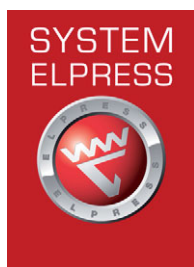




Al and AlCu terminals and connectors 16 - 1200 mm²	
General information	2
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General information about Al and AlCu terminals



our system and to be sure a safe connection is made when Elpress products are used correctly.

Al terminals

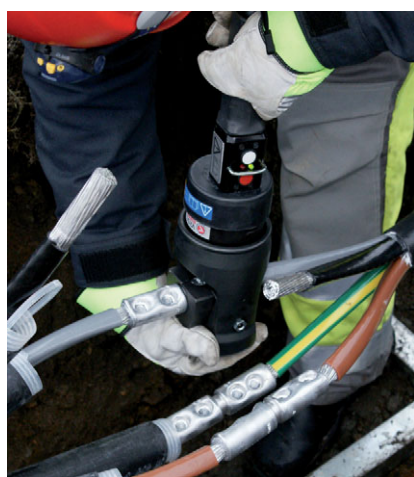
Elpress terminals and connectors are made from pure aluminium 99.7%. We manufacture Al terminals type AK and AS. The standard range size is 16 to 1200 mm² but a variety of customer specified types also exists.



Al terminals type AK are mainly used for connection to Al bus bars, apparatus terminals or such.



Al connectors type AS are used to connect two Al conductors, also of different sizes.



Crimping of Elpress Al through connector with crimp head V250.

Al or AlCu types

Elpress AlCu terminals and connectors for Al cable are made from solid materials with friction welding. This method joins aluminum and copper material, when the aluminum part is rotated against the cop-

per part under pressure and is the method providing the best connection between Al and Cu.



Bimetallic terminals type AKK are mainly used for connection to Cu bus-bars, apparatus terminals or such.



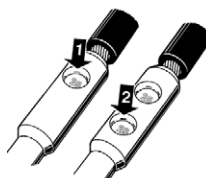
Bimetallic connectors type AKS are used to connect an Al and a Cu conductor also of different sizes.



Bimetallic pin connectors type AKP are used to connect Al conductors to mechanical clamp type connections for round Cu pins.

Number of crimps

The Elpress Crimp System fits compacted/un-compacted stranded as well as solid Al conductors in accordance with IEC 60228. Note that in case of solid conductors one area step down is used as marked on the barrel. In case of sector-shaped conductors, pre-rounding is required and performed with tools within the Crimp System. This makes it possible to crimp the terminal in such a position that twisting is minimised when connecting to the bus bar or apparatus. Two indents are always made in the order shown in the picture above.



Customized products

Customized products are an important part of our offering. It is a special challenge to solve problems for customers in an efficient way, whereby we also gain knowledge about the requirements of different markets.

Marking of Al and AlCu terminals

Elpress System for marking of Al and AlCu terminals and connectors shows the stranded and solid metric conductor size and reference to the id-numbers of the

appropriate Elpress pre-rounding and crimp tools. Do not use other crimp tools! The T2-mark is a reference to an earlier Finnish standard. On bimetallic connectors there is also a tool id-reference to the hexagonal die to be used for the Cu-crimp.

TERMINALS:
Markings on Al and AlCu terminals
Barrel marking, example: ALU185-R18-P32 (Elpress logotype) T2 SOLID 240
ALU185 = Al conductor, mm ²
R18 = id-no. for punch and matrix for pre-rounding
P32 = id-no. for punch and matrix for crimping
T2 = Finnish temperature class
SOLID 240 = suitable size on solid conductor
Palm marking: (Elpress logotype) 16 = M-screw size

THROUGH CONNECTORS:
Markings on Al and AlCu connectors
Copper side of AlCu type Example: Cu240 - 30 (Elpress logotype)
Cu240 = Cu conductor, mm ²
30 = id-no. for hexagonal crimp die
Al connector or Al side of AlCu connector Example: ALU300-R21-P36 (Elpress logotype) T2
ALU300 = Al conductor, mm ²
R21 = id-no. of punch and matrix for pre-rounding
P36 = id-no. of punch and matrix for crimping
T2 = Finnish temperature class

Palm holes to ISO 273

Screw dimension	Palm hole tolerance H13 (Ø mm)
M 3	3,2
M 4	4,3
M 5	5,3
M 6	6,4
M 8	8,4
M 10	10,5
M 12	13
M 16	17
M 20	21
M 24	25

**Al terminals 16 - 1200 mm²**

- used to connect Al conductors to Al bus bars
- two adjacent crimps are necessary - crimp sequence see picture



Crimp sequence.

Cat. no. stranded, mm ²	Solid	mm W	d	N	N ₁	L	Pcs/ pack	Note	Rec. tool
AK16-6	25(16)	16,0	5,9	8,5	9,0	57	48		V1300
AK16-8	25 (16)	16,0	5,9	8,5	9,0	57	48		V1300
AK25-6	35	16,0	6,8	8,5	9,0	57	48		V1300
AK25-8	35	16,0	6,8	8,5	9,0	57	48		V1300
AK35-6	50	22	8,5	11,0	14,0	85	24		V1300
AK35-8	50	22	8,5	11,0	14,0	85	24		V1300
AK50-8	70	22	9,6	11,0	14,0	85	24		V1300
AK50-10	70	22	9,6	11,0	14,0	85	24		V1300
AK50-12	70	27	9,6	14,0	15,0	90	24		V1300
AK70-8	95	22	11,3	11,0	14,0	85	24		V1300
AK70-10	95	22	11,3	11,0	14,0	85	24		V1300
AK70-12	95	27	11,3	14,0	15,0	90	24		V1300
AK95-8	120	27	12,5	14,0	15,0	104	24		V1300
AK95-10	120	27	12,5	14,0	15,0	104	24		V1300
AK95-12	120	27	12,5	14,0	15,0	104	24		V1300
AK120-10	150	27	14,0	14,0	15,0	104	24		V1300
AK120-12	150	27	14,0	14,0	15,0	104	24		V1300
AK150-10	185	27	15,8	14,0	15,0	104	24		V1300
AK150-12	185	27	15,8	14,0	15,0	104	24		V1300
AK150-16	185	35	15,8	21	23	119	12		V1300
AK185-10	240	35	17,6	16,0	19,0	112	12		V1300
AK185-12	240	35	17,6	16,0	19,0	112	12		V1300
AK185-16	240	35	17,6	16,0	19,0	112	12		V1300
AK240-12		35	19,8	16,0	19,0	112	12		V1300, V250
AK240-16		35	19,8	16,0	19,0	112	12		V1300, V250
AK300-12SOLID		41	20	18,0	25	155	6	3	V250
AK300-16SOLID		41	20	18,0	25	155	6	3	V250
AK300-12		41	22	18,0	25	155	6		V250
AK300-16		41	22	18,0	25	155	6		V250
AK300-20		41	22	20	23	155	6		V250
AK400-12		41	25	18,0	25	155	6		V250
AK400-16		41	25	18,0	25	155	6		V250
AK400-20		41	25	20	23	155	6		V250
AK500A-16		55	28	26	29	225	1	4	V250
AK500A-20		55	28	26	29	225	3	4	V250
AK500A-1		38	28	80*		232	3	2,4	V250
AK500A-2		70	28	80*		250	3	2,4	V250
AK500B-16		44	28	22	22	174	3	5	V250
AK500B-20		44	28	22	22	174	3	5	V250
AK500B-1		44	28	80*		210	3	2, 5	V250
AK500B-2		70	28	80*		210	3	2, 5	V250
AK630A-1		55	32	80*		250	3	1,2	V250
AK630A-2		70	32	80*		250	3	1,2	V250
AK800-1		60	36	80*		267	1	1,2	V1470
AK800-2		75	36	80		275	1	1,2	V1470
AK1000-1		60	40	80*		267	1	1,2	V1470
AK1000-2		75	40	80*		375	1	1,2	V1470
AK1200		75	44	80*		291	1	1,2	V1470

* corresponds to the full palm length.

Note

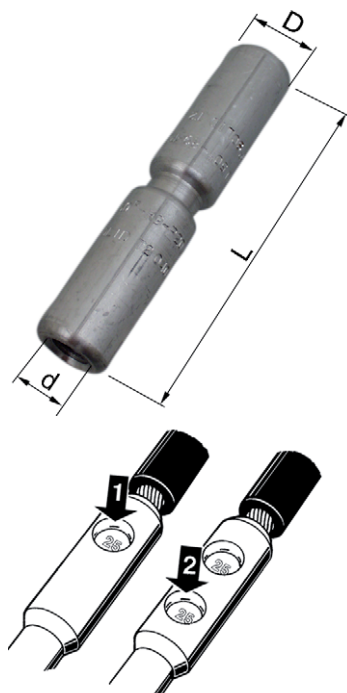
- 1 Stranded, compacted conductor
- 2 Unholed palm
- 3 For solid conductors only
- 4 Outer barrel diam. 52 mm.
- 5 Outer barrel diam. 44 mm.

For detailed information regarding recommended tool or system, see chapter 6.



Al through connectors with partition 16 - 1200 mm²

- used mainly for connecting two Al conductors of the same size to each other
- two crimps on each side are necessary, crimp sequence see picture
- partition in the middle to prevent fluid flow



Crimp sequence.

Cat. no. stranded, mm ²	Solid mm ²	mm d	D	L	Pcs/ pack	Rec. tool	Note
AS16	25 (+16)	5,9	13,0	67	48	V1300	
AS25	35	6,8	13,0	67	48	V1300	
AS35	50	8,5	20	100	24	V1300	
AS50	70	9,6	20	100	24	V1300	
AS70	95	11,3	20	100	24	V1300	
AS95	120	12,5	25	130	12	V1300	
AS120	150	14,0	25	130	12	V1300	
AS150	185	15,8	25	130	12	V1300	
AS185	240	17,6	32	131	9	V1300	
AS240	300	19,8	32	131	9	V1300, V250	3
AS300SOLID		20	36	179	6	V250	
AS300		22	36	179	3	V250	
AS400		25	40	179	3	V250	
AS500A		28	52	250	3	V250	4
AS500B		28	44	184	3	V250	5
AS630A-1		32	52	250		V250	1
AS630A-2		34	52	250		V250	1
AS800-1		36	60	288		V1470	1
AS1000-1		40	60	288		V1470	1
AS1200		44	70	320		V1470	1

If other combinations are needed, contact Elpress.

Note

- | | |
|---------------------------------|-----------------------------|
| 1 Stranded, compacted conductor | 4 Outer barrel diam. 52 mm. |
| 2 Unholed palm | 5 Outer barrel diam. 44 mm. |
| 3 For solid conductors only | |

Other designs of Al and AlCu terminals and connectors

In cases where other hole patterns, palm sizes, assembly angles, etc. are needed, a broad variety of customer specified items may be produced.

Some examples are indicated here: AKK500A/2-16-12x4-35 resp. AK185-14x2-40.

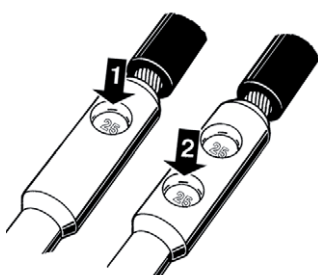


For detailed information regarding recommended tool or system, see chapter 6.



Al through connectors with partition and for different areas 16 - 400 mm²

- used mainly for connecting two Al conductors of different sizes to each other
- two crimps on each side are necessary, crimp sequence see picture
- partition in the middle to prevent fluid flow



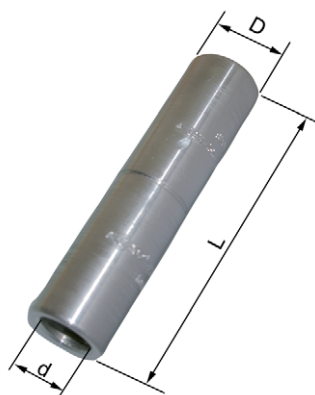
Crimp sequence.

Cat. no. stranded, mm ²	Solid mm ²	mm L	d ₁	D ₁	d	D	Pcs/ pack	Rec. tool
AS25-16	35-25	67	5,9	13,0	6,8	13,0	48	V1300
AS35-25	50-35	85	6,8	13,0	8,5	20	24	V1300
AS50-25	70-35	85	6,8	13,0	9,6	20	24	V1300
AS50-35	70-50	100	8,5	20	9,6	20	24	V1300
AS70-50	95-70	100	9,6	20	11,3	20	24	V1300
AS95-25	120-35	101	6,8	13,0	12,5	25	24	V1300
AS95-35	120-50	116	8,5	20	12,5	25	24	V1300
AS95-50	120-70	116	9,6	20	12,5	25	24	V1300
AS95-70	120-95	116	11,3	20	12,5	25	24	V1300
AS120-95	150-120	130	12,5	25	14	25	12	V1300
AS150-50	185-70	116	9,6	20	15,8	25	12	V1300
AS150-70	185-95	116	11,3	20	15,8	25	24	V1300
AS150-95	185-120	130	12,5	25	15,8	25	12	V1300
AS150-120	185-150	130	14,0	25	15,8	25	12	V1300
AS185-95	240-120	132	12,5	25	17,6	32	12	V1300
AS185-150	240-185	132	15,8	25	17,6	32	12	V1300
AS240-95	-120	132	12,5	25	19,8	32	12	V1300, V250
AS240-120	-150	132	14,0	25	19,8	32	12	V1300, V250
AS240-150	-185	132	15,8	25	19,8	32	12	V1300, V250
AS240-185	-240	131	17,6	32	19,8	32	12	V1300, V250
AS300-240		156	19,8	32	22	36	6	V250
AS400-300		179	22	36	25	40	3	V250

Other measures, see corresponding connector on previous pages.
If other combinations are needed, contact Elpress.

Al through connectors with cable stop 300 - 400 mm²

- used mainly for connecting two Al conductors of the same size to each other
- two crimps on each side are necessary, crimp sequence see picture
- use special matrix 13P37M and special punch 13P37D, no matrix holder necessary

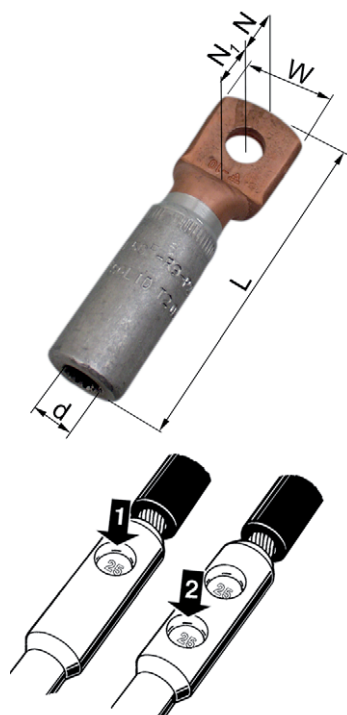


Cat. no. mm ² , Al-Cu	mm D	d	L	Rec. tool
AS300B	37	22,3	150	V1300
AS400B	37	25	150	V1300

For detailed information regarding recommended tool or system, see chapter 6.

**AlCu bimetallic terminals 16 - 1200 mm²**

- used primarily to connect Al conductors to Cu appliance studs, Cu bus bars, etc.
- two adjacent crimps are necessary - crimp sequence , see picture

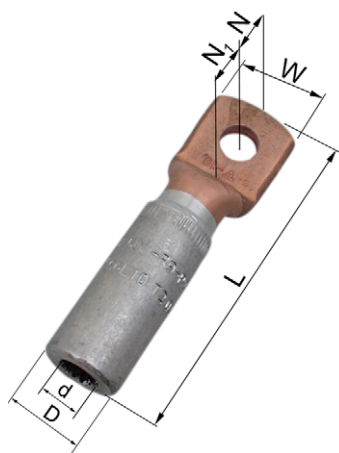


Crimp sequence.

Cat. no. stranded, mm ²	Solid	mm W	d	N	N ₁	L	Pcs/ pack	Rec. tool	Note
AKK16-8	25 (16)	16,0	5,9	8,5	10,0	66	48	V1300	
AKK25-8	35	16,0	6,8	8,5	10,0	66	48	V1300	
AKK25-12	35	22	6,8	11,5	15,5	75	24	V1300	
AKK35-8	50	25	8,5	12,5	12,5	89	24	V1300	
AKK50-8	70	25	9,6	12,5	12,5	89	24	V1300	
AKK50-10	70	25	9,6	12,5	12,5	89	24	V1300	
AKK50-12	70	25	9,6	12,5	12,5	89	24	V1300	
AKK70-8	95	25	11,3	12,5	12,5	89	24	V1300	
AKK70-10	95	25	11,3	12,5	12,5	89	24	V1300	
AKK70-12	95	25	11,3	12,5	12,5	89	24	V1300	
AKK95-8	120	25	12,5	12,5	12,5	108	12	V1300	
AKK95-10	120	25	12,5	12,5	12,5	108	12	V1300	
AKK95-12	120	25	12,5	12,5	12,5	108	12	V1300	
AKK95-16	120	30	12,5	15,0	15,0	115	12	V1300	
AKK120-10	150	25	14,0	12,5	12,5	108	12	V1300	
AKK120-12	150	25	14,0	12,5	12,5	108	12	V1300	
AKK120-16	150	30	14,0	15,0	15,0	115	12	V1300	
AKK150-10	185	25	15,8	12,5	12,5	108	12	V1300	
AKK150-12	185	25	15,8	12,5	12,5	108	12	V1300	
AKK150-16	185	30	15,8	15,0	15,0	115	12	V1300	
AKK185-10	240	30	17,6	15,0	15,0	116	12	V1300	
AKK185-12	240	30	17,6	15,0	15,0	116	12	V1300	
AKK185-16	240	30	17,6	15,0	15,0	116	12	V1300	
AKK240-10		30	19,8	15,0	15,0	116	12	V1300, V250	
AKK240-12		30	19,8	15,0	15,0	116	12	V1300, V250	
AKK240-16		30	19,8	15,0	15,0	116	12	V1300, V250	
AKK300-12		37	22	18,5	18,5	154	6	V250	
AKK300-16		37	22	18,5	18,5	154	6	V250	
AKK300-20		37	22	18,5	18,5	154	6	V250	
AKK300-12SOLID		37	20	18,5	18,5	154	6	V250	
AKK300-16SOLID		37	20	18,5	18,5	154	6	V250	
AKK300-20SOLID		37	20	18,5	18,5	155	6	V250	
AKK400-12		37	25	18,5	18,5	155	6	V250	
AKK400-16		37	25	18,5	18,5	155	6	V250	
AKK400-20		37	25	18,5	18,5	155	6	V250	
AKK500A-16		48	28	18,5	18,5	222	3	V250	4
AKK500A-20		48	28	26	29	222	3	V250	4
AKK500A-1		48	28	70*		237		V250	2
AKK500A-2		70	28	70*		239		V250	2
AKK500B-16		42	28	21	21	174	3	V250	5
AKK500B-20		42	28	21	21	174	3	V250	5
AKK500B-1		42	28	70*		202	3	V250	2
AKK500B-2		70	28	70*		211		V250	2
AKK630A-1		48	32	70*		237	3	V250	1,2
AKK630A-2		70	32	70*		239		V250	1,2
AKK800-1		62	36	70*		263		V1470	1,2
AKK800-2		75	36	75*		275		V1470	1,2
AKK1000-1		62	40	70*		263		V1470	1,2
AKK1000-2		75	40	75*		275		V1470	1,2
AKK1200		75	44	75*		310		V1470	1,2

* the full palm length

For detailed information regarding recommended tool or system, see chapter 6.

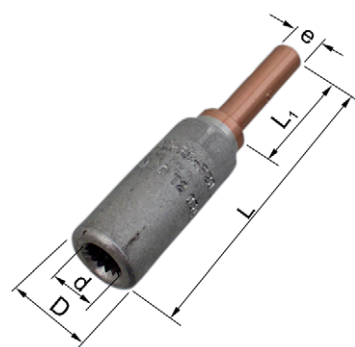
**AlCu bimetallic terminals 300 - 400 mm²**

- used primarily to connect Al conductors to Cu appliance studs, Cu bus bars, etc.
- two adjacent crimps are necessary - crimp sequence, see pictures
- when crimping Al part, use special matrix 13P37M and special punch 13P37D, no matrix holder necessary

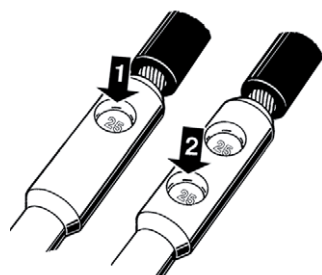
Cat. no. mm ² , Al-Cu	mm W	D	d	N	N ₁	L	Rec. tool
AKK300B-12	37	37	22,3	18,5	18,5	139	V1300
AKK300B-16	37	37	22,3	18,5	18,5	139	V1300
AKK400B-12	37	37	25	18,5	18,5	139	V1300
AKK400B-16	37	37	25	18,5	18,5	139	V1300

AlCu pin terminals bimetallic 16 - 300 mm²

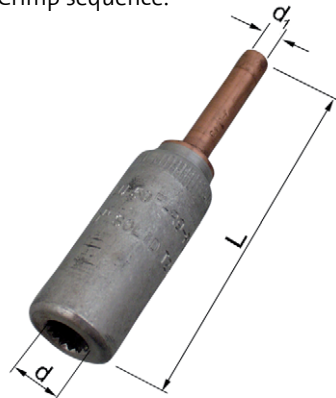
- used to connect Al conductors to mechanical clamp type connections for round Cu pins.
- two adjacent crimps are necessary - crimp sequence, see picture



Cat. no. stranded, mm ²	Solid mm ²	mm e	d	D	L ₁	L	Pcs/ pack	Rec. tool
AKP16	25 (16)	6,0	5,9	13,0	25	56	48	V1300
AKP25	35	6,0	6,8	13,0	25	56	48	V1300
AKP35	50	9,0	8,5	20	25	78	24	V1300
AKP50	70	9,0	9,6	20	35	88	24	V1300
AKP70	95	9,0	11,3	20	35	88	24	V1300
AKP95	120	12,0	12,5	25	35	103	24	V1300
AKP120	150	12,0	14,0	25	40	108	24	V1300
AKP150	185	12,0	15,8	25	40	108	24	V1300
AKP185	240	14,0	17,6	32	45	113	12	V1300
AKP240		14,0	19,8	32	45	113	12	V1300, V250
AKP300		16,0	22	36	50	143	9	V250



Crimp sequence.

**Transition connectors for Al conductors 16 - 95 mm²
to Cu solid conductors 10 mm²**

- adapter connector from stranded Al conductor to solid Cu conductor 10 mm² (e.g. Excel, Excelett)
- two crimps are necessary for both Al and Cu, crimp sequence see picture (equal order for Cu)

Cat. no. mm ² , Al-Cu	Solid Al mm ²	mm d	d ₁	L	Pcs/ pack	Rec. tool	Note
AKS16-10S	25 (16)	5,9	4,5	64	48	V1300	1
AKS25-10S	35	6,8	4,5	64	48	V1300	1
AKS35-10S	50	8,5	4,5	86	48	V1300	1
AKS50-10S	70	9,6	4,5	86	24	V1300	1
AKS70-10S	95	11,3	4,5	86	24	V1300	1
AKS95-10S	120	12,5	4,5	101	24	V1300	1

Note

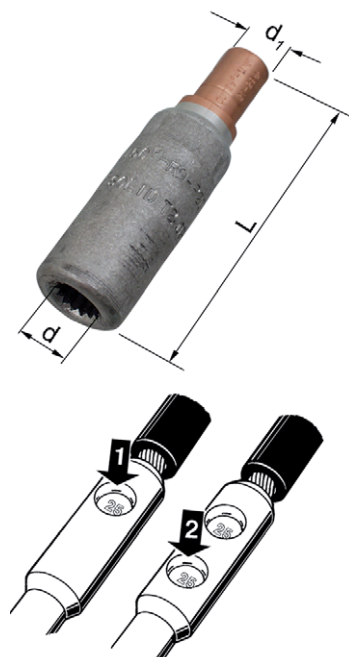
1. Make two crimps also on the Cu side.

For detailed information regarding recommended tool or system, see chapter 6.



AlCu bimetal through connectors 16 - 400 mm²

- connect Al conductors to Cu conductors
- stranded/solid Al conductors, stranded/flexible Cu conductor
- two adjacent crimps for Al, see picture; normally one for Cu
- when crimping the Cu part, place the dies between the circular groove on the Cu barrel and the edge



Crimp sequence.

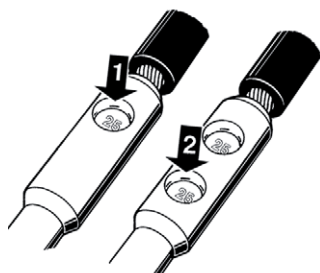
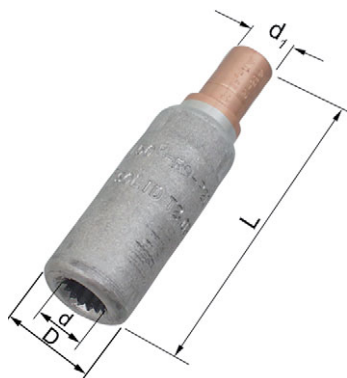
Cat. no. mm ² , Al-Cu	Solid Al mm ²	mm d	d ₁	L	Pcs/ pack	Rec. tool
AKS16-10	25 (16)	5,9	5,0	46	48	V1300
AKS25-10	35	6,8	5,0	46	48	V1300
AKS25-16	35	6,8	6,0	46	48	V1300
AKS35-10	50	8,5	5,0	66	24	V1300
AKS35-16	50	8,5	6,0	66	24	V1300
AKS35-25	50	8,5	8,0	69	24	V1300
AKS50-10	70	9,6	5,0	66	24	V1300
AKS50-16	70	9,6	6,0	66	24	V1300
AKS50-25	70	9,6	8,0	69	24	V1300
AKS50-35	70	9,6	9,0	71	24	V1300
AKS50-50	70	9,6	11,0	76	24	V1300
AKS70-35	95	11,3	9,0	71	24	V1300
AKS70-50	95	11,3	11,0	76	24	V1300
AKS70-70	95	11,3	13,0	78	24	V1300
AKS95-10	120	12,5	5,0	81	24	V1300
AKS95-16	120	12,5	6,0	81	24	V1300
AKS95-25	120	12,5	8,0	84	24	V1300
AKS95-35	120	12,5	9,0	86	24	V1300
AKS95-50	120	12,5	11,0	91	24	V1300
AKS95-70	120	12,5	13,0	93	24	V1300
AKS95-95	120	12,5	15,0	94	24	V1300
AKS120-50	150	14,0	11,0	91	24	V1300
AKS120-70	150	14,0	13,0	93	24	V1300
AKS120-95	150	14,0	15,0	94	24	V1300
AKS120-120	150	14,0	17,0	98	24	V1300
AKS150-25	185	15,8	8,0	84	24	V1300
AKS150-35	185	15,8	9,0	86	24	V1300
AKS150-50	185	15,8	11,0	91	24	V1300
AKS150-70	185	15,8	13,0	93	24	V1300
AKS150-95	185	15,8	15,0	94	24	V1300
AKS150-120	185	15,8	17,0	99	24	V1300
AKS150-150	185	15,8	19,0	99	24	V1300
AKS185-95	240	17,6	15,0	94	12	V1300
AKS185-120	240	17,6	17,0	99	12	V1300
AKS185-150	240	17,6	19,0	100	12	V1300
AKS185-185	240	17,6	21	100	12	V1300
AKS240-35		19,8	9,0	87	12	V1300, V250
AKS240-50		19,8	11,0	91	12	V1300, V250
AKS240-70		19,8	13,0	94	12	V1300, V250
AKS240-95		19,8	15,0	94	12	V1300, V250
AKS240-120		19,8	17,0	99	12	V1300, V250
AKS240-150		19,8	19,0	100	12	V1300, V250
AKS240-185		19,8	21	100	12	V1300, V250
AKS240-240A		19,8	22,5	100	12	V1300, V250
AKS300-150		22	19,0	124	9	V250
AKS300-185		22	21	124	9	V250
AKS300-240A		22	22,5	125	9	V250
AKS400-150		25	19,0	124	6	V250
AKS400-185		25	21	124	6	V250
AKS400-240A		25	22,5	124	6	V250
AKS400-300A		25	24,5	125	6	V250

For detailed information regarding recommended tool or system, see chapter 6.



AlCu bimetallic through connectors 300 - 400 mm²

- connect Al conductors to Cu conductors
- stranded/solid Al conductors, stranded/flexible Cu conductor
- two adjacent crimps are necessary - crimp sequence, see pictures
- when crimping Al part, use special matrix 13P37M and special punch 13P37D, no matrix holder necessary
- when crimping Cu part, use special dies 13B30, no die holder necessary
- when crimping the Cu part, place the dies between the circular groove on the Cu barrel and the edge



Crimp sequence.

Cat. no., mm ² , Al-Cu	mm d	D	d ₁	L	Rec. tool
AKS300B-240A	22,3	37	29	126,5	V1300
AKS400B-240A	25	37	29	126,5	V1300

For detailed information regarding recommended tool or system, see chapter 6.