



HELUKABEL®

HELUKABEL – YOUR ONE-STOP SOLUTION PROVIDER



WK POWERLINE

Cables with flexible aluminium stranded wire – the solution for many industries

HELUWIND®

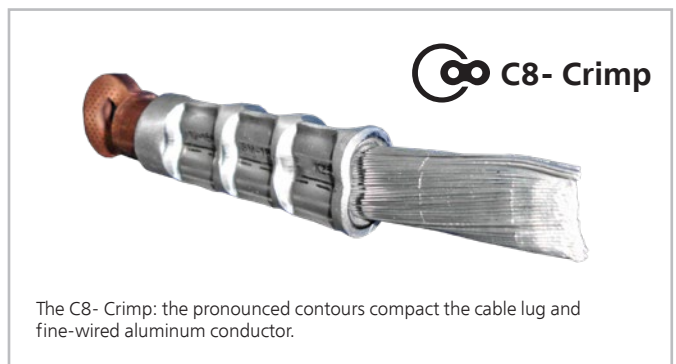
WK POWERLINE ALU

■ ALUMINIUM AS CONDUCTOR MATERIAL: a lighter weight and more cost-effective alternative

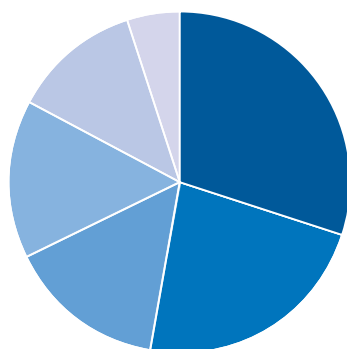
Copper or aluminium? Choosing conductive metals for different industries and applications can be a challenge. Copper has become the standard in cables and wires because of its excellent conductivity and malleability. However, it is relatively heavy and expensive compared to aluminium. Switching to aluminium, which is lighter and significantly less costly than copper, is a viable option in many cases. Using aluminium successfully is a matter of understanding the capabilities of this conductive metal and how to deal with the challenges it presents.

Copper is currently priced at 5,520 EUR per ton, which is more than twice as expensive as aluminium, priced at 2,030 EUR per ton (as of Feb. '19). This significant difference in price is due to the greater availability of raw aluminium compared to copper. After oxygen and silicon, aluminium is the third most common element in the Earth's upper crust, while copper is ranked 25th in availability on the list of raw materials. Assessment of current prices is further reinforced by the volatility of the raw materials market.

Looking at the numbers from the last 8 years (2011-2018), copper prices fluctuated within a range from 4,350 to 6,860 EUR per ton. In 2004, the annual average value was still at 2,417 EUR per ton. No such fluctuation range exists in the aluminium sector, which allows for better material planning.



■ ADVANTAGES OF THE HELUWIND® WK POWERLINE ALU



- Cost reduction
- Weight reduction
- Excellent flexibility
- Easy handling
- Lower risk of theft
- More stable metal prices

If aluminium is used as a conductor material, its lower conductivity requires a wire size that is approximately one-third larger than that of a copper wire. In the end however, the insulating material used with the wire plays a crucial role in performance; an aluminium wire can possess the same current carrying capacity as a H07RN-F copper wire. Aluminium's larger wire size would only be a disadvantage in applications requiring tight spacing, such as when installed in densely packed control cabinets. The facts for aluminium speak for themselves when it comes to the issue of weight. As a raw material, aluminium is approximately 70% lighter in weight than copper. This can be helpful in the efforts of numerous application fields looking to reduce the weight of all components. Naturally, when used in electrical cab-

les, the lower weight makes them easier to install. High-voltage cables have long been made from aluminium; the lighter weight reduces the tensile force placed on wire and masts significantly. But even industries such as automotive manufacturing and the aerospace industry are switching to aluminium wires. All the cable harnesses in the Airbus A380 are already made of aluminium. Aluminium wires can be up to 60% lighter than copper wire with comparable current-carrying capacity. Even for applications that require flexible cable connections, copper must not always be the first choice. The HELUWIND® WK POWERLINE ALU series provides a range of fine-wired cables and connection technology.

■ FIELDS OF APPLICATION FOR ALUMINIUM CABLES



Combined Heat and Power Plants



Industrial Plants



Transformer Stations



Media Technology



Railway Technology

ALUMINIUM

Photovoltaic Systems



Plant Construction



Wind Energy



Mobile Energy Supply

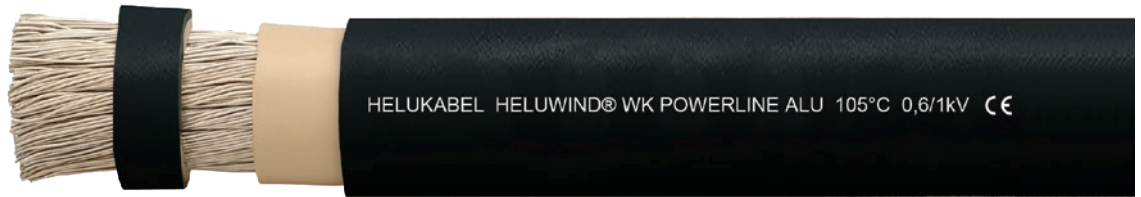


Energy Storage



■ WK POWERLINE ALU

with flexible aluminium stranded wire



0.6/ 1kV

Item no:	No. of cores x nominal cross-section mm ²	Outer ø approx. mm	Al weight kg/km	Weight appr. kg/km
707062	1 x 70	16.5	206.0	360.0
707063	1 x 95	17.9	280.0	460.0
707064	1 x 120	19.7	355.0	540.0
706408	1 x 150	21.7	441.0	675.0
706088	1 x 185	24.3	544.0	810.0
706089	1 x 240	28.1	706.0	1056.0
706084	1 x 300	31.4	882.0	1287.0
706085	1 x 400	35.0	1176.0	1661.0

0.6/1 kV, robust

Item no:	No. of cores x nominal cross-section mm ²	Outer ø approx. mm	Al weight kg/km	Weight appr. kg/km
707097	1 x 70	16.5	206.0	360.0
707098	1 x 95	17.9	280.0	460.0
707099	1 x 120	19.7	355.0	540.0
707100	1 x 150	21.7	441.0	675.0
707101	1 x 185	24.3	544.0	810.0
707102	1 x 240	28.1	706.0	1056.0
707103	1 x 300	31.4	882.0	1287.0
707104	1 x 400	35.0	1176.0	1661.0

1.8/3 kV, for direct burial

Item no:	No. of cores x nominal cross-section mm ²	Outer ø approx. mm	Al weight kg/km	Weight appr. kg/km
707647	1 x 185	26.0	544.0	1020.0
706578	1 x 240	30.3	706.0	1250.0
707432	1 x 300	34.0	882.0	1520.0
707648	1 x 400	37.4	1176.0	1881.0

1.8/3 kV, robust

Item no:	No. of cores x nominal cross-section mm ²	Outer ø approx. mm	Al weight kg/km	Weight appr. kg/km
707692	1 x 185	26.0	544.0	1020.0
707693	1 x 240	30.3	706.0	1250.0
707694	1 x 300	34.0	882.0	1520.0
707695	1 x 400	37.4	1176.0	1855.0

1.8/3kV, halogen-free

Item no:	No. of cores x nominal cross-section mm ²	Outer ø approx. mm	Al weight kg/km	Weight appr. kg/km
709143	1 x 185	26.0	544.0	1020.0
709144	1 x 240	30.3	706.0	1250.0
709145	1 x 300	34.0	882.0	1520.0
709146	1 x 400	37.4	1176.0	1855.0

Subject to technical modifications.

WK POWERLINE ALU SINGLE

0.6/1 kV, without outer sheath



Item no:	No. of cores x nominal cross-section mm ²	Outer ø approx. mm	Al weight kg/km	Weight appr. kg/km
709914	1 x 70	15.9	206.0	315.0
709915	1 x 95	17.2	280.0	420.0
709916	1 x 120	16.7	355.0	456.0
709917	1 x 150	19.2	441.0	570.0
709918	1 x 185	22.1	544.0	712.0
709919	1 x 240	24.7	706.0	857.0
709920	1 x 300	27.8	882.0	1290.0
709921	1 x 400	32.7	1176.0	1460.0

Subject to technical modifications.

WK POWERLINE ALU MULTI

0.6/1 kV











Item no:	No. of cores x nominal cross-section mm ²	Outer ø approx. mm	Al weight kg/km	Weight appr. kg/km
711083	4 x 50	38.8	590.0	980.0
711084	4 x 70	43.0	824.0	1280.0
711085	4 x 95	50.0	1120.0	1640.0
711086	4 x 120	54.5	1420.0	2005.0
711087	4 x 150	58.0	1764.0	2320.0

Subject to technical modifications.

These cables are also available with UL/CSA certification. The HELUWIND WK Powerline ALU may be used exclusively with the HELUKABEL® C8-crimping connection technology.

CONNECTION TECHNOLOGY

for the HELUWIND® WK POWERLINE ALU series

	Cross-section mm ²	50	70	95	120	150	185	240	300	400
	Code Type	K16	K18	K22	K22	K25	K28	K34	K38	K44
	hole diameter									
HELU-S-PK-AL-DIN 	10	907873	907875	907877	907880	906459	-	-	-	-
	12	907874	907876	907878	907881	906436	906463	906469	906472	906475
	16	-	-	907879	907882	906461	906464	906470	906473	906476
	20	-	-	-	-	906462	906465	906471	906474	906477
HELU-S-PK-AL-FG blk. 	10	-	-	906539	906541	906544	906547	-	-	-
	12	-	-	906540	906542	906545	906548	906553	906556	906559
	16	-	-	-	906543	906546	906549	906554	906557	906560
	20	-	-	-	-	-	-	906555	906558	906561
HELU-S-PK-AL-FG vzn. 	10	-	-	906562	906564	906567	906570	-	-	-
	12	-	-	906563	906565	906568	906571	906576	906579	906582
	16	-	-	-	906566	906569	906572	906577	906580	906583
	20	-	-	-	-	-	-	906578	906581	906584
HELU-S-PK-AL/CU 	10	907578	907581	907585	907589	906478	906479	906486	906490	906491
	12	907579	907582	907586	907590	906172	906480	906487	906212	906492
	16	-	907583	907587	907591	906173	906481	906488	906174	906493
	20	-	-	-	-	-	906482	906489	906175	906494
HELU-S-PV-AL-DIN 		-	-	906515	906516	906406	906517	906519	906520	906521
HELU-S-PAB-AL-DIN 		908301	908302	908303	908304	908305	908306	908308	908309	908310
HELU-S-PAB-AL/CU-DIN 		908194	908195	908196	908197	908198	908199	908201	908202	908203
HELU-S-PV-Al/CU 	Alu/CU	150/70	150/95	150/120	150/150	185/95	185/120	185/150	185/185	
		906460	906495	906209	906496	906497	906498	906499	906500	
	Alu/CU	240/150	240/185	240/240	300/185	300/240	300/300	400/240	400/300	400/400
		906505	906506	906507	906509	906210	906510	907860	907861	907862

Subject to technical modifications.

ACCESSORIES for the HELUWIND® WK POWERLINE ALU series

WK-APW 18 Hydraulic Hand Press



Item no:	Type	PU
909871	WK-APW 18	1

Compression device comprised of:



Item no:	Type	PU
906213	Press head HPK 18	1
906208	Pressing cylinder HPZ 25	1

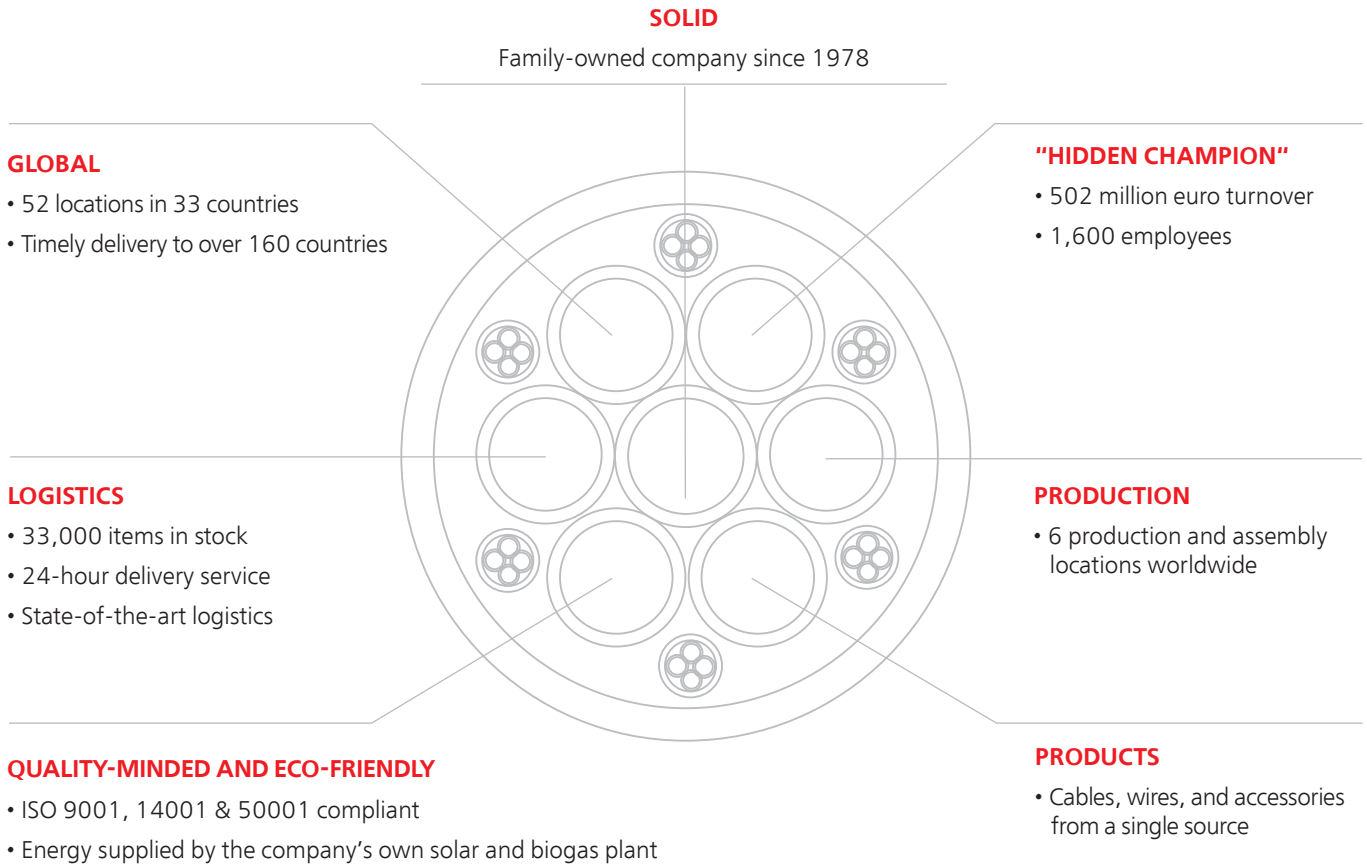
C8-Crimp crimping dies

Item no:	Nominal cross-section
907014	95 mm ² + Adapter 906411
906434	150 mm ²
907200	185 mm ²
906446	240 mm ²
906206	300 mm ²
906766	400 mm ²



Please order crimping dies separately.

WHAT SETS US APART



WHERE TO FIND US

Want to order a catalogue online?
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Have questions?

We are happy to inform you about our current selection of wind-power cables.

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