** U 600 V
- **Test voltage** 3500 V
- **Minimum bending radius**
approx. 4x cable ø

Tests

- Flame test to DIN VDE 0482 part 266-2/ HD 405.3, BS 4066 part 3/EN 50266-2/ IEC 60332-3 (equivalent DIN VDE 0472 part 804 test method C)
- Corrosiveness of combustion gases according to DIN VDE 0482 part 267/ EN 50267-2-2/IEC 60754-2 (equivalent DIN VDE 0472 part 813)
- Halogen-free according to DIN VDE 0482 part 267/EN 50267-2-1/IEC 60754-1 (equivalent DIN VDE 0472 part 815)
- Smoke density to VDE 0482 part 268-1 and 2, test method C, IEC 61034-1/ 61034-2, HD 606 and BS 7622 part 1 and 2 (DIN VDE 0472 part 816)
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers
- **Caloric load values** see page T 69
- **Power ratings table** see page T 27

Cable structure

- Tinned Cu wires, according to DIN VDE 0295 cl. 5, BS 6360 cl. 5 and IEC 60228 cl. 5
- Core insulation of polyolefin-copolymer, electron beam cross-linked, flame retardant, halogen-free
- Core colours see table below

Advantages

- Halogen-free, no liberation of corrosive or toxic vapours, in that way this helps saving valuable time when trying to evacuate a building in a disciplined manner and prevents unnecessary loss of life.
- Lower propagation of fire
- Low development of smoke and fumes
- Good abrasion and notch resistance
- Good resistance to oils and weathering
- Resistant to UV radiation and ozone
- Resistant to soldering temperatures
- Thermal class B
- These single-core cables are resistant to melting, even when in contact with a soldering iron at temperatures of between 300° C and 380° C, because of the electron-beam cross-linking for the insulation material.
- Due to the high temperature profile the cross-section of conductor can under certain circumstances be reduced, hereby enabling a saving in space requirement and weight.

Application

These temperature resistant single-core cables are used for the internal wiring of lighting fixtures, heaters, electrical machinery, switching systems and distributors in equipment and plant and machinery, suitable for installation on, in and beneath plaster, in closed installation ducts, as well as for traffic systems and outdoor applications. These cables are not approved for direct routing on racks, gutters or tanks. For a protected installation, these cables may be used at a nominal voltage of up to 1000 V alternating current or a direct current up to 750 V when earthed. The maximum operating d.c. voltage used in rail vehicles shall not exceed 900 V when earthed. These halogen-free single core cables are characterised by their amazingly high long-time resistance to temperature and feature among the leading halogen-free. Flame resistant products in the world. These single core cables significantly contribute to safety and the environment.

F

CE = The product is conformed with the EC Low-Voltage Directive 73/23/EEC and 93/68/EEC.

Part No. Cross- sec. mm ²	Outer ø ca. mm	Cop. weight kg / km	Weight ca. kg / km	gn/ye															
				black	light blue	brown	red	white	grey	violet	yellow	orange	green	pink	beige	twintone			
Part no. 0,25	2,3	2,4	7	59472	59473	59474	59475	59476	59477	59478	59479	59480	59481	59482	59483	59484	59485		
Part no. 1 x 0,5	2,6	4,6	11	59486	59487	59488	59489	59490	59491	59492	59493	59494	59495	59496	59497	59498	59499		
Part no. 1 x 0,75	2,8	7,2	14	59500	59501	59502	59503	59504	59505	59506	59507	59508	59509	59510	59511	59512	59513		
Part no. 1 x 1,0	2,9	9,6	17	59514	59515	59516	59517	59518	59519	59520	59521	59522	59523	59524	59525	59526	59527		
Part no. 1 x 1,5	3,2	14,4	22	59528	59529	59530	59531	59532	59533	59534	59535	59536	59537	59538	59539	59540	59541		
Part no. 1 x 2,5	3,7	24,0	33	59542	59543	59544	59545	59546	59547	59548	59549	59550	59551	59552	59553	59554	59555		
Part no. 1 x 4	4,2	38,4	53	59556	59557	59558	59559	59560	59561	59562	59563	59564	59565	59566	59567	59568	59569		
Part no. 1 x 6	5,6	57,6	78	59570	59571	59572	59573	59574	59575	59576	59577	59578	59579	59580	59581	59582	59583		
Part no. 1 x 10	7,5	96,0	136	59584	59585	59586	59587	59588	59589	59590	59591	59592	59593	59594	59595	59596	59597		
Part no. 1 x 16	8,5	154,0	203	59598	59599	59600	59601	59602	59603	59604	59605	59606	59607	59608	59609	59610	59611		
Part no. 1 x 25	10,4	240,0	300	59612	59613	59614	59615	59616	59617	59618	59619	59620	59621	59622	59623	59624	59625		
Part no. 1 x 35	11,5	336,0	405	59626	59627	59628	59629	59630	59631	59632	59633	59634	59635	59636	59637	59638	59639		
Part no. 1 x 50	14,4	480,0	580	59640	59641	59642	59643	59644	59645	59646	59647	59648	59649	59650	59651	59652	59653		

For further single cores see the following pages:
- for PVC, see pages D1 - D10.
- for PUR, see page G 32.

- for rubber, see pages G 33, O 15.
- halogen-free, see pages G 23 - G 24, E 5, E 15 - E 16, E 24 - E 26.

- heat-resistant, see pages E 5 - E 6, E 10 - E 11, E 13 - E 16, E 21, E 23 - E 25.
- vehicle cables, see pages K 1 - K 4.



Technical data

- Special PVC command cable, approved to UL-Style 2464, cores according AWG 26-20 to UL-Style 1061/1729 AWG 18-16 to UL-Style 1007/1569
- **Temperature range**
-20°C to +80°C
- **Nominal voltage** 300 V
- **Test voltage** 1500 V
- **Breakdown voltage** min. 3000 V
- **Minimum bending radius**
flexing approx. 15x cable \varnothing

Cable structure

- Tinned copper, fine wire conductors
AWG 26-20 to ASTM-B 174-95 class J-M
AWG 18-16 to ASTM-B 286
conductor make-up:
to 0,14 mm² = 7x0,162 mm
0,22 mm² = 7x0,202 mm
0,34 mm² = 7x0,254 mm
0,56 mm² = 7x0,32 mm
0,82 mm² = 19x0,235 mm
1,30 mm² = 19x0,31 mm
- Special PVC core insulation class 43, semirigid to UL-Std. 1581 table 50.182 and 50.183
- Colour coded to DIN 47100
- Cores stranded in layers with optimal lay-length
- Special PVC outer jacket class 43 to UL-Std. 1581 table 50.182, colour
 - black
 - grey (preferred type for stock)
- PVC flame retardant according to UL VW-1

Application

Suitable for use as a command, measuring and control cable in tool making machinery conveyor system and production lines, in industrial plants and in air conditioning as well as in the steel producing industries.

Resistance

Conditionally resistant to

- Oil
- Solvents
- Acids
- Lyes
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

CE = The product is conformed with the EC Low-Voltage Directive 73/23/EEC and 93/68/EEC.

Part No.	No. strands	AWG-no.*)	Size mm ²	Outer \varnothing mm	Weight ca. kg/km
83137	2	26	0,14	3,6	13
83138	3	26	0,14	3,8	15
83139	4	26	0,14	4,0	18
83140	6	26	0,14	4,6	25
83141	10	26	0,14	5,6	38
83142	12	26	0,14	5,8	46
83143	16	26	0,14	6,3	56
83144	18	26	0,14	6,6	62
83145	24	26	0,14	7,5	82
83146	27	26	0,14	7,8	97
83147	30	26	0,14	8,1	110
83153	2	24	0,22	3,8	16
83154	3	24	0,22	4,0	19
83155	4	24	0,22	4,2	23
83156	6	24	0,22	4,9	32
83157	10	24	0,22	6,0	55
83158	12	24	0,22	6,1	60
83159	16	24	0,22	6,7	75
83160	18	24	0,22	7,1	82
83161	24	24	0,22	8,2	116
83162	27	24	0,22	8,5	140
83163	30	24	0,22	8,8	150
83169	2	22	0,34	4,2	25
83170	3	22	0,34	4,3	30
83171	4	22	0,34	4,6	45
83172	6	22	0,34	5,5	60
83173	10	22	0,34	6,8	80
83174	12	22	0,34	7,0	105
83175	16	22	0,34	7,8	130
83176	18	22	0,34	8,3	140
83177	24	22	0,34	9,6	190
83178	27	22	0,34	10,0	207
83179	30	22	0,34	10,2	225

Part No.	No. strands	AWG-no.*)	Size mm ²	Outer \varnothing mm	Weight ca. kg/km
83185	2	20	0,56	4,6	30
83186	3	20	0,56	4,8	33
83187	4	20	0,56	5,2	41
83188	6	20	0,56	6,1	65
83189	10	20	0,56	7,6	102
83190	12	20	0,56	8,0	120
83191	16	20	0,56	8,8	152
83192	18	20	0,56	9,4	168
83193	24	20	0,56	11,0	224
83194	27	20	0,56	11,3	260
83195	30	20	0,56	11,8	300
83201	2	18	0,82	6,1	50
83202	3	18	0,82	6,4	62
83203	4	18	0,82	6,9	72
83204	6	18	0,82	8,1	100
83205	10	18	0,82	10,4	180
83206	12	18	0,82	10,9	182
83207	16	18	0,82	12,2	240
83208	18	18	0,82	13,0	270
83209	24	18	0,82	15,2	370
83210	27	18	0,82	15,8	400
83211	30	18	0,82	16,3	470
83217	2	16	1,3	6,9	70
83218	3	16	1,3	7,3	90
83219	4	16	1,3	7,9	110
83220	6	16	1,3	9,6	160
83221	10	16	1,3	12,4	250
83222	12	16	1,3	12,8	300
83223	16	16	1,3	14,6	400
83224	18	16	1,3	15,5	450
83225	24	16	1,3	18,1	650
83226	27	16	1,3	18,7	680
83227	30	16	1,3	19,5	750

Continuation ►

For further UL-approved control cables see the following pages:

- HELUKABEL® JZ-602 page A 22-A 23
- HELUKABEL® JZ-602-CY page A 26-A 27

PVC cables will be changed to lead free PVC successively.

*) Note

AWG sizes are approximate equivalent values.
The actual cross-section is in mm² - see page T 15.



Technical data

- Special PVC command cable, approved to UL-Style 2516
- **Temperature range**
-20°C to +105°C
- **Nominal voltage** 600 V
- **Test voltage** 2000 V
- **Breakdown voltage** min. 4000 V
- **Minimum bending radius**
flexing approx. 15x cable \varnothing

Cable structure

- Tinned copper, fine wire conductors to ASTM-B 174, class J-K conductor make-up:
to 2,08 mm² = 41x0,254 mm
3,20 mm² = 65x0,254 mm
- Special PVC core insulation class 43 to UL-Std. 1581 table 50.182 (105° C)
- Colour coded to DIN 47100
- Cores stranded in layers with optimal lay-length
- Special PVC outer jacket class 43 to UL-Std. 1581 table 50.182 (105° C), colour
 - black
 - grey (preferred type for stock)
- PVC flame retardant according to UL VW-1
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Application

Suitable for use as a command, measuring and control cable in tool making machinery conveyor system and production lines, in industrial plants and in air conditioning as well as in the steel producing industries.

Resistance

- Conditionally resistant to
- Oil
 - Solvents
 - Acids
 - Lyes

☑ = The product is conformed with the EC Low-Voltage Directive 73/23/EEC and 93/68/EEC.

Part No.	No. strands	AWG-no. *)	Size mm ²	Outer \varnothing mm	Weight ca. kg / km
83233	2	14	2,08	8,4	120
83234	3	14	2,08	8,9	150
83235	4	14	2,08	9,6	190
83236	6	14	2,08	11,4	300
83237	10	14	2,08	15,1	450
83238	12	14	2,08	15,6	500
83239	16	14	2,08	17,2	700
83240	18	14	2,08	18,3	750
83241	24	14	2,08	21,5	900
83242	27	14	2,08	22,7	1100
83243	30	14	2,08	23,5	1150
83244	36	14	2,08	25,4	1800

Part No.	No. strands	AWG-no. *)	Size mm ²	Outer \varnothing mm	Weight ca. kg / km
83245	2	12	3,2	9,3	150
83246	3	12	3,2	9,8	210
83247	4	12	3,2	10,8	300
83248	6	12	3,2	12,8	430
83249	10	12	3,2	17,0	500
83250	12	12	3,2	17,5	700
83251	16	12	3,2	19,8	810
83252	18	12	3,2	21,0	970
83253	24	12	3,2	24,8	1200

For further UL-approved control cables see the following pages:

- HELUKABEL® JZ-602 page A 22-A 23
- HELUKABEL® JZ-602-CY page A 26-A 27

PVC cables will be changed to lead free PVC successively.

*) Note

AWG sizes are approximate equivalent values.
The actual cross-section is in mm² - see page T 15.



HELUKABEL AWM STYLE 2464 22 AWG / 0,34 QMM 6 C shielded 80°C
300 V VW-1 LL 113926 CSA AWM III A/B 80°C 300 V FT 1

Technical data

- Special PVC command cable, approved to UL-Style 2464, cores according AWG 26-20 to UL-Style 1061/1729 AWG 18-16 to UL-Style 1007/1569
- **Temperature range**
-20°C to +80°C
- **Nominal voltage** 300 V
- **Test voltage** 1500 V
- **Breakdown voltage** min. 3000 V
- **Minimum bending radius**
flexing approx. 15x cable Ø
- **Coupling resistance**
max. 250 Ohm/km
- Special PVC outer jacket class 43 to UL-Std. 1581 table 50.182, colour
 - black
 - grey (preferred type for stock)
- PVC flame retardant according to UL VW-1

Cable structure

- Tinned copper, fine wire conductors
AWG 26-20 to ASTM-B 174-95 class J-M
AWG 18-16 to ASTM-B 286
conductor make-up:
to 0,14 mm² = 7x0,162 mm
0,22 mm² = 7x0,202 mm
0,34 mm² = 7x0,254 mm
0,56 mm² = 7x0,32 mm
0,82 mm² = 19x0,235 mm
1,30 mm² = 19x0,31 mm
- Special PVC core insulation class 43, semirigid to UL-Std. 1581 table 50.182 and 50.183
- Colour coded to DIN 47100
- Cores stranded in layers with optimal lay-length
- Separator-foil
- Drain wire
- Tinned copper wire braiding, approx. 85% coverage

Application

This cable type is suitable for use as a flexible connector cable in the fields of electronics, control and command technology as well as for measuring, signal and impulse transfer. Quick and cost favourable connections through cutting and clamping technics.

Resistance

Conditionally resistant to

- Oil
- Solvents
- Acids
- Lye

*EMC = Electromagnetic compatibility

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

- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

CE = The product is conformed with the EC Low-Voltage Directive 73/23/EEC and 93/68/EEC.

Part No.	No. strands	AWG-no.*)	Size mm ²	Outer Ø mm	Weight ca. kg / km
83254	2	26	0,14	3,9	20
83255	3	26	0,14	4,2	25
83256	4	26	0,14	4,4	28
83257	6	26	0,14	5,0	30
83258	10	26	0,14	6,1	50
83259	12	26	0,14	6,3	53
83260	16	26	0,14	6,8	60
83261	18	26	0,14	7,1	70
83262	24	26	0,14	8,0	100
83263	27	26	0,14	8,4	105
83264	30	26	0,14	8,6	110
83270	2	24	0,22	4,2	20
83271	3	24	0,22	4,4	25
83272	4	24	0,22	4,7	30
83273	6	24	0,22	5,3	40
83274	10	24	0,22	6,5	60
83275	12	24	0,22	6,7	70
83276	16	24	0,22	7,3	90
83277	18	24	0,22	7,6	100
83278	24	24	0,22	8,7	120
83279	27	24	0,22	9,0	130
83280	30	24	0,22	9,5	150
83286	2	22	0,34	4,6	40
83287	3	22	0,34	4,8	50
83288	4	22	0,34	5,1	60
83289	6	22	0,34	6,0	80
83290	10	22	0,34	7,3	130
83291	12	22	0,34	7,5	140
83292	16	22	0,34	8,2	160
83293	18	22	0,34	8,7	170
83294	24	22	0,34	9,9	220
83295	27	22	0,34	10,4	250
83296	30	22	0,34	10,9	280

Part No.	No. strands	AWG-no.*)	Size mm ²	Outer Ø mm	Weight ca. kg / km
83302	2	20	0,56	5,1	30
83303	3	20	0,56	5,3	40
83304	4	20	0,56	5,6	50
83305	6	20	0,56	6,6	70
83306	10	20	0,56	8,1	110
83307	12	20	0,56	8,4	130
83308	16	20	0,56	9,5	160
83309	18	20	0,56	9,9	180
83310	24	20	0,56	11,5	240
83311	27	20	0,56	12,0	260
83312	30	20	0,56	12,4	300
83318	2	18	0,82	6,5	60
83319	3	18	0,82	6,8	75
83320	4	18	0,82	7,4	90
83321	6	18	0,82	8,8	125
83322	10	18	0,82	10,9	180
83323	12	18	0,82	11,2	220
83324	16	18	0,82	12,9	290
83325	18	18	0,82	13,5	300
83326	24	18	0,82	15,6	450
83327	27	18	0,82	15,9	470
83328	30	18	0,82	16,6	490
83334	2	16	1,30	7,0	90
83335	3	16	1,30	7,4	160
83336	4	16	1,30	8,1	200
83337	6	16	1,30	9,5	290
83338	10	16	1,30	12,4	450
83339	12	16	1,30	12,8	600
83340	16	16	1,30	14,0	650
83341	18	16	1,30	14,8	680
83342	24	16	1,30	17,2	900
83343	27	16	1,30	18,0	990
83344	30	16	1,30	18,7	1050

Continuation ►

For further UL-approved control cables see the following pages:

- HELUKABEL® JZ-602 page A 22-A 23
- HELUKABEL® JZ-602-CY page A 26-A 27

PVC cables will be changed to lead free PVC successively.

*) Note

AWG sizes are approximate equivalent values.
The actual cross-section is in mm² - see page T 15.



HELUKABEL AWM STYLE 2516 14 AWG / 2,08 QMM 6 C shielded 105°C
600 V VW-1 LL 113926 CSA AWM I/II A/B 105°C 600 V FT 1

Technical data

- Special PVC command cable, approved to UL-Style 2516
- cores according UL-Style 10012
- **Temperature range**
-20°C to +105°C
- **Nominal voltage** 600 V
- **Test voltage** 2000 V
- **Breakdown voltage** min. 4000 V
- **Minimum bending radius**
flexing approx. 15 x cable Ø
- **Coupling resistance**
max. 250 Ohm/km

Cable structure

- Tinned copper, fine wire conductors to ASTM-B 174, class J-K conductor make-up:
to 2,08 mm² = 41 x 0,254 mm
3,20 mm² = 65 x 0,254 mm
- Special PVC core insulation class 43 to UL-Std. 1581 table 50.182 (105°C)
- Colour coded to DIN 47100
- Cores stranded in layers with optimal lay-length
- Separator-foil
- Drain wire
- Tinned copper wire braiding, approx. 85% coverage
- Special PVC outer jacket class 43 to UL-Std. 1581 table 50.182 (105°C), colour
 - black
 - grey (preferred type for stock)
- PVC flame retardant according to UL VW-1

Application

This cable type is suitable for use as a flexible connector cable in the fields of electronics, control and command technology as well as for measuring, signal and impulse transfer. Quick and cost favourable connections through cutting and clamping technics.

Resistance

Conditionally resistant to

- Oil
- Solvents
- Acids
- Lye

*EMC = Electromagnetic compatibility

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

- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacqu

CE = The product is conformed with the EC Low-Voltage Directive 73/23/EEC and 93/68/EEC.

Part No.	No. strands	AWG-no.*)	Size mm ²	Outer Ø mm	Weight ca. kg / km
83350	2	14	2,08	8,4	180
83351	3	14	2,08	9,4	220
83352	4	14	2,08	10,1	270
83353	6	14	2,08	11,9	380
83354	10	14	2,08	15,7	600
83355	12	14	2,08	16,2	770
83356	16	14	2,08	17,9	870
83357	18	14	2,08	18,8	990
83358	24	14	2,08	22,6	1300
83359	27	14	2,08	23,3	1400
83360	30	14	2,08	24,1	1610

Part No.	No. strands	AWG-no.*)	Size mm ²	Outer Ø mm	Weight ca. kg / km
83362	2	12	3,2	9,9	200
83363	3	12	3,2	10,3	240
83364	4	12	3,2	11,2	300
83365	6	12	3,2	14,0	400
83366	10	12	3,2	17,6	580
83367	12	12	3,2	18,1	800
83368	16	12	3,2	20,0	900
83369	18	12	3,2	22,1	1000
83370	24	12	3,2	25,3	1300

For further UL-approved control cables see the following pages:

- HELUKABEL® JZ-602 page A 22-A 23
- HELUKABEL® JZ-602-CY page A 26-A 27

PVC cables will be changed to lead free PVC successively.

*) Note

AWG sizes are approximate equivalent values.
The actual cross-section is in mm² - see page T 15.



HELUKABEL AWM STYLE 2464 26 AWG / 0,14 QMM 14 C TP 80°C
300 V VW-1 LL 113926 CSA AWM VII A/B 80°C 300 V FT 1

Technical data

- Special PVC command cable, approved to UL-Style 2464, cores according, UL-Style 1061/1729
- **Temperature range**
flexing -10°C to +80°C
fixed installation -20°C to +80°C
- **Nominal voltage** 300 V
- **Test voltage** 1500 V
- **Breakdown voltage** min. 3000 V
- **Insulation resistance**
min. 100 MOhm x km
- **Minimum bending radius**
flexing approx. 15 x cable Ø

Cable structure

- Tinned copper, fine wire conductors to ASTM-B 174-95 class J-M conductor make-up:
to 0,14 mm² = 7x0,162 mm
0,22 mm² = 7x0,202 mm
0,34 mm² = 7x0,254 mm
0,56 mm² = 7x0,32 mm
- Special PVC core insulation class 43, semirigid to UL-Std. 1581 table 50.182 and 50.183
- Colour coded to DIN 47100 with colour repetition from pair no. 22 and above
- Cores stranded in pairs with optimal lay-length
- Pairs stranded in layers with optimal lay-length
- Separator-foil
- Special PVC outer jacket class 43 to UL-Std. 1581 table 50.182, colour
 - black
 - grey (preferred type for stock)
- PVC flame retardant according to UL VW-1

Application

Twisted pair control cable for use in tool making machinery conveyor system and production lines, in industrial plants and in air conditioning as well as in the steel producing industries.

Resistance

Conditionally resistant to

- Oil
- Solvents
- Acids
- Lye

- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

CE = The product is conformed with the EC Low-Voltage Directive 73/23/EEC and 93/68/EEC.

Part No.	No. pairs x cross-sec mm ²	AWG-no.*)	Outer Ø ca. mm	Weight ca. kg / km
83904	1 x 2 x 0,14	26	3,6	20
83905	2 x 2 x 0,14	26	5,1	24
83906	3 x 2 x 0,14	26	5,3	30
83907	4 x 2 x 0,14	26	5,8	38
83908	5 x 2 x 0,14	26	6,2	44
83909	6 x 2 x 0,14	26	6,8	51
83910	7 x 2 x 0,14	26	6,8	57
83911	8 x 2 x 0,14	26	7,3	64
83912	10 x 2 x 0,14	26	7,4	76
83913	12 x 2 x 0,14	26	9,1	93
83914	14 x 2 x 0,14	26	9,8	103
83915	15 x 2 x 0,14	26	10,6	109
83916	16 x 2 x 0,14	26	10,6	112
83917	18 x 2 x 0,14	26	11,1	119
83918	20 x 2 x 0,14	26	11,9	130
83919	22 x 2 x 0,14	26	12,4	150
83920	24 x 2 x 0,14	26	13,1	169
83921	25 x 2 x 0,14	26	13,4	178
83922	1 x 2 x 0,22	24	3,8	32
83923	2 x 2 x 0,22	24	5,4	36
83924	3 x 2 x 0,22	24	5,7	48
83925	4 x 2 x 0,22	24	6,2	56
83926	5 x 2 x 0,22	24	6,6	71
83927	6 x 2 x 0,22	24	7,2	80
83928	7 x 2 x 0,22	24	7,2	89
83929	8 x 2 x 0,22	24	7,8	98
83930	10 x 2 x 0,22	24	9,2	111
83931	12 x 2 x 0,22	24	9,7	135
83932	14 x 2 x 0,22	24	10,2	160
83933	15 x 2 x 0,22	24	10,9	171
83934	16 x 2 x 0,22	24	10,9	185
83935	18 x 2 x 0,22	24	11,5	209
83936	20 x 2 x 0,22	24	12,2	230
83937	22 x 2 x 0,22	24	13,0	248
83938	24 x 2 x 0,22	24	13,7	279
83939	25 x 2 x 0,22	24	14,2	292

Part No.	No. pairs x cross-sec mm ²	AWG-no.*)	Outer Ø ca. mm	Weight ca. kg / km
83940	1 x 2 x 0,34	22	4,2	38
83941	2 x 2 x 0,34	22	5,9	44
83942	3 x 2 x 0,34	22	6,3	60
83943	4 x 2 x 0,34	22	7,0	79
83944	5 x 2 x 0,34	22	7,6	92
83945	6 x 2 x 0,34	22	8,2	119
83946	7 x 2 x 0,34	22	8,2	128
83947	8 x 2 x 0,34	22	9,0	139
83948	10 x 2 x 0,34	22	10,7	171
83949	12 x 2 x 0,34	22	11,3	194
83950	14 x 2 x 0,34	22	12,1	222
83951	15 x 2 x 0,34	22	12,7	231
83952	16 x 2 x 0,34	22	12,7	240
83953	18 x 2 x 0,34	22	13,6	264
83954	20 x 2 x 0,34	22	14,4	291
83955	22 x 2 x 0,34	22	15,1	300
83956	24 x 2 x 0,34	22	16,2	359
83957	25 x 2 x 0,34	22	16,7	381
83958	1 x 2 x 0,56	20	4,6	60
83959	2 x 2 x 0,56	20	6,5	80
83960	3 x 2 x 0,56	20	7,1	94
83961	4 x 2 x 0,56	20	7,8	104
83962	5 x 2 x 0,56	20	8,6	130
83963	6 x 2 x 0,56	20	9,6	151
83964	7 x 2 x 0,56	20	9,6	174
83965	8 x 2 x 0,56	20	12,1	262
83966	10 x 2 x 0,56	20	12,5	298
83967	12 x 2 x 0,56	20	13,1	302
83968	14 x 2 x 0,56	20	13,8	327
83969	15 x 2 x 0,56	20	14,7	370
83970	16 x 2 x 0,56	20	14,7	402
83971	18 x 2 x 0,56	20	15,7	480
83972	20 x 2 x 0,56	20	16,7	551
83973	22 x 2 x 0,56	20	17,2	621
83974	24 x 2 x 0,56	20	18,6	703
83975	25 x 2 x 0,56	20	19,2	721

*) Note

AWG sizes are approximate equivalent values.
The actual cross-section is in mm² – see page T 15.

PVC cables will be changed to lead free PVC successively.
Further jacket colours available on request.

Command Cable UL (LiYCY-TP) approved, Style 2464/300 V (80°C), EMC*-preferred type, Cu-screened



Technical data

- Special PVC command cable, approved to UL-Style 2464, cores according, UL-Style 1061/1729
- **Temperature range**
flexing -10°C to +80°C
fixed installation -20°C to +80°C
- **Nominal voltage** 300 V
- **Test voltage** 1500 V
- **Breakdown voltage** min. 3000 V
- **Insulation resistance**
min. 100 MOhm x km
- **Minimum bending radius**
flexing approx. 20x cable Ø
- **Coupling resistance**
max. 250 Ohm/km
- Special PVC outer jacket class 43 to UL-Std. 1581 table 50.182, colour
 - black
 - grey (preferred type for stock)
- PVC flame retardant according to UL VW-1

Cable structure

- Tinned copper, fine wire conductors to ASTM-B 174-95 class J-M conductor make-up:
to 0,14 mm² = 7x0,162 mm
0,22 mm² = 7x0,202 mm
0,34 mm² = 7x0,254 mm
0,56 mm² = 7x0,32 mm
- Special PVC core insulation class 43, semirigid to UL-Std. 1581 table 50.182 and 50183
- Colour coded to DIN 47100 with colour repetition from pair no. 22 and above
- Cores stranded in pairs with optimal lay-length
- Pairs stranded in layers with optimal lay-length
- Separator-foil
- Drain wire
- Tinned copper wire braiding, approx. 85% coverage

Application

Twisted pair control cable for use in tool making machinery conveyor system and production lines, in industrial plants and in air conditioning as well as in the steel producing industries.

Resistance

Conditionally resistant to

- Oils
- Solvents
- Acids
- Lye

*EMC = Electromagnetic compatibility

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

- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

CE = The product is conformed with the EC Low-Voltage Directive 73/23/EEC and 93/68/EEC.

Part. No.	No. pairs x cross-sec mm ²	AWG-no.*)	Outer Ø ca. mm	Weight ca. kg / km
83774	1 x 2 x 0,14	26	4,0	32
83775	2 x 2 x 0,14	26	5,6	39
83776	3 x 2 x 0,14	26	5,8	47
83777	4 x 2 x 0,14	26	6,3	55
83778	5 x 2 x 0,14	26	6,7	68
83779	6 x 2 x 0,14	26	7,3	86
83780	7 x 2 x 0,14	26	7,3	92
83781	8 x 2 x 0,14	26	7,8	97
83782	10 x 2 x 0,14	26	9,1	111
83783	12 x 2 x 0,14	26	9,8	141
83784	14 x 2 x 0,14	26	10,5	150
83785	15 x 2 x 0,14	26	11,1	154
83786	16 x 2 x 0,14	26	11,1	155
83787	18 x 2 x 0,14	26	11,8	170
83788	20 x 2 x 0,14	26	12,4	183
83789	22 x 2 x 0,14	26	13,1	207
83790	24 x 2 x 0,14	26	13,6	228
83791	25 x 2 x 0,14	26	15,1	239
83792	1 x 2 x 0,22	24	4,2	46
83793	2 x 2 x 0,22	24	5,9	53
83794	3 x 2 x 0,22	24	6,2	65
83795	4 x 2 x 0,22	24	6,7	79
83796	5 x 2 x 0,22	24	7,2	98
83797	6 x 2 x 0,22	24	7,7	114
83798	7 x 2 x 0,22	24	7,7	121
83799	8 x 2 x 0,22	24	8,4	129
83800	10 x 2 x 0,22	24	9,9	152
83801	12 x 2 x 0,22	24	10,2	189
83802	14 x 2 x 0,22	24	10,9	213
83803	15 x 2 x 0,22	24	11,4	225
83804	16 x 2 x 0,22	24	11,4	227
83805	18 x 2 x 0,22	24	12,2	238
83806	20 x 2 x 0,22	24	12,7	270
83807	22 x 2 x 0,22	24	13,5	300
83808	24 x 2 x 0,22	24	14,5	321
83809	25 x 2 x 0,22	24	14,8	340

Part. No.	No. pairs x cross-sec mm ²	AWG-no.*)	Outer Ø ca. mm	Weight ca. kg / km
83810	1 x 2 x 0,34	22	4,6	58
83811	2 x 2 x 0,34	22	6,4	65
83812	3 x 2 x 0,34	22	6,9	78
83813	4 x 2 x 0,34	22	7,5	88
83814	5 x 2 x 0,34	22	8,1	110
83815	6 x 2 x 0,34	22	8,8	126
83816	7 x 2 x 0,34	22	8,8	140
83817	8 x 2 x 0,34	22	9,7	148
83818	10 x 2 x 0,34	22	11,5	184
83819	12 x 2 x 0,34	22	12,0	210
83820	14 x 2 x 0,34	22	12,6	241
83821	15 x 2 x 0,34	22	13,4	245
83822	16 x 2 x 0,34	22	13,4	251
83823	18 x 2 x 0,34	22	14,4	275
83824	20 x 2 x 0,34	22	15,0	300
83825	22 x 2 x 0,34	22	15,9	320
83826	24 x 2 x 0,34	22	17,0	371
83827	25 x 2 x 0,34	22	17,3	402
83828	1 x 2 x 0,56	20	5,0	70
83829	2 x 2 x 0,56	20	7,0	89
83830	3 x 2 x 0,56	20	7,6	102
83831	4 x 2 x 0,56	20	8,3	119
83832	5 x 2 x 0,56	20	9,1	140
83833	6 x 2 x 0,56	20	10,1	162
83834	7 x 2 x 0,56	20	10,1	198
83835	8 x 2 x 0,56	20	12,7	272
83836	10 x 2 x 0,56	20	13,2	307
83837	12 x 2 x 0,56	20	13,6	318
83838	14 x 2 x 0,56	20	14,4	342
83839	15 x 2 x 0,56	20	15,5	381
83840	16 x 2 x 0,56	20	15,5	417
83841	18 x 2 x 0,56	20	16,3	494
83842	20 x 2 x 0,56	20	17,1	570
83843	22 x 2 x 0,56	20	18,0	643
83844	24 x 2 x 0,56	20	19,4	724
83845	25 x 2 x 0,56	20	19,8	740

*) Note

AWG sizes are approximate equivalent values.
The actual cross-section is in mm² - see page T 15.

PVC cables will be changed to lead free PVC successively.
Further jacket colours available on request.

Rubber/Neoprene Control Cable

UL-CSA approved; Types SJO and SO



Technical data

- UL+CSA approved rubber/neoprene flexible cables
- **Temperature range**
SJO and SO –40°C to +90°C
- **Nominal voltage 300 volt for SJO**
- **Nominal voltage 600 volt for SO**
- Approvals
UL Subject 62
CSA-C22.2-49

Cable structure

- Plain copper conductors to ASTM B-174
- Core insulation of synthetic rubber, EPDM
- Cores colour coded
- Cores stranded in layers with optimal lay-length
- Hemp or cotton tape
- Outer jacket neoprene (oil resistant)
- Jacket colour black

Colour code

- 2 cores = black, white
- 3 cores = black, white, green
- 4 cores = black, white, green, red

Application

For use as a feeder cable under rough conditions in motors and machine construction, at shipyards, in steel production and in farming.
Supply lengths are on original reels of 76 m or 152 m or on drums of 305 m lengths.

Resistant

- Oil
- Wetness
- UV-radiation

CE = The product is conformed with the EC Low-Voltage Directive 73/23/EEC and 93/68/EEC.

Nominal voltage 300 volt, type SJO (90°C)

Part No. type SJO	Neoprene sheath type SJO	AWG no.)* + Cores	Rating A	Stranding	Outer Ø ca.mm	Weight ca.kg / km
63010	SJO-18/2	18/2	7	16 x 0,3	7,8	65
63011	SJO-18/3	18/3	7	16 x 0,3	8,4	80
63012	SJO-18/4	18/4	7	16 x 0,3	9,2	95
63013	SJO-16/2	16/2	10	26 x 0,3	8,3	130
63014	SJO-16/3	16/3	10	26 x 0,3	9,0	148
63015	SJO-16/4	16/4	10	26 x 0,3	10,0	180
63016	SJO-14/2	14/2	15	41 x 0,3	9,4	195
63017	SJO-14/3	14/3	15	41 x 0,3	10,0	225
63018	SJO-14/4	14/4	15	41 x 0,3	10,7	288

Nominal voltage 600 volt, type SO (90°C)

Part No. type SO	Neoprene sheath type SO	AWG no.)* + Cores	Rating A	Stranding n x AWG	Outer Ø ca.mm	Weight ca.kg / km
63034	SO-18/2	18/2	7	16 x 0,3	10,0	70
63035	SO-18/3	18/3	7	16 x 0,3	10,4	86
63036	SO-18/4	18/4	7	16 x 0,3	11,0	110
63037	SO-16/2	16/2	10	26 x 0,3	10,4	140
63038	SO-16/3	16/3	10	26 x 0,3	11,0	155
63039	SO-16/4	16/4	10	26 x 0,3	12,3	200
63040	SO-14/2	14/2	15	41 x 0,3	13,5	200
63041	SO-14/3	14/3	15	41 x 0,3	14,3	235
63042	SO-14/4	14/4	15	41 x 0,3	15,3	300
63043	SO-12/2	12/2	20	65 x 0,3	15,3	280
63044	SO-12/3	12/3	20	65 x 0,3	16,2	310
63045	SO-12/4	12/4	20	65 x 0,3	18,9	330
63046	SO-10/2	10/2	25	105 x 0,3	16,4	305
63047	SO-10/3	10/3	25	105 x 0,3	17,5	325
63048	SO-10/4	10/4	25	105 x 0,3	19,0	365

*) Note

AWG sizes are approximate equivalent values.
The actual cross-section is in mm² – see page T 15.

Further types also available: PVC control cables SJT, SJTO, ST, STO.

Example: SJO-18/2

AWG 18 No. of cores

Further dimensions and versions available on request.



Technical data

- PVC-Single Cores
- As per Italian standard CEI 20-22 II
- **Temperature range**
 - flexing - 5°C to +80°C
 - fixed installation -30°C to +80°C
- **Nominal voltage**
 - U₀/U 450/750 V = 1 mm² and above
 - U₀/U 300/500 V = 0,5 and 0,75 mm²
 - U₀/U 300/300 V = 0,35 mm²
- **Test voltage** 2500 V
- **Minimum bending radius**
 - 4-6 x cable Ø

Cable structure

- Bare fine wire stranded copper conductor to CEI 20-29 cl. 5
- PVC-core insulation R 2 up to CEI 20 II, cap. VI cl. 3
- Low smoke
- PVC self-extinguishing and flame retardant
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Application

As hook up wire, control cabinet building, in cable assembly manufacturing as well as in electronic applications.

Resistant to

- Oil
- Solvents
- Acids
- Lyes

CE = The product is conformed with the EC Low-Voltage Directive 73/23/EEC and 93/68/EEC.

Type cross-sec.	Cop. weight kg / km	Outer Ø ca. mm	Weight ca. kg / km	Colour (per RAL)							
				black	gn/ye	blue	brown	red	white	dk.blue	other colours
05 V-K											
Part No. 0,35 mm ²	2,5	1,5	3,6	29600	29601	29602	29603	29604	29605	29606	29607
Part No. 0,50 mm ²	4,8	2,6	6,0	29608	29609	29610	29611	29612	29613	29614	29615
Part No. 0,75 mm ²	7,2	2,8	10,0	29616	29617	29618	29619	29620	29621	29622	29623
07 V-K											
Part No. 1,0 mm ²	9,6	3,2	16,0	29624	29625	29626	29627	29628	29629	29630	29631
Part No. 1,5 mm ²	14,4	3,5	21,0	29632	29633	29634	29635	29636	29637	29638	29639
Part No. 2,5 mm ²	24,0	4,2	32,0	29640	29641	29642	29643	29644	29645	29646	29647
Part No. 4,0 mm ²	38,0	4,6	48,0	29648	29649	29650	29651	29652	29653	29654	29655
Part No. 6,0 mm ²	58,0	6,3	69,0	29656	29657	29658	29659	29660	29661	29662	29663
Part No. 10,0 mm ²	96,0	7,6	117,0	29664	29665	29666	29667	29668	29669	29670	29671
Part No. 16,0 mm ²	154,0	8,8	180,0	29672	29673	29674	29675	29676	29677	29678	29679
Part No. 25,0 mm ²	240,0	11,0	266,0	29680	29681	29682	29683	29684	29685	29686	29687
Part No. 35,0 mm ²	336,0	12,5	366,0	29688	29689	29690	29691	29692	29693	29694	29695
Part No. 50,0 mm ²	480,0	14,5	515,0	29696	29697	29698	29699	29700	29701	29702	29703
Part No. 70,0 mm ²	672,0	16,5	741,0	29704	29705	29706	29707	29708	29709	29710	29711
Part No. 95,0 mm ²	912,0	18,5	950,0	29712	29713	29714	29715	29716	29717	29718	29719
Part No. 120,0 mm ²	1152,0	21,0	1230,0	29720	29721	29722	29723	29724	29725	29726	29727
Part No. 150,0 mm ²	1440,0	23,0	1500,0	29728	29729	29730	29731	29732	29733	29734	29735

*) Note

AWG equivalent values - see page T 15.

PVC cables will be changed to lead free PVC successively.

Further dimensions and versions on request.

For further single cores see the following pages:

- for PVC, see pages D1-D10.
- for PUR, see page G 34.
- for rubber, see pages G 33, O15.
- halogen-free, see pages G 23-G 24, E 5, E 15-E 16, E 24-E 26.
- heat-resistant, see pages E 5-E 6, E 10-E 11, E 13-E 16, E 21, E 23-E 25.
- vehicle cables, see pages K1-K4.



Works photo: HELUKABEL®



CEI 20-22 II FROR 450/750 V 4 G 2,5 MM2

CE

Technical data

- Special PVC-sheathed flexible cord
- As per Italian standard CEI 20-22 II
- **Temperature range**
 - flexing - 5°C to +70°C
 - fixed installation -35°C to +70°C
- **Nominal voltage**
 - U₀/U 300/500 V = 1 mm²
 - U₀/U 450/750 V 1,5 mm² and above
- **Test voltage** 2000 V
- **Insulation resistance** min. 20 MOhm x km
- **Radiation resistance** up to 80 x 10⁶ cJ/kg (80 Mrad)
- **Minimum bending radius** approx. 10 x cable Ø
- PVC self-extinguishing and flame retardant, test methods analog to IEC 60332-3
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Cable structure

- Bare copper conductor, fine wire stranded to CEI 20-29 cl. 5
- Special PVC compound Mi R 2
- Colour coded up and to 4 cores to HELUKABEL-JB colour code see page T 48
- As of 5 cores black with continuous white number printing
- Green-yellow earth core
- Cores stranded in layers with optimal lay-length
- Special PVC outer sheath
- Sheath colour grey, similar to RAL 7035, with printing CEI 20-22 II
- Oil- and petrol resistant as per CEI 20-22 II

Application

Well known companies (FIAT, COMAU, etc.) use this cable for measurement and control purposes on machine tools and conveyors, as well as on production lines in equipment production and for special mechanical engineering. These cables are used for flexible use for medium mechanical stresses with free movement without tensile stress or forced movements in dry, moist and wet rooms but not suitable for open air. Due to special conductor insulation- and sheath compound, this cable is flame resistant in case of fire and self-extinguishing. The good oil- and petrol resistance allows the usage of this cable also in "problem" areas.

CE = The product is conformed with the EC Low-Voltage Directive 73/23/EEC and 93/68/EEC.

Part No.	No. cores x cross-sec. mm ²	Outer Ø ca. mm	Cop. weight kg / km	Weight ca. kg / km	AWG-no.*)
60250	3G1	8,5	29	85	17
60251	4G1	9,5	39	100	17
60252	5G1	10,5	48	123	17
60253	7G1	10,8	67	160	17
60254	12G1	13,8	115	270	17
60255	18G1	16,5	173	380	17
60256	25G1	19,5	240	500	17
60284	27G1	20,0	259	560	17
60285	33G1	20,8	317	700	17
60257	34G1	21,0	326	720	17
60258	42G1	23,3	405	800	17
60259	50G1	25,0	480	1050	17
60260	3G1,5	9,6	43	105	16
60261	4G1,5	11,0	58	150	16
60262	5G1,5	12,0	72	190	16
60263	7G1,5	12,5	101	220	16
60264	12G1,5	16,0	173	350	16
60265	18G1,5	18,8	259	515	16
60266	25G1,5	23,0	360	705	16
60267	34G1,5	26,0	490	990	16
60286	37G1,5	26,5	533	1005	16
60268	42G1,5	29,5	605	1080	16
60269	50G1,5	30,5	720	1330	16

Part No.	No. cores x cross-sec. mm ²	Outer Ø ca. mm	Cop. weight kg / km	Weight ca. kg / km	AWG-no.*)
60287	3G2,5	11,3	72	190	14
60270	4G2,5	12,3	96	215	14
60271	5G2,5	12,6	120	270	14
60272	7G2,5	14,5	168	350	14
60273	12G2,5	18,0	288	550	14
60274	4G4	14,0	154	300	12
60275	7G4	16,0	269	500	12
60276	4G6	16,0	230	430	10
60277	4G10	19,0	384	700	8
60278	4G16	23,0	614	1000	6
60279	4G25	28,0	960	1550	4
60280	4G35	31,0	1344	2070	2
60281	4G50	37,0	1920	2850	1
60282	4G70	43,0	2688	4000	2/0
60283	4G95	50,0	3648	5400	3/0

G = with green-yellow earth core
X = without green-yellow earth core (ØZ)

*) Note

AWG sizes are approximate equivalent values.
The actual cross-section is in mm² - see page T 15.

Further sizes available on request. Also available in screened version.

PVC cables will be changed to lead free PVC successively.



C.N.O.M.O. FN 05 VV5-F

CE

Technical data

- Special PVC based core insulation
- As per to the french motor industry standard for tool machines 04-24-22
- **Temperature range**
flexing - 5°C to +80°C
fixed installation -30°C to +80°C
- **Nominal voltage** 500 V
- **Test voltage** 2000 V
- **Insulation resistance**
min. 20 MOhm x km
- **Radiation resistance**
up to 80 x 10⁶ cJ/kg (80 Mrad)
- **Minimum bending radius** 15 x cable Ø
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Cable structure

- Plain copper conductors
- Special core insulation
- Cores laid up
- Cores available in either red or black with white figure imprint
- Green-yellow earth core
- PVC outer jacket in blue or grey
- PVC self-extinguishing and flame retardant, text method B and IEC 60332-1

Application

These cables are constructed specially for the french automobile industries and used for the installation in tool making machines, production lines, industrial plants, air conditioning as well as for use in steel production. These cables are used for flexible use for medium mechanical stresses with free movement without tensile stress or forced movements in dry, moist and wet rooms but not suitable for open air.

Resistant to

- Oil
- Petrol
- Cutting oil according to C.N.O.M.O recommendation E 03.40.150N

CE = The product is conformed with the EC Low-Voltage Directive 73/23/EEC and 93/68/EEC.

Part No.	No. cores x cross-sec. mm ²	Outer Ø ca. mm	Cop. weight kg / km	Weight ca. kg / km	AWG-no.†)
60000 OZ	2x0,75	6,2	14,4	50	18
60001	3G0,75	6,6	21,6	59	18
60002	4G0,75	7,2	29,0	72	18
60003	5G0,75	8,0	36,0	87	18
60004	6G0,75	8,9	50,0	105	18
60005	12G0,75	11,6	86,0	175	18
60006	18G0,75	13,9	144,0	267	18
60007	27G0,75	17,2	230,0	404	18
60008	36G0,75	19,7	288,0	503	18
60009	48G0,75	22,8	360,0	670	18
60010	60G0,75	24,9	439,0	805	18
60011 OZ	2x1	6,5	19,0	56	17
60012	3G1	6,9	29,0	72	17
60013	4G1	7,7	38,0	84	17
60014	5G1	8,5	48,0	104	17
60015	6G1	9,2	67,0	124	17
60016	12G1	12,4	115,0	219	17
60017	18G1	15,2	192,0	314	17
60018	27G1	18,7	308,0	485	17
60019	36G1	21,1	384,0	620	17
60020	48G1	24,3	480,0	809	17
60021	60G1	26,4	586,0	1000	17

Part No.	No. cores x cross-sec. mm ²	Outer Ø ca. mm	Cop. weight kg / km	Weight ca. kg / km	AWG-no.†)
60022 OZ	2x1,5	7,5	29,0	76	16
60023	3G1,5	8,1	43,0	94	16
60024	4G1,5	9,1	58,0	116	16
60025	5G1,5	10,1	72,0	143	16
60026	6G1,5	11,0	101,0	173	16
60027	12G1,5	15,1	173,0	307	16
60028	18G1,5	17,9	263,0	464	16
60029	24G1,5	21,0	341,0	629	16
60030	27G1,5	21,8	372,0	708	16
60031	36G1,5	24,5	498,0	985	16
60032	48G1,5	28,4	641,0	1175	16
60033	60G1,5	31,3	878,0	1415	16
60034 OZ	2x2,5	10,5	48,0	122	14
60035	3G2,5	11,0	72,0	151	14
60036	4G2,5	12,0	96,0	191	14
60037	5G2,5	13,1	120,0	244	14
60038	6G2,5	15,0	168,0	292	14
60039	12G2,5	18,0	288,0	524	14
60040 OZ	2x4	10,4	77,0	178	12
60041	3G4	11,3	115,0	230	12
60042	4G4	12,8	154,0	300	12
60043	5G4	14,2	192,0	362	12
60044 OZ	2x6	11,6	115,0	218	10
60045	3G6	12,7	173,0	325	10
60046	4G6	14,2	230,0	481	10
60047	5G6	15,7	288,0	584	10
60048 OZ	2x10	15,0	194,0	505	8
60049	3G10	16,6	288,0	610	8
60050	4C10	18,4	384,0	736	8
60051	5C10	20,9	480,0	913	8

G = with green-yellow earth core
X = without green-yellow earth core (OZ)

*†) Note

AWG sizes are approximate equivalent values.
The actual cross-section is in mm² – see page T 15.

Further types and sizes available on request.

OZ = Version without earth core.

PVC cables will be changed to lead free PVC successively.

HELUKABEL® JZ-604 TC TRAY CABLE

PVC-Power Cable, UL/cUL-approved 90°C 600 V



Technical data

- PVC power cable to UL-standard 1277 TRAY CABLE
- **Multinorm**
The TRAY CABLE also conforms to the following standards:
(UL) MTW to UL-Std. 1063
 AWM-Style 2587 to UL-Std. 758 (cUL) and CSA type TC FT4 to C22.2 no 230
CSA C22.2 No 210.2 I/II A/B 90°C 600 V FT4
- **Temperature range**
dry environment
flexing - 5°C to +90°C
fixed installation -25°C to +90°C
wet environment
flexing - 5°C to +75°C
fixed installation -25°C to +75°C
- **Nominal voltage**
to UL 600 V
- **Test voltage** 3000 V
- **Breakdown voltage** min. 6000 V
- **Insulation resistance**
min. 20 MOhm x km
- **Minimum bending radius**
7,5 x cable Ø
- **Radiation resistance**
up to 80 x 10⁶ cJ/kg (up to 80 Mrad)

Cable structure

- Bare copper, fine wire conductors, according to DIN VDE 0295 cl. 5, BS 6360 cl. 5 and IEC 60228 cl. 5
- Special PVC core insulation class 12 B to table 50.155 UL-standard 1581, type TFF to UL-Std. 62 table 6.2 (AWG 20-AWG 16), type THHW to UL-Std. 83 table 5.2 (≥ AWG 14)
- Black cores with continuous white numbering according to DIN VDE 0293
- Green-yellow earth core in the outer layer (3 cores and above)
- Cores stranded in layers with optimal lay-length
- Special PVC outer sheath, Y 2400 to UL-Std.1277 table 11.18
Sheath colour black (RAL 9005)
- Material self-extinguishing and flame retardant to UL-Standard 1277

Application

UL-approved, flexible high current cables for use up to 600 V, for all machines, tools and installation work. Suitable for use in dry, damp and wet areas, outside, in cable ducts, open cable trays. Also in pipes, in the ground and for open installation in machinery and industrial areas.

- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers.

CE = The product is conformed with the EC Low-Voltage Directive 73/23/EEC and 93/68/EEC.

Part No.	No. cores x cross-sec. mm ²	AWG-no. *)	Outer Ø ca. mm	Cop. weight kg / km	Weight ca. kg / km
69661	2x1	18	8,0	19,2	74
69662	3G1	18	8,4	29	87
69663	4G1	18	9,1	39	99
69664	5G1	18	10,0	48	117
69665	7G1	18	11,7	67	151
69666	9G1	18	12,6	84	172
69667	10G1	18	14,3	96	206
69668	12G1	18	14,7	115	260
69669	18G1	18	17,1	173	371
69670	25G1	18	20,3	240	481
69671	34G1	18	23,7	326	551
69672	50G1	18	26,1	480	959
69673	2x1,5	16	8,4	28,8	91
69674	3G1,5	16	8,8	43	105
69675	4G1,5	16	9,6	58	122
69676	5G1,5	16	10,5	72	147
69677	7G1,5	16	12,3	101	192
69678	8G1,5	16	13,3	115	213
69679	9G1,5	16	13,5	130	261
69680	10G1,5	16	15,1	144	294
69681	12G1,5	16	15,6	173	331
69682	16G1,5	16	17,1	230	402
69683	18G1,5	16	18,2	259	430
69684	25G1,5	16	22,7	360	597
69685	34G1,5	16	25,3	489	714
69686	41G1,5	16	26,7	590	803
69687	50G1,5	16	27,3	720	1021
69688	61G1,5	16	29,4	878	1238

Part No.	No. cores x cross-sec. mm ²	AWG-no. *)	Outer Ø ca. mm	Cop. weight kg / km	Weight ca. kg / km
69689	2x2,5	14	9,4	48	111
69690	3G2,5	14	9,9	72	140
69691	4G2,5	14	10,8	96	161
69692	5G2,5	14	11,8	120	194
69693	7G2,5	14	14,7	168	257
69694	8G2,5	14	16,0	192	339
69695	9G2,5	14	16,0	216	341
69696	10G2,5	14	17,1	240	392
69697	12G2,5	14	17,7	288	470
69698	18G2,5	14	20,8	432	682
69699	25G2,5	14	25,8	600	891
69700	3G4	12	11,0	115	190
69701	4G4	12	12,0	154	229
69702	5G4	12	13,2	192	284
69703	7G4	12	16,5	269	394
69704	9G4	12	17,8	346	480
69705	12G4	12	19,9	461	841
69706	18G4	12	24,2	691	981
69707	3G6	10	12,5	173	290
69708	4G6	10	14,5	230	384
69709	5G6	10	15,8	288	468
69710	7G6	10	17,3	403	654
69711	3G10	8	16,9	288	511
69712	4G10	8	18,6	384	587
69713	5G10	8	20,4	480	784
69714	7G10	8	23,5	672	970

Continuation ▶

*) Note

AWG sizes are approximate equivalent values.
The actual cross-section is in mm² – see page T 15.

G = with green-yellow earth core
X = without green-yellow earth core (OZ)

PVC cables will be changed to lead free PVC successively.

HELUKABEL® JZ-604 TC TRAY CABLE

PVC-Power Cable, UL/cUL-probiert 90°C 600 V



CE = The product is conformed with the EC Low-Voltage Directive 73/23/EEC and 93/68/EEC.

Part No.	No. cores x cross-sec. mm ²	AWG-no.¹)	Outer ∅ ca. mm	Cop. weight kg / km	Weight ca. kg / km
69715	3G16	6	21,0	461	651
69716	4G16	6	23,9	614	869
69717	5G16	6	26,3	768	1117
69718	7G16	6	28,8	1075	1364
69719	3G25	4	24,9	720	1090
69720	4G25	4	27,2	960	1421
69721	5G25	4	30,3	1200	1611
69722	7G25	4	33,1	1680	1943
69723	3G35	2	27,1	1008	1734
69724	4G35	2	29,8	1344	2011
69725	5G35	2	33,0	1680	2347

Part No.	No. cores x cross-sec. mm ²	AWG-no.¹)	Outer ∅ ca. mm	Cop. weight kg / km	Weight ca. kg / km
69726	3G50	1	33,2	1440	2041
69727	4G50	1	36,7	1920	2539
69728	5G50	1	41,5	2400	2894
69729	3G70	2/0	37,6	2016	2831
69730	4G70	2/0	42,0	2688	3494
69731	5G70	2/0	47,6	3360	4260
69732	3G95	3/0	41,8	2736	5010
69733	4G95	3/0	47,0	3648	6104
69734	5G95	3/0	52,5	4560	7891
69735	3G120	4/0	46,0	3456	5940
69736	4G120	4/0	51,5	4608	7604
69737	5G120	4/0	56,5	5760	8751

F

¹) Note

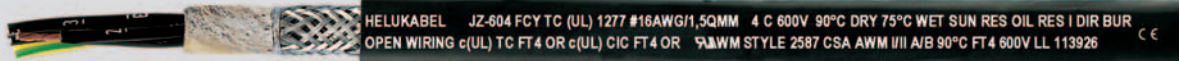
AWG sizes are approximate equivalent values.
The actual cross-section is in mm² – see page T 15.

G = with green-yellow earth core
X = without green-yellow earth core (OZ)

PVC cables will be changed to lead free PVC successively.

HELUKABEL® JZ-604-FCY TC TRAY CABLE

PVC Power Cable screened, UL/cUL approved, 90°C 600 V, EMC* preferred type



Technical data

- PVC power cable, screened to UL-standard 1277 TRAY CABLE
- **Multinorm**
The TRAY-CABLE also conforms to the following standards:
(UL) MTW to UL-Std. 1063
AWM-Style 2587 to UL-Std. 758 (cUL) and CSA type TC FT4 to C22.2 no 230, CSA C22.2 No 210.2 I/II A/B 90°C 600 V FT4
- **Temperature range**
dry environment
flexing - 5°C to +90°C
fixed installation -25°C to +90°C
wet environment
flexing - 5°C to +75°C
fixed installation -25°C to +75°C
- **Nominal voltage**
to UL 600 V
- **Test voltage** 3000 V
- **Breakdown voltage** min. 6000 V
- **Insulation resistance**
min. 20 MOhm x km
- **Minimum bending radius**
10 x cable Ø
- **Radiation resistance**
up to 80 x 10⁶ cJ/kg (up to 80 Mrad)
- **Coupling resistance**
max. 250 Ohm/km

Cable structure

- Bare copper, fine wire conductors, according to DIN VDE 0295 cl. 5, BS 6360 cl. 5 and IEC 60228 cl. 5
- Spezial PVC core insulation class 12 B to table 50.155 UL-standard 1581, type TFF to UL-Std. 62
table 6.2 (AWG 20-AWG 16), type THHW to UL-Std. 83
table 5.2 (≥ AWG 14)
- Black cores with continuous white numbering according to DIN VDE 0293
- Green-yellow earth core in the outer layer (3 cores and above)
- Cores stranded in layers with optimal lay-length
- Special separation foil
- Tinned copper braided screening, approx. 85% coverage
- Special PVC outer sheath, Y 2400 to UL-Std. 1277 table 11.18,
- Sheath colour black (RAL 9005)
- Material self-extinguishing and flame retardant to UL-Standard 1277

Application

UL-approved, flexible high current cables for use up to 600 V, for all machines, tools and installation work. Suitable for use in dry, damp and wet areas, outside, in cable ducts, open cable trays. Also in pipes, in the ground and for open installation in machinery and industrial areas.

*EMC = Electromagnetic compatibility
Note To optimise the EMC features we recommend a large round contact of the copper braiding on both ends.

- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers.

CE = The product is conformed with the EC Low-Voltage Directive 73/23/EEC and 93/68/EEC.

Part No.	No. cores x cross-sec. mm ²	AWG-no. *)	Outer Ø ca. mm	Cop. weight kg / km	Weight ca. kg / km
69750	2 x 1	18	8,6	51,2	151
69751	3 G 1	18	9,0	76,4	164
69752	4 G 1	18	9,7	102,9	200
69753	5 G 1	18	10,5	126,4	229
69754	7 G 1	18	12,2	204,8	306
69755	9 G 1	18	13,2	269,8	371
69756	10 G 1	18	15,0	304,7	411
69757	12 G 1	18	15,4	331,1	460
69758	18 G 1	18	17,8	494,7	624
69759	25 G 1	18	21,1	642,1	845
69760	34 G 1	18	24,5	807,6	984
69761	50 G 1	18	26,2	892,1	1096
69762	2 x 1,5	16	9,0	78,3	161
69763	3 G 1,5	16	9,4	114,2	181
69764	4 G 1,5	16	10,2	152,1	240
69765	5 G 1,5	16	11,1	189,2	274
69766	7 G 1,5	16	12,9	279,4	367
69767	8 G 1,5	16	14,5	308,6	431
69768	9 G 1,5	16	14,5	326,8	437
69769	10 G 1,5	16	15,8	401,6	511
69770	12 G 1,5	16	16,2	491,7	598
69771	16 G 1,5	16	17,9	526,1	630
69772	18 G 1,5	16	18,9	749,1	787
69773	25 G 1,5	16	22,3	1011,4	1240
69774	34 G 1,5	16	24,9	1214,7	1401
69775	41 G 1,5	16	26,7	2060,6	2671
69776	50 G 1,5	16	33,7	3040,8	3614
69777	61 G 1,5	16	36,0	3416,1	4089

Part No.	No. cores x cross-sec. mm ²	AWG-no. *)	Outer Ø ca. mm	Cop. weight kg / km	Weight ca. kg / km
69778	2 x 2,5	14	10,0	128,4	269
69779	3 G 2,5	14	10,5	189,5	294
69780	4 G 2,5	14	11,4	250,1	341
69781	5 G 2,5	14	12,4	314,2	420
69782	7 G 2,5	14	15,3	464,3	551
69783	8 G 2,5	14	16,5	490,9	583
69784	9 G 2,5	14	16,5	498,6	593
69785	10 G 2,5	14	17,9	511,6	631
69786	12 G 2,5	14	18,4	764,1	847
69787	18 G 2,5	14	22,4	1120,4	1336
69788	25 G 2,5	14	26,5	1714,0	1921
69789	3 G 4	12	11,6	304,2	381
69790	4 G 4	12	12,6	402,7	504
69791	5 G 4	12	14,5	514,2	692
69792	7 G 4	12	17,1	721,2	908
69793	9 G 4	12	18,4	849,3	1104
69794	12 G 4	12	20,5	1211,8	1497
69795	18 G 4	12	25,0	1714,9	2104
69796	3 G 6	10	13,8	457,2	623
69797	4 G 6	10	15,1	608,6	729
69798	5 G 6	10	16,4	763,9	1082
69799	7 G 6	10	18,0	1002,8	1414
69800	3 G 10	8	17,6	796,7	1108
69801	4 G 10	8	19,3	1029,6	1324
69802	5 G 10	8	22,1	1273,8	1596
69803	7 G 10	8	24,2	1696,2	2186

Continuation ▶

*) Note

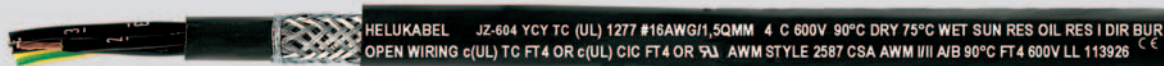
AWG sizes are approximate equivalent values.
The actual cross-section is in mm² – see page T 15.

G = with green-yellow earth core
X = without green-yellow earth core (OZ)

PVC cables will be changed to lead free PVC successively.

HELUKABEL® JZ-604-YCY TC TRAY CABLE

PVC Power Cable screened, UL/cUL approved, 90°C 600 V, EMC* preferred type



Technical data

- PVC power cable, screened to UL-standard 1277 TRAY CABLE
- **Multinorm**
The TRAY-CABLE also conforms to the following standards:
(UL) MTW to UL-Std. 1063
AWM AWM-Style 2587 to UL-Std. 758 (cUL) and CSA type TC FT4 to C22.2 no 230, CSA C22.2 No 210.2 I/II A/B 90°C 600 V FT4
- **Temperature range**
dry environment
flexing - 5°C to +90°C
fixed installation -25°C to +90°C
wet environment
flexing - 5°C to +75°C
fixed installation -25°C to +75°C
- **Nominal voltage**
to UL 600 V
- **Test voltage** 3000 V
- **Breakdown voltage** min. 6000 V
- **Insulation resistance**
min. 20 MOhm x km
- **Minimum bending radius**
10 x cable Ø
- **Radiation resistance**
up to 80 x 10⁶ cJ/kg (up to 80 Mrad)
- **Coupling resistance**
max. 250 Ohm/km

Cable structure

- Bare copper, fine wire conductors, according to DIN VDE 0295 cl. 5, BS 6360 cl. 5 and IEC 60228 cl. 5
- Spezial PVC core insulation class 12 B to table 50.155 UL-standard 1581, type TFF to UL-Std. 62
table 6.2 (AWG 20-AWG 16), type THHW to UL-Std. 83
table 5.2 (≥ AWG 14)
- Black cores with continuous white numbering according to DIN VDE 0293
- Green-yellow earth core in the outer layer (3 cores and above)
- Cores stranded in layers with optimal lay-length
- PVC-inner sheath, Y 2400 to UL-Std. 1277 table 11.181
- Tinned copper braided screening, approx. 85% coverage
- Special PVC outer sheath, Y 2400 to UL-Std. 1277 table 11.18,
- Sheath colour black (RAL 9005)
- Material self-extinguishing and flame retardant to UL-Standard 1277

Application

UL-approved, flexible high current cables for use up to 600 V, for all machines, tools and installation work. Suitable for use in dry, damp and wet areas, outside, in cable ducts, open cable trays. Also in pipes, in the ground and for open installation in machinery and industrial areas.

***EMC** = Electromagnetic compatibility
Note To optimise the EMC features we recommend a large round contact of the copper braiding on both ends.

- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers.

CE = The product is conformed with the EC Low-Voltage Directive 73/23/EEC and 93/68/EEC.

Part No.	No. cores x cross-sec. mm ²	AWG-no. *)	Outer Ø ca. mm	Cop. weight kg / km	Weight ca. kg / km
69804	3G16	6	25,2	1245,1	1385
69805	4G16	6	27,8	1655,2	1861
69806	5G16	6	31,2	2063,6	2614
69807	7G16	6	34,5	2886,5	3211
69808	3G25	4	29,0	1932,0	2455
69809	4G25	4	32,4	2561,1	2721
69810	5G25	4	34,2	3140,2	3490
69811	7G25	4	40,3	4481,7	4960
69812	3G35	2	32,4	2504,7	3130
69813	4G35	2	36,2	3320,8	4100
69814	5G35	2	40,5	4180,8	4921

Part No.	No. cores x cross-sec. mm ²	AWG-no. *)	Outer Ø ca. mm	Cop. weight kg / km	Weight ca. kg / km
69815	3G50	1	40,4	3520,1	4560
69816	4G50	1	45,5	4821,7	5761
69817	5G50	1	50,0	5820,8	7186
69818	3G70	2/0	47,1	5020,1	5580
69819	4G70	2/0	51,1	6620,3	7387
69820	5G70	2/0	56,0	8420,4	9290
69821	3G95	3/0	50,1	6724,3	8520
69822	4G95	3/0	55,0	9100,0	10200
69823	5G95	3/0	60,5	10940,1	13800
69824	3G120	4/0	54,0	8620,7	11090
69825	4G120	4/0	59,5	11420,0	13620
69826	5G120	4/0	64,5	12940,4	15420

*) Note

AWG sizes are approximate equivalent values.
The actual cross-section is in mm² – see page T 15.

G = with green-yellow earth core
X = without green-yellow earth core (OZ)

PVC cables will be changed to lead free PVC successively.