

# 1. ELECTRICAL CONNECTION- AND INSTALLATION TECHNIQUE

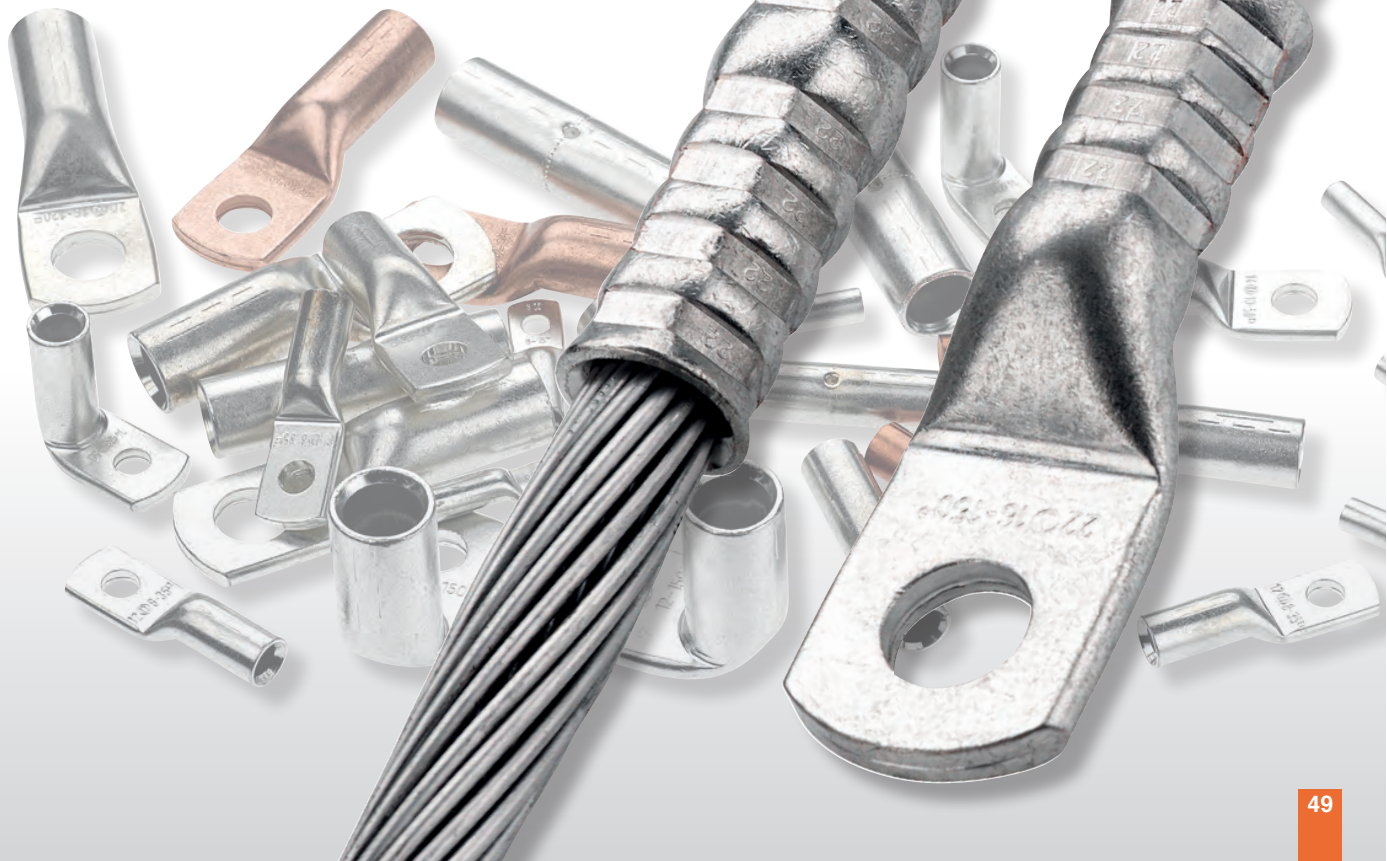
## 1.6 Tubular compression lugs and connectors as well as reduction sleeves and H-shaped connectors

Such tubular cable lugs and connectors out of copper are manufactured acc. to DIN 46235 and DIN 46267 part 1. We deliver a tin-plated as well as an uncoated design. Basically all terminals are applicable for crimping stranded or fine stranded conductors. Caused by the relative long designed connecting sleeve they are often used for crimping stranded copper conductors acc. to DIN 48201 part 1 or similar.

All cable lugs and connectors are equipped with a graven code number and lines, which shows the necessary numbers of crimping procedures. The right crimping design is a hexagonal crimping executed with suitable tools which dies have the same code-number like the cable connectors. To realize a crimping of conductors with a different cross-section range we deliver reduction sleeves, which can be used for non tension connections. To realize a branch off conductors with the same cross-section range of 70-120 mm<sup>2</sup> we deliver H-shaped connecting clamps and on request C-shaped branch off clamps too.

Please notice, that the crimping procedure will be done only with the right tools in combination with the right compression dies suitable for the described tubular compression connectors.

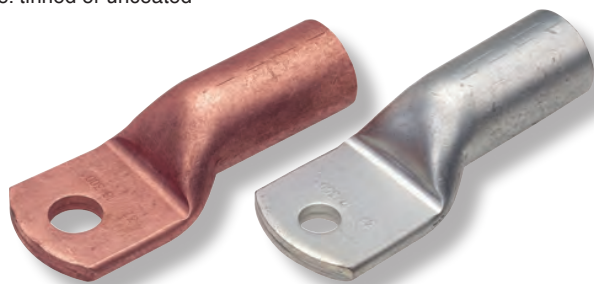
Crimping design:  
Hexagonal-crimping



**Tubular cable lugs 6-240 mm<sup>2</sup>****DIN 46235 and special design**

Material: Cu-HCP DIN EN 13600

Surface: tinned or uncoated



Part-No.		cross-section mm <sup>2</sup>	drilling M	index-no.	dimensions mm						weight kg/% pcs.	crimping-tools/page no.					
tinned	uncoated				d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	d <sub>4</sub>	L	a							
01917	01917 bl	6	5	5	3,7	5,3	8,5	5,5	24	10	3,10	12766 page no. 172; 12740/41 page no. 177; 13552 page no. 181; 12836 page no. 199; 12869 page no. 162; 12724 page no. 190	12370 page no. 162	12370/50 page no. 162; 12655 page no. 165			
01918	01918 bl		6			6,4	9	24	3,40								
10300	10300 bl		8			8,4	13	26	3,50								
01919	01919 bl	10	5	6	4,4	5,3	10	6	27	10	3,50				31460 page no. 169; 12930, 12933 page no. 171; 12965/S, 12968 page no. 173; 12748 page no. 179; 13551/25, 13551/42, 13537 page no. 183; 12728 page no. 188 (up to 185 mm <sup>2</sup> ); 12485-87, 12837, 05256 page no. 199	12371 page no. 162; 30440 page no. 168; 12725 page no. 186	
01920	01920 bl		6			6,4	10	27	3,70								
01921	01921 bl		8			8,4	13	28	3,80								
10302	10302 bl		10			10,5	15	29	3,80								
10304	10304 bl		16			5	8	5,5	5,3	13	8,5						
01922	01922 bl	6		6,4	13	36			12,70								
01923	01923 bl	8		8,4	13	37			13,00								
01924	01924 bl	10		10,5	16,5	38			13,40								
01925	01925 bl	12		13	19	40			13,60								
01926	01926 bl	25	6	10	7	6,4	14	10	39	20	16,20						
01927	01927 bl		8			8,4	17	39	17,30								
01928	01928 bl		10			10,5	17	40,5	17,70								
01929	01929 bl		12			13	18	40,5	17,30								
10306	10306 bl		35			6	12	8,2	6,4	17,5	12,5			42,5	20	31,60	
01930	01930 bl	8		8,4	18	42			31,90								
01931	01931 bl	10		10,5	20	42,5			31,20								
01932	01932 bl	12		13	21	44			31,70								
10308	10308 bl	16		17	28	47			31,40								
10310	10310 bl	50	6	14	9,8	6,4	20	14,5	52	28	45,90						
01933	01933 bl		8			8,4	20	52	49,50								
01934	01934 bl		10			10,5	22	52	48,10								
01935	01935 bl		12			13	24	52	47,20								
01936	01936 bl		16			17	28	55,5	50,00								
13285	13285 bl		70			8	16	11,3	8,4	24	16,5	56	28			65,40	
01937	01937 bl	10		10,5	24	56			65,90								
01938	01938 bl	12		13	24	56,5			60,10								
01939	01939 bl	16		17	29	57			64,10								
10312	10312 bl	95	8	18	13,5	8,4	28	19	65	35	93,60						
01940	01940 bl		10			10,5	28	65,5	95,50								
01941	01941 bl		12			13	28	65,5	94,50								
01942	01942 bl		16			17	30	65,5	94,40								
10314	10314 bl		20			21	33	71	98,60								
10316	10316 bl	120	8	20	15,5	8,4	31	21	70	35	113,50						
13286	13286 bl		10			10,5	31	70	114,00								
01943	01943 bl		12			13	31	70,5	114,70								
01944	01944 bl		16			17	31,5	70	111,50								
01945	01945 bl		20			21	36	72	115,10								
13287	13287 bl	150	10	22	17	10,5	34	23,5	79	35	164,10						
01946	01946 bl		12			13	34	78,5	165,30								
01947	01947 bl		16			17	34	78	163,50								
01948	01948 bl		20			21	38	78	159,80								
13288	13288 bl		185			10	25	19	10,5	37	25,5					83	40
01949	01949 bl	12		13	37	82,5			189,60								
01950	01950 bl	16		17	37	82			187,80								
01951	01951 bl	20	21	40	83	189,00											
10318	10318 bl	240	10	28	21,5	10,5	42	29	92	40	271,00						
01952	01952 bl		12			13	42,5	92	266,50								
01953	01953 bl		16			17	42,5	92	274,50								
01954	01954 bl		20			21	45	92	268,00								

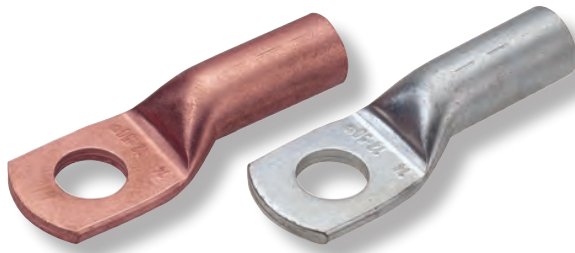
The tin plated design is standard in our stock.

**Tubular cable lugs 300-1000 mm<sup>2</sup>**

**DIN 46235 and special design**

Material: Cu-HCP DIN EN 13600

Surface: tinned or uncoated



Part-No.		cross-section mm <sup>2</sup>	drilling M	index-no.	dimensions mm				L	a	weight kg/% pcs.	crimping-tools/page no.
tinned	uncoated				d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	d <sub>4</sub>				
10320	10320 bl	300	12	32	24,5	13	48,5	32	104	50	336,50	pages no. 172-199 05256; 12491 page no. 199
01955	01955 bl		16			17	48,5		100		337,20	
01956	01956 bl		20			21	48,5		100		344,60	
01957	01957 bl	400	12	38	27,5	13	55	38,5	117	70	717,00	
01958	01958 bl		16			17	55		117		702,80	
01959	01959 bl		20			21	55		117		706,00	
01960	01960 bl	500	12	42	31	13	60	42	130	70	869,20	
01961	01961 bl		16			17	60		130		892,70	
01962	01962 bl		20			21	60		130		881,40	
01963	01963 bl	625	20	44	34,5	21	63	44	135	80	820,50	
02002	02002 bl	800	16	52	40	17	75	52	165	100	1430,00	
02004	02004 bl		20			21	75		165		1455,50	
02006	02006 bl	1000	20	58	44	21	83	58	167	100	1890,00	

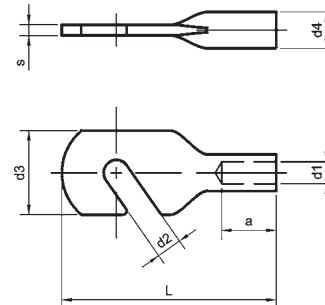
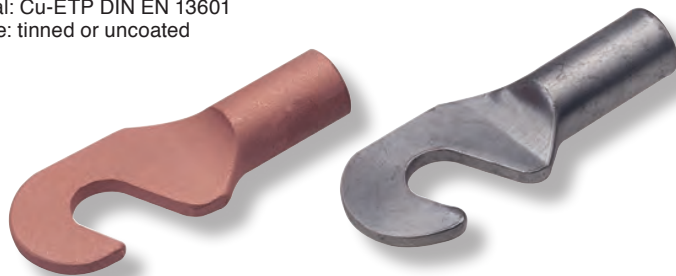
The tin plated design is standard in our stock.

**Cable lugs 10-150 mm<sup>2</sup>**

**hooked design, longitudinally sealed**

Material: Cu-ETP DIN EN 13601

Surface: tinned or uncoated



Part-No.		cross-section mm <sup>2</sup>	drilling M	dimensions mm				L	a	s	weight kg/% pcs.	crimping-tools/page no.
uncoated	tinned			d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	d <sub>4</sub>					
10210	10210 vz	10	6	5	7	22	10	55	15	3	3,90	on request
10211	10211 vz	16	8	6	9	22,5	10	60	15	3	4,20	
10212	10212 vz	25	8	8	9	25	12	60	15	3	6,10	
10213	10213 vz		10		11			65			6,60	
10212/35	10212/35 vz	35	8	9	9	25	12	60	15	3	6,10	
10213/35	10213/35 vz		10		11			65			6,60	
10214	10214 vz	50	10	11	11	30	15	70	20	3	11,00	
10215	10215 vz		12		13			75			11,80	
10216	10216 vz	70	10	13	11	35	18	80	22	4	18,10	
10217	10217 vz		12		13			85			19,20	
10218	10218 vz	95	12	15	13	40	20	90	25	5	25,20	
10219	10219 vz		16		17			95			26,60	
10220	10220 vz	120	12	17	13	40	25	100	25	7	43,70	
10221	10221 vz		16		17			110			48,10	
10222	10222 vz	150	12	19	13	40	25	100	25	7	43,70	
10223	10223 vz		16		17			110			48,10	

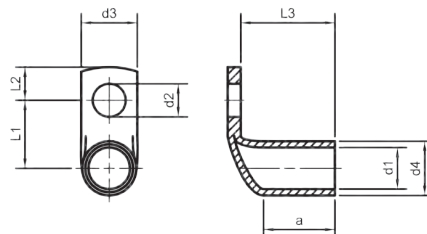
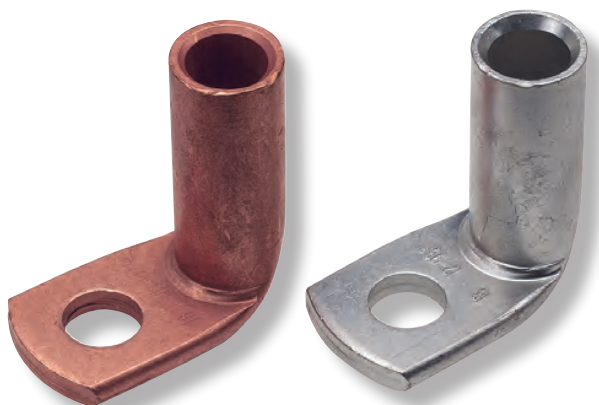
This cable lugs in hooked design offer a quick and safe connecting of our binding posts acc. to catalogue pages 116 and 117, 10210 for 63 A, 10211/10212/10213/35 for 100 A, 10217/10218 for 200 A and 10221/10223 for 400 A.

**Tubular cable lugs 10-300 mm<sup>2</sup>**
**Angle type 90°**

Dimensions of the tube in acc. with DIN 46235

Material: Cu-HCP DIN EN 13600

Surface: tinned or uncoated



Part-No.		cross-section mm <sup>2</sup>	drilling M	index-no.	dimensions mm								weight kg/‰ pcs.	crimping-tools/page no.
tinned	uncoated				d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	d <sub>4</sub>	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	a		
13124	13124 bl	10	6	6	4,4	6,4	10	6	13	7,7	14	10	3,50	12766 page no. 172; 12965/S, 12968; page no. 173; 14240/41 page no. 188 (up to 185 mm <sup>2</sup> ); 12869 page no. 162 (up to 185 mm <sup>2</sup> ); 13551/25, 13551/42, 13537 page no. 183; 12836, 12485-87; 05256 page no. 199; 12724 page no. 190; 12837 page no. 200
13126	13126 bl		8			8,4	13		15	10			3,70	
13128	13128 bl	16	6	8	5,5	6,4	13	8,5	14,3	9	23	20	12,70	
13130	13130 bl		8			8,4	13		16,3	11,5	23		13,00	
13132	13132 bl		10			10,5	16,5		18,3	13,5	24		14,10	
13134	13134 bl		12			13	19		19,3	14,5	24		13,80	
13136	13136 bl	25	6	10	7	6,4	15	10	15,5	9	23,8	20	16,80	
13138	13138 bl		8			8,4	16		17,5	11,5			17,60	
13140	13140 bl		10			10,5	16		19,5	13,5			18,40	
13142	13142 bl		12			13	19		20,5	14,5			17,20	
13143	13143 bl	35	6	12	8,2	6,4	17	12,5	16,8	9	23,8	20	27,40	
13144	13144 bl		8			8,4	17		18,8	11,5			30,40	
13146	13146 bl		10			10,5	19		20,8	13,5			31,20	
13148	13148 bl		12			13	21		21,8	14,5			32,60	
13150	13150 bl	50	8	14	9,8	8,4	20	14,5	19,8	11,5	33	28	46,20	
13152	13152 bl		10			10,5	22		21,8	13,5	32		48,20	
13154	13154 bl		12			13	24		22,8	14,5	32		48,30	
13156	13156 bl		16			17	27		25,8	17,5	32		50,60	
13157	13157 bl	70	8	16	11,3	8,4	24	16,5	20,8	11,5	34	28	59,30	
13158	13158 bl		10			10,5	24		22,8	13,5			65,10	
13160	13160 bl		12			13	24		23,8	14,5			65,60	
13162	13162 bl		16			17	29		26,8	17,5			63,10	
13163	13163 bl	95	8	18	13,5	8,4	28	19	22	10	42	35	85,00	
13164	13164 bl		10			10,5	28		24	13,5			93,70	
13166	13166 bl		12			13	28		25	14,5			94,90	
13168	13168 bl		16			17	32		28	17,5			96,70	
13170	13170 bl	120	10	20	15,5	10,5	32	21	25,5	13,5	42	35	108,40	
13172	13172 bl		12			13	32		32	14,5			110,00	
13174	13174 bl		16			17	32		29,5	17,5			111,60	
13176	13176 bl		20			21	38		33,5	20,5			123,90	
13177	13177 bl	150	10	22	17	10,5	34	23,5	26,8	13,5	42	35	141,60	
13178	13178 bl		12			13	34		27,8	14,5			144,10	
13180	13180 bl		16			17	34		30,8	17,5			148,30	
13182	13182 bl		20			21	34		34,8	20,5			155,10	
13184	13184 bl	185	10	25	19	10,5	37	25,5	27,8	13,5	48	40	168,10	
13186	13186 bl		12			13	37		28,8	14,5			172,90	
13188	13188 bl		16			17	37		31,8	17,5			171,80	
13190	13190 bl		20			21	40		35,8	20,5			202,00	
13192	13192 bl	240	12	28	21,5	13	42	29	30,5	14,5	52	40	226,10	
13194	13194 bl		16			17	42		33,5	17,5			244,60	
13195	13195 bl		20			21	42		37,5	20,5			255,90	
13196	13196 bl	300	12	32	24,5	13	48,5	32	32	14,5	60	50	290,80	
13197	13197 bl		16			17	48,5		35	17,5			305,10	
13198	13198 bl		20			21	48,5		39	20,5			386,00	



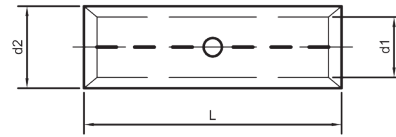
### Compression lugs 6-1000 mm<sup>2</sup>

#### DIN 46267 part 1

for non tension connections

Material: Cu-HCP DIN EN 13600

Surface: tinned



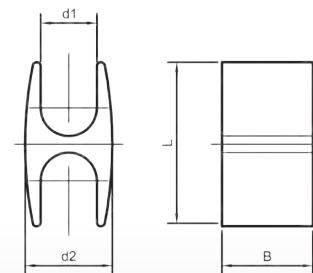
Part-No.	cross-section mm <sup>2</sup>	index-no.	dimensions mm			weight kg/‰ pcs.	crimping-tools/page no.
			d <sub>1</sub>	d <sub>2</sub>	L		
01964	6	5	3,7	5,5	30	3,50	pages no. 162-200
01965	10	6	4,4	6	30	3,50	
01966	16	8	5,5	8,5	50	15,30	
01967	25	10	7	10	50	18,60	
01968	35	12	8,2	12,5	50	32,30	
01969	50	14	9,8	14,5	56	44,90	
01970	70	16	11,3	16,5	56	56,40	
01971	95	18	13,5	19	70	89,80	
01972	120	20	15,5	21	70	102,70	
01973	150	22	17	23,5	80	150,30	
01974	185	25	19	25,5	85	167,80	
01975	240	28	21,5	29	90	232,00	
01976	300	32	24,5	32	100	295,00	
01977	400	38	27,5	38,5	150	767,00	
01978	500	42	31	42	160	920,80	
01979	625	44	34,5	44	160	868,20	
01988	800	52	40	52	200	1525,00	
01999	1000	58	44	58	200	1970,00	

### Compression connectors in H-shaped design

for copper conductors acc. to DIN 48201

Material: Cu-ETP DIN EN 13601

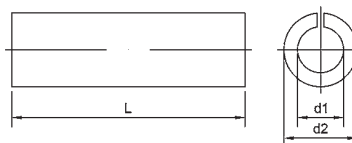
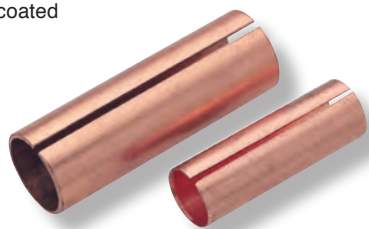
Surface: tinned or uncoated



Part-No.	cross-section mm <sup>2</sup>		d <sub>1</sub>	dimensions mm			weight kg/‰ pcs.	crimping-tools/page no.	
	uncoated	tinned		prime conductor	branch conductor	L			B
03990		03990/vz	70	70	10,8	17	34	28	pages no. 173, 183, 199, 200
03991		03991/vz	95	95	13	22	40	30	
03992		03992/vz	120	120	15,5	24	45	25	

### Reduction sleeves

for non tension connectors  
 acc. to DIN 46267 part 1 and similar  
 Material: E-copper  
 Surface: uncoated

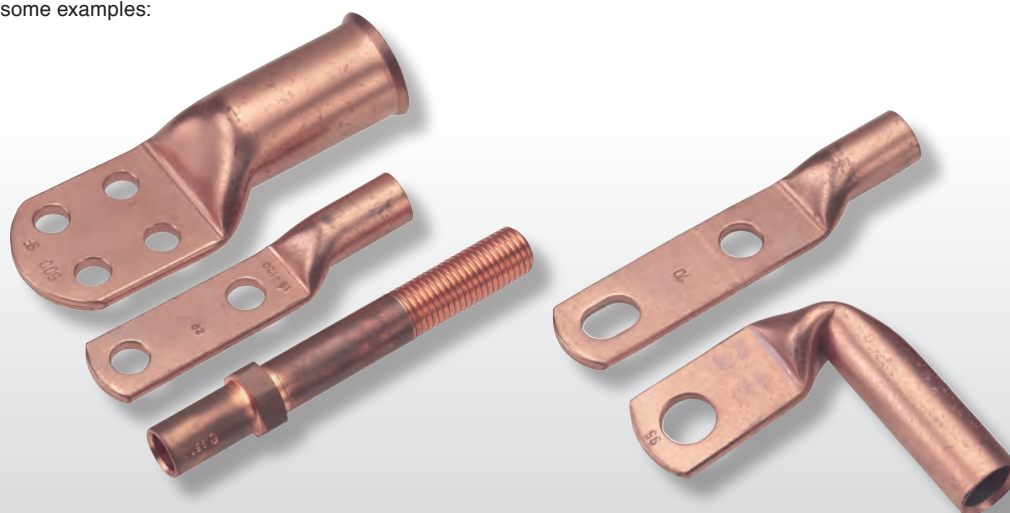


Part-No.	reduction		dimensions mm			weight kg/% pcs.	crimping-tools/page no.
	from cross-section mm <sup>2</sup>	to cross-section mm <sup>2</sup>	d <sub>1</sub>	d <sub>2</sub>	L		
02150	25	10	4,6	6,6	25	0,50	pages no. 162-200
02151		16	5,5			0,35	
02152	35	10	4,5	8	25	0,85	
02153		16	5,5			0,70	
02154		25	7			0,50	
02155	50	16	5,5	9,5	33	1,40	
02156		25	7			1,15	
02157		35	8,5			0,60	
02158	70	25	7	11	33	1,90	
02159		35	8,5			1,40	
02160		50	10			0,80	
02161	95	35	8,5	13	45	3,40	
02162		50	10			2,60	
02163		70	11,5			1,60	
02164	120	50	10	15	45	4,30	
02165		70	11,5			3,30	
02166		95	13,5			1,80	
02167	150	70	11,5	16,5	53	5,70	
02168		95	13,5			3,90	
02169		120	15,5			1,80	
02170	185	95	13,5	18,5	53	6,50	
02171		120	15,5			4,40	
02172		150	17			2,70	
02173	240	120	15,5	21	55	8,40	
02174		150	17			6,60	
02175		185	19			4,00	
02176	300	150	17	24	58	12,30	
02177		185	19			9,60	
02178		240	21,5			5,60	
02179	400	185	19	27	80	21,80	
02180		240	21,5			15,50	
02181		300	24,5			8,80	

By reduction of more than two cross-section-ranges we recommend to work with hydraulic tools with wide die sets acc. to our catalogue pages 206 or 207.

### Cable connectors in special design

Additionally to our standardized program we are able to deliver cable lugs and connectors in special design acc. to your drawings or wishes. Following some examples:



# 1. ELECTRICAL CONNECTION- AND INSTALLATION TECHNIQUE

## 1.7 Compression lugs and connectors made out of aluminium and bimetallic material

Our aluminium cable lugs are manufactured out of solid aluminium bars acc. to DIN 46329. Compared with tubular cable lugs they are longitudinally sealed. The aluminium compression connectors are acc. to DIN 46267 part 2.

To realize a connecting of copper- and aluminium conductors we offer bi-metallic cable lugs and connectors as well as bimetallic sheets and washers. All aluminium sleeves are filled with contact grease and protected against drying up. The cable lugs and connectors are grave with a code number acc. to the DIN-regulation and it is necessary to pay attention to crimp the connectors exclusively with the right tool and the right die-set which must have the same code number like the connector. The number of the necessary crimping operations depends on the lines on the connecting sleeves and the crimping width of the used compression dies. Additionally to the bimetallic cable lugs and connectors we deliver cut-outs of bimetallic sheets too.

Please notice, that the crimping operations will be done exclusively with the right tools and the right compression dies suitable for the used cable lugs or connectors.

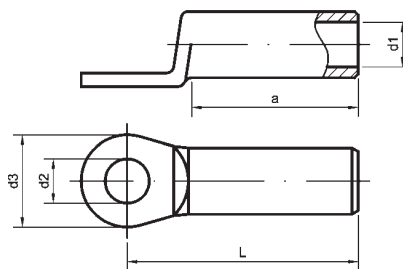
Crimping design:  
Hexagonal-crimping



## Al-cable lugs 16-500 mm<sup>2</sup> longitudinally sealed acc. to DIN 46329

Material: Al 99,5

Surface: uncoated



Part-No.	cross-section mm <sup>2</sup>		drilling M	index-no.	dimensions mm					weight kg/% pcs.	crimping-tools/page no.
	rm/sm	se			d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	L	a		
40010	16	25	8	12	5,4	8,5	20	50	30	1,4	05256 page no. 199 12766 page no. 172; 12965S, 12968 page no. 173; 14240-42 page no. 177; 12748 page no. 179; 13552 page no. 181; 13551/25, 13552/42, 13537 page no. 183; 12485-87, 12836, page no. 199; 12724 page no. 190; 12837 page no. 200 31460 page no. 169; 12728 page no. 188 12930, 12933 page no. 171, 12869 page no. 162 30460 page no. 167 12725 page no. 186 12655 page no. 165 12491 page no. 199
40011			10			10,5				1,3	
40014	25	35	8	12	6,8	8,5	20	50	30	1,5	
40015			10			10,5	25			1,4	
40016			12			13	25			1,4	
40019	35	50	8	14	8	8,5	25	62	42	2,6	
40020			10			10,5				2,4	
40021			12			13				2,3	
40024	50	70	8	16	9,8	8,5	25	62	42	2,5	
40025			10			10,5				2,4	
40026			12			13				2,3	
40029	70	95	8	18	11,2	8,5	25	72	52	3,6	
40030			10			10,5				3,5	
40031			12			13				3,3	
40034	95	120	10	22	13,2	10,5	25	75	56	7,4	
40035			12			13				7,0	
40036			16			17	30	80		6,7	
40039	120	150	10	22	14,7	10,5	30	80	56	7,0	
40040			12			13				6,8	
40041			16			17				6,5	
40044	150	185	10	25	16,3	10,5	30	90	60	8,8	
40045			12			13				8,4	
40046			16			17				9,3	
40049	185	240	10	28	18,3	10,5	30	91	60	11,1	
40050			12			13				11,0	
40051			16			17				11,0	
40054	240	300	12	32	21	13	38	103	70	15,9	
40055			16			17				15,5	
40056			20			21				15,2	
40059	300	-	12	34	23,3	13	38	103	70	17,6	
40060			16			17				17,4	
40061			20			21				17,4	
40064	400	-	12	38	26	13	38	116	73	36,0	
40065			16			17				34,0	
40066			20			21				35,5	
40069	500	-	12	44	29	13	44	122	79	40,5	
40070			16			17				40,3	

Suitable for aluminium conductors acc. to DIN 48201 and aluminium cable conductors acc. to DIN VDE 0295. Sector shaped conductors must be rounded with special dies. All cable lugs are filled with contact grease and sealed in plastic. On request it is possible to deliver all dimensions in a tin plated design.

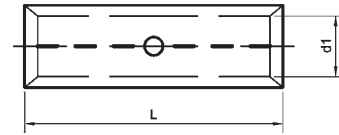


**Al-compression lugs 16-1000 mm<sup>2</sup>****DIN 46267 part 2**

for non tension connections 1-10 kV

Material: Al 99,5

Surface: uncoated



Part-No.	cross-section mm <sup>2</sup>		index-no.	dimensions mm		weight kg/% pcs.	crimping-tools/page no.
	rm/sm	se		d <sub>1</sub>	L		
02070	16	25	10	5,4	55	1,3	pages no. 165-200
02071	25	35	12	6,8	70	1,6	
02072	35	50	14	8	85	2,6	
02073	50	70	16	9,8	85	3,2	
02074	70	95	18	11,2	105	5,3	
02075	95	120	22	13,2	105	7,6	
02076	120	150	22	14,7	105	7,8	
02077	150	185	25	16,3	125	10,7	
02078	185	240	28	18,3	125	14,3	
02079	240	300	32	21	145	20,3	
02080	300	-	34	23,3	145	22,2	
10240	400	-	38	26	210	48,2	
10241	500	-	44	29	210	56,0	
10242	625	-	52	35	330	122,7	
10243	800	-	58	40	350	129,0	
10244	1000	-	60	44	350	142,0	

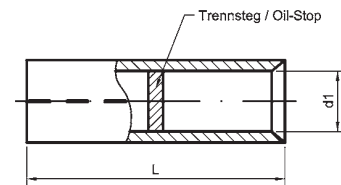
Suitable for aluminium and Al-alloy conductors acc. to DIN 48201 and aluminium cable conductors acc. to DIN VDE 0295. Sector shaped conductors must be rounded with special dies. All connectors are filled with contact grease and sealed in plastic.

**Al-compression lugs 16-300 mm<sup>2</sup>****with oil-stop**

for non tension connections 1-10 kV

Material: Al 99,5

Surface: uncoated



Part-No.	cross-section mm <sup>2</sup>		index-no.	dimensions mm		weight kg/% pcs.	crimping-tools/page no.
	rm/sm	se		d <sub>1</sub>	L		
10250	16	25	12	5,4	75	1,5	pages no. 165-200
10251	25	35	12	6,8	75	1,8	
10252	35	50	14	8	90	3,0	
10253	50	70	16	9,8	90	3,8	
10254	70	95	18	11,2	110	5,7	
10255	95	120	22	13,2	110	8,9	
10256	120	150	22	14,7	110	8,6	
10257	150	185	25	16,3	130	11,2	
10258	185	240	28	18,3	130	16,4	
10259	240	300	32	21	150	20,8	
10260	300	-	34	23,3	155	27,5	

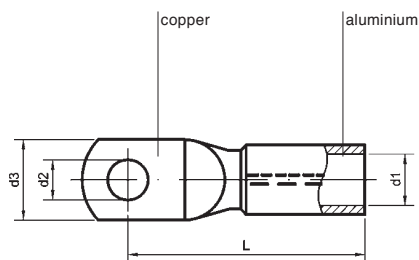
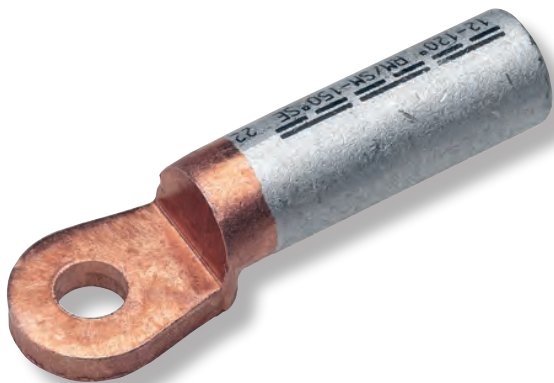
Suitable for aluminium cables acc. to DIN VDE 0295. Sector shaped conductors must be rounded with special dies. All conductors are filled with contact grease and sealed in plastic. On request it is possible to deliver cross-sections up to 1000 mm<sup>2</sup>.

**Bimetallic cable lugs 16-300 mm<sup>2</sup>**

longitudinally sealed with solid copper palm

Material: barrel Al 99,5, palm Cu-HCP

Surface: uncoated



Part-No.	cross-section mm <sup>2</sup>		drilling M	index-no.	dimensions mm			L	weight kg/% pcs.	crimping-tools/page no.		
	rm/sm	se			d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>					
40100	16	25	8	12	5,4	8,5	25	63,5	2,8	12766 page no. 172; 12965/S; 12968 page no. 173; 14240-42 page no. 177; 12748 page no. 179; 13552 page no. 181; 13551/25; 13551/42; 13537 page no. 183; 12485-87; 12836; 05256; page no. 199; 12724 page no. 190; 12837 page no. 200		
40101			10			10,5					2,6	
40102			12			13					2,5	
40106	25	35	8	12	6,8	8,5	25	63,5	3,0			
40107			10			10,5					2,8	
40108			12			13					2,8	
40112	35	50	8	14	8	8,5	25	74,5	5,2			
40113			10			10,5					4,8	
40114			12			13					4,6	
40115	50	70	16	16	9,8	17	30	79	5,0			
40119			8			8,5				25	5,0	
40120			10			10,5				4,8		
40121	70	95	12	18	11,2	13	30	88	6,5			
40122			16			17				30	80	5,5
40126			8			8,5				25	83,5	7,0
40127	10	10,5	7,0									
40128	12	13	6,5									
40129	16	17	6,5									
40134	95	120	10	22	13,2	10,5	30	91	14,4			
40135			12			13				14,0		
40136			16			17				14,4		
40142	120	150	12	22	14,7	13	30	107	22,2			
40143			16			17				22,0		
40149	150	185	12	25	16,3	13	38	109	18,6			
40150			16			17				16,8		
40151			20			21				18,6		
40155	185	240	10	28	18,3	10,5	30	111	22,4			
40156			12			13				22,0		
40157			16			17				20,2		
40158			20			21				22,4		
40162	240	300	10	32	21	10,5	38	120	32,0			
40163			12			13				31,8		
40164			16			17				31,0		
40165			20			21				32,4		
40169	300	-	12	34	23,3	13	38	120	33,7			
40170			16			17				32,9		
40171			20			21				32,0		

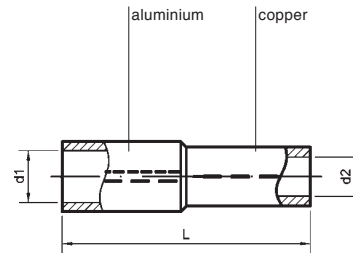
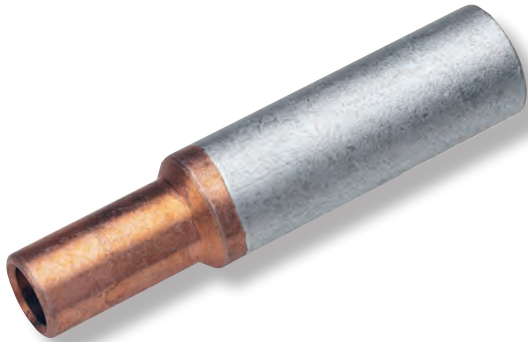
Suitable for aluminium conductors acc. to DIN 48201 and aluminium cable conductors acc. to DIN VDE 0295. Sector shaped conductors must be rounded. All cable lugs are filled with contact grease and sealed in plastic.

**Bimetallic compression lugs 25-300 mm<sup>2</sup>**

for non tension connections 1-10 kV

Material: Al 99,5 Cu-HCP

Surface: uncoated



Part-No.	cross-section mm <sup>2</sup>			index-no.		dimensions mm			weight kg/% pcs.	crimping-tools/page no.
	rm/sm	Al se	Cu rm/sm	Al	Cu	d <sub>1</sub>	d <sub>2</sub>	L		
40201	25	35	10	12	6	6,8	4,5	72	1,4	12766 page no. 172; 12966/S; 12968 page no. 173; 14240-42 page no. 177; 12748 page no. 179; 13552 page no. 181; 13551/25; 13551/42; 13537 page no. 183; 12485-87; 12836; 05256; page no. 199; 12724 page no. 190; 12837 page no. 200
40202			16		8		5,5		1,7	
40203			25		10		7		1,9	
40204			35		12		8,2		3,5	
40208	35	50	16	14	8	8	5,5	80	2,5	31460 page no. 169; 12728 page no. 188
40209			25		10		7		2,7	
40210			35		12		8,2		3,3	
40211			50		14		10		3,5	
40215	50	70	16	16	8	9,8	5,5	82	2,9	12930, 12933 page no. 171, 12869 page no. 162
40216			25		10		7		3,2	
40217			35		12		8,2		3,8	
40218			50		14		10		4,6	
40222	70	95	50	18	14	11,2	10	94	5,7	12491 page no. 199
40223			70		16		11,5		7,3	
40224			95		18		13,5	101	9,4	
40228	95	120	50	22	14	13,2	10	99	8,1	
40229			70		16		11,5		8,2	30460 page no. 167
40230			95		18		13,5	105	10,4	
40231			120		20		15,5	105	11,6	
40235	120	150	70	22	16	14,7	11,5	98	8,5	
40236			95		18		13,5	106	11,0	12655 page no. 165
40237			120		20		15,5	106	11,9	
40241	150	185	70	25	16	16,3	11,5	113	10,4	
40242			95		18		13,5	117	12,7	
40243			120		20		15,5	117	13,9	12725 page no. 186
40244			150		22		17	123	16,7	
40248	185	240	95	28	18	18,3	13,5	119	14,5	
40249			120		20		15,5	119	15,9	
40250			150		22		17	125	19,6	12725 page no. 186
40251			185		25		19	127	21,0	
40255	240	300	95	32	18	21	13,5	126	19,0	
40256			120		20		15,5	126	20,5	
40257			150		22		17	132	23,3	12725 page no. 186
40258			185		25		19	134	25,5	
40259			240		28		21,5	140	30,1	
40261	300	-	120	34	20	23,3	15,5	136	27,8	
40262			150		22		17	136	31,1	12725 page no. 186
40263			185		25		19	138	32,7	
40264			240		28		21,5	144	37,5	
40265			300		32		24,5	150	41,7	

Suitable for aluminium and copper conductors acc. to DIN 48201 or Al- and copper-cable conductors acc. to DIN VDE 0295. Sector shaped conductors must be rounded. The Al-part is filled with contact grease and the connectors are sealed in plastic.

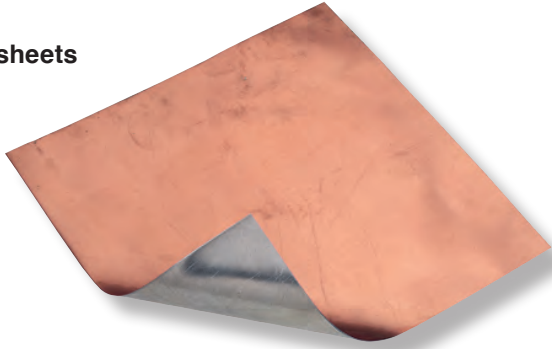


## Bimetallic sheets and washers

Bimetallic elements consist of copper plated aluminium sheets. Since the connection area of both metals is in the middle, it is kept away from air and humidity. This material enables a secure contact and a corrosion protected connection between copper and aluminium.

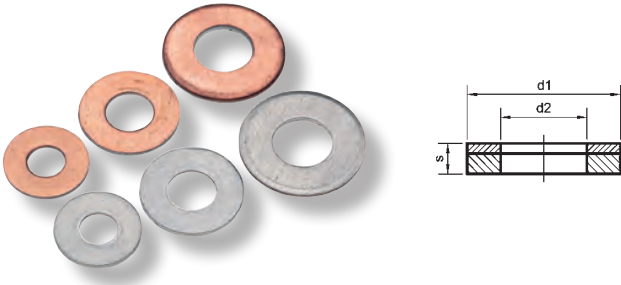
Besides bimetallic sheets and spacers we can also supply cut-outs with and without holes especially for your specific application.

### Bimetallic sheets



Part-No.	length mm	width mm	thickness mm	weight kg/Platte
02670	2000	500	1	4,70
02671			1,5	7,00
02672			2	9,35

### Bimetallic washers

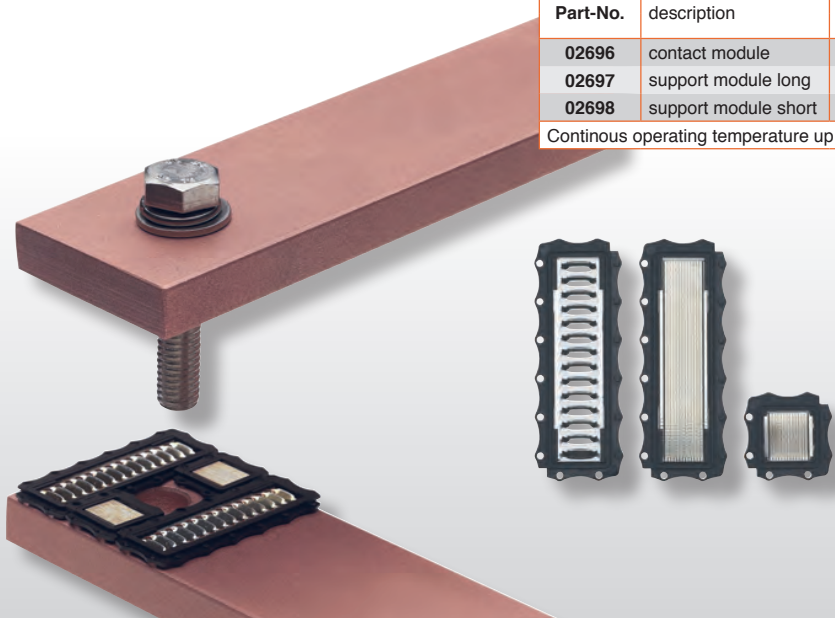


Part-No.	drilling M	dimensions mm			weight kg/% pcs.
		d <sub>1</sub>	d <sub>2</sub>	s	
13295	3	8	3,5	1	0,02
13296	4	10	4,5	1	0,03
13297	5	12	5,5	1	0,05
02675	6	15	6,5	1	0,07
02676	8	18	8,5	1	0,09
02677	10	22	10,5	1,5	0,18
02678	12	25	13	2	0,68
02679	12	28	13	2	0,44
02680	16	35	17	2	0,66

## Seal-contact-modules for high current transmission

Seal-contacts are constructed for high-current transmission with bus-bars and sheets (copper/copper, Alu/copper or Alu/Alu) in indoor as well as outdoor-installations. It is possible to connect uncoated, unmachined and uncleaned bus-bars or sheets also in corrosive atmospheres (e.g. sulphur dioxide, salt laden air, chlorine etc.). The modules are suitable for bolted joints in bus-bars according to DIN. By using these elements the high current transmission is made in hermetically sealed chambers, so that no oxidation or corrosion is possible.

So you get low loss over a long time of use. The torsion springlouver of the multilam permits the contact force as well as the electrical performance of the bus bar joint to remain constant even when the compression force drops to 50 % of its initial value. The torsion springlouver of the multilam get through the oxydlayer of the bus bar, so that a cleaning or coating of the contact areas is not necessary. So screw connections with low loss and without any servicing over a long time of use is guaranteed.



Part-No.	description	rated current	length mm	width mm	thickness mm
02696	contact module	800 A	40	13,33	1,4
02697	support module long	-	40	13,33	1,4
02698	support module short	-	13,33	13,33	1,4

Continuous operating temperature up to + 100° C, short circuit current 1 s = 20 kA.

# 1. ELECTRICAL CONNECTION- AND INSTALLATION TECHNIQUE

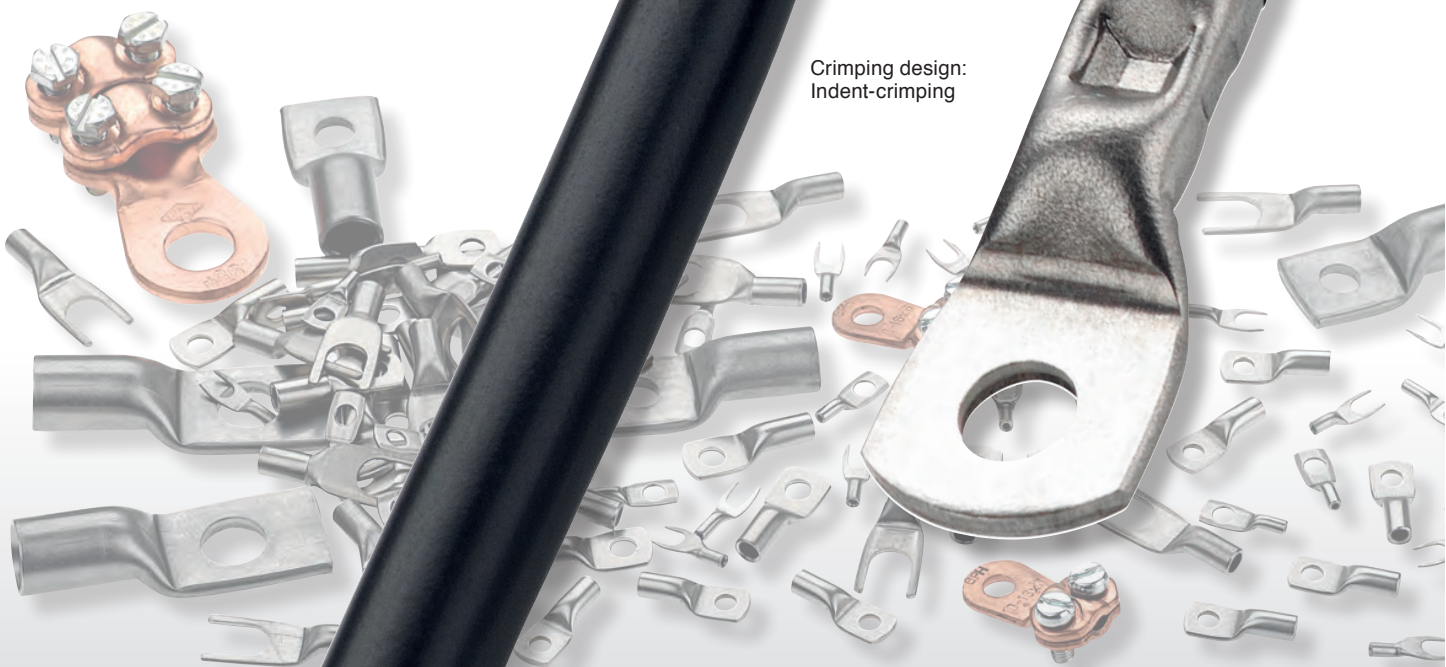
## 1.8 Cable lugs and connectors in special design

To offer also cable lugs and connectors for ambitious application in matters of chemical and heat resistiveness too, druseidt delivers serial produced cable lugs consisting out of stainless steel or nickel material. Main application are in the range of electrical furnaces, steel-melting-plants, foundries, heating elements, anywhere where high temperatures are existent or due to the existence of chemical stress a working with copper- or aluminium connectors is not possible. Especially our cable lugs consisting out of stainless steel A4 offer a good resistance against oxidation, seawater, acids or cleaning materials. They are well suited also for application under highest hygiene requirements inside of the food- and medical production ranges. Even for chemical application where neither connectors consisting out of stainless-steel or consisting out of nickel are not resistant enough we manufacture in special design cable lugs consisting out of titan.

We recommend to crimp nickel- as well as stainless-steel connectors with an indent-crimping design. So we offer for the crimping of stainless steel lugs special compression dies. To make cable connections without crimping the conductors, we offer screwable cable lugs acc. to catalogue page 64.

Please notice, that the crimping operations will be done only with the right tools and suitable compression dies.

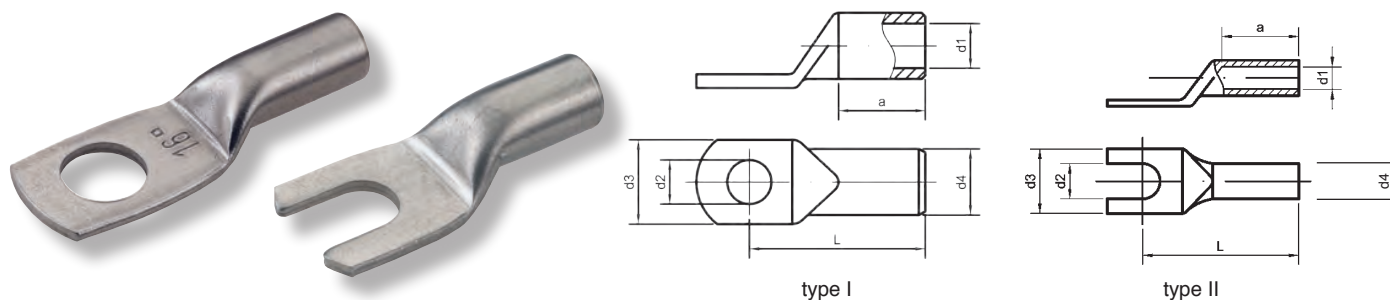
Crimping design:  
Indent-crimping



**Nickel cable lugs 0,5-16 mm<sup>2</sup>**

Ring- and fork type

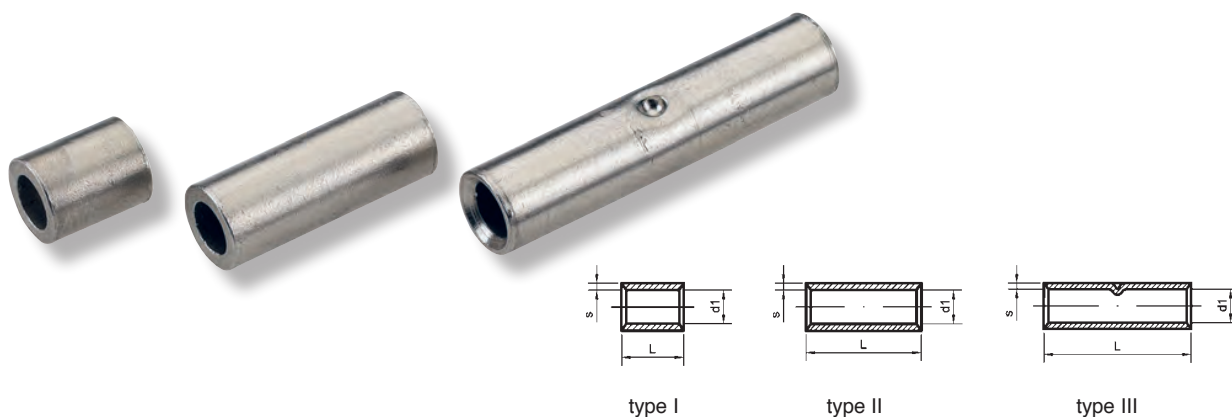
Material: Nickel tube, temperature stability up to ca. + 500° C



Best-Nr.		cross-section mm <sup>2</sup>	drilling M	dimensions mm						weight kg/ % pcs.	crimping-tools/page no.
type I	type II			d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	d <sub>4</sub>	L	a		
13254	-	0,5-1,0	3	1,6	3,2	6,5	3,2	12,5	6	0,73	30446 page no. 158 30445 page no. 158 12655 page no. 163 12869 page no. 162 12724 page no. 190
13255	13265		4		4,3	7		13,5		0,84	
13256	13266		5		5,3	7,5		14,5		0,90	
13257	13267	1,5-2,5	4	2,3	4,3	7	3,9	14	6	1,14	
13258	13268		5		5,3	8,5		15,5		1,23	
13259	13269		6		6,4	9,5		17		1,33	
13260	13270	4-6	4	3,6	4,3	9,4	5,6	18	8	2,57	
13261	13271		5		5,3	10		18,5		2,66	
13262	13272		6		6,4	10,5		19,5		2,90	
13262/8	-		8		8,4	12,5		22		3,19	
13263	13273	10	5	4,5	5,3	10,8	6,5	20,5	10	3,40	
13264	13274		6		6,4	11,5		22,5		3,70	
13264/8	13274/8		8		8,4	13,3		25		4,20	
13414	13417	16	5	5,5	5,3	12,8	7,5	22,5	11	4,40	
13415	13418		6		6,4	13,6		24,5		4,80	
13416	13419		8		8,4	15,7		26,5		5,40	

**Nickel connectors 0,5-16 mm<sup>2</sup>**

Material: Nickel tube, temperature stability up to ca. + 500° C

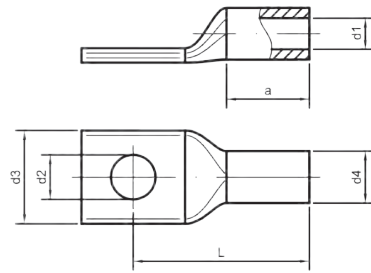


Part-No.	cross-section mm <sup>2</sup>	type	d <sub>1</sub>	dimensions mm		weight kg/ % pcs.	crimping-tools/page no.
				L	s		
<b>Parallel connectors</b>							
01980	0,5-1,0	I	1,6	7	0,8	0,40	30446 page no. 160 30445 page no. 160
01981	1,5-2,5		2,3		0,8	0,50	
01982	4-6		3,6		1,0	0,90	
<b>Butt connectors without wire stop</b>							
01985	0,5-1,0	II	1,6	15	0,8	0,85	12650, 12655 pages no. 164/165
01986	1,5-2,5		2,3		0,8	1,10	
01987	4-6		3,6		1,0	1,90	
<b>Butt connectors with wire stop</b>							
13275/15	0,5-1,0	III	1,6	15	0,8	0,82	12650, 12655 pages no. 164/165
13275				25	0,8	1,35	
13276/15	1,5-2,5	III	2,3	15	0,8	1,04	
13276				25	0,8	1,70	
13277/15	4-6	III	3,6	15	1,0	1,92	
13277				25	1,0	3,25	
13278	10	III	4,5	25	1,0	3,80	
13279	16		5,5	30	1,0	5,40	



**Tubular cable lugs 1,5-95 mm<sup>2</sup>  
out of stainless steel**

Material: stainless steel 1.4571 (V4A)  
Temperature stability up to ca. + 400° C



Part-No.	cross-section mm <sup>2</sup>	drilling M	dimensions mm				L	a	weight kg/‰ pcs.	crimping-tools/page no.
			d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	d <sub>4</sub>				
10905	1,5 - 2,5	4	3	4,3	9	5	22,5	8	2,70	12930, 12933 page no. 171; 14240/42 page no. 177; 12748 page no. 179; 12728 page no. 188  12965/S, 12968 page no. 179; 13551/25, 13551/42, 13537 page no. 183; 12485-87, 12837 page no. 199; 12869 page no. 162; 12724 page no. 190
10906		5		5,3	9		21,5		2,60	
10907		6			6,4	10		20		
10910	4 - 6	4	4	4,3	9	6	23,5	9	3,30	
10911		5		5,3	9		22,5		3,40	
10912		6			6,4	10		21		
10915	10	5	5	5,3	12	8	29	10	8,10	
10916		6		6,4	12		27,5		8,00	
10917		8			8,4	13		25		
10920	16	5	6	5,3	12	8	36	16	7,30	
10921		6		6,4	12		34,5		7,20	
10922		8			8,4	13		32		
10925	25	6	7	6,4	14	10	33,5	15	12,60	
10926		8		8,4	16		31		12,50	
10930	35	6	9	6,4	18	12	39,5	17	18,60	
10931		8		8,4	18		37		18,10	
10932		10			10,5	20		36		
10936	50	8	10	8,4	21	14	43	19	31,00	
10937		10		10,5	21		42		30,70	
10938		12			13	23		40		29,50
10940	70	8	12	8,4	24	16	53	21	44,60	
10941		10		10,5	24		52		43,70	
10942		12			13	24		50		42,40
10943		16			17	28		47		41,70
10945	95	8	14	8,4	26	18	58	25	56,00	
10946		10		10,5	26		57		55,00	
10947		12			13	26		55		53,60
10948		16			17	28		52		51,90

**Cable lugs out of titanium**

In cases where the chemical stability of our stainless steel or nickel connectors are insufficient we manufacture on request also cable lugs out of titanium material.



