Handling of compression joints

General Information

Compression connections require precise matching of joint, conductor and tool size. DIN specification adherence of conductor, selected compression joint and compression die provides best results: A durable, heavy duty connection. The hexagon compression is designed for a conductor temperature up to 90 °CC, acc. to IEC.

Preparation

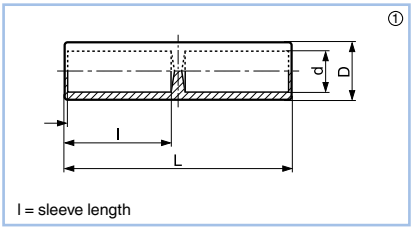
All compression joints and compression cable lugs are stamped with cross section specification, manufacturer's logo as well as die code number, corresponding roughly to the outer diameter of the sleeve. Select the compression tool die corresponding to this code.
The hexagon compressions are carried out by means of mechanical or hydraulic tools acc. to DIN 48083.
«Cu» marked dies have to be used for copper or steel joints. Designated «Al» dies are used for aluminum or aluminum alloy joints.
In the case of hydraulic tools differentiation regarding the conductor materials is not necessary.

Assembly instruction

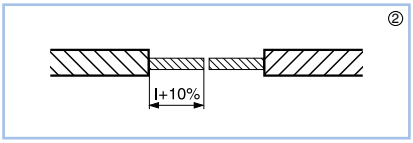
1. Strip conductor to sleeve length (l + 10 %). (image 1 and 2)
2. Remove dirt and oxide layers from both conductors using a metal brush.
3. Insert first conductor into compression sleeve up to the stop or inspection hole.
4. Before compression verify the die code with the compression mark number on the joint.
5. Start compression from the middle to the barrel end. (image 3 and 4)
6. The number and position of the compression points is indicated by marking lines. Attention: **All** markings must be compressed.
7. Insert second conductor into compression sleeve up to the stop or inspection hole.
8. Start compression on second side from the middle to the barrel end. (image 5 and 6)
9. Final Check: The extension length of the joint is about 10 % by proper compression with correct conductor – cable lug – die – combination
10. Remove excess grease

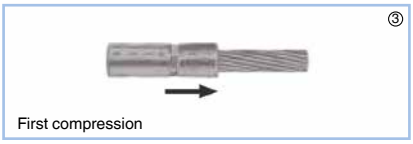
Please note:

During installation of special connectors, such as notch type mid-span joints and connectors with steel sleeve, you have to adhere specific installation requirements.
(Source: Nexans Power Accessories Germany GmbH)

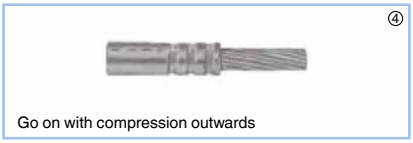


l = sleeve length

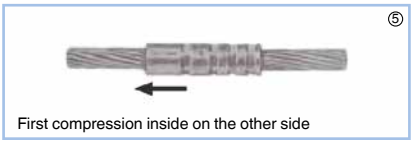




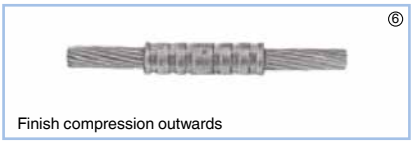
First compression



Go on with compression outwards



First compression inside on the other side



Finish compression outwards

Handling of compression cable lugs

General Information

Compression connections require precise matching of compression cable lugs, conductor and tool size. DIN specification adherence of conductor, selected compression cable lugs and compression die provides best results: A durable, heavy duty connection. The hexagon compression is designed for a conductor temperature up to 90° C, acc. to IEC.

Preparation

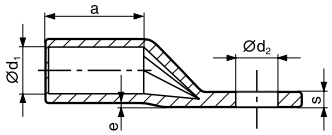
All compression cable lugs are stamped with cross section specification, manufacturer's logo as well as die code number, corresponding roughly to the outer diameter of the sleeve. Select the compression tool die corresponding to this code.
The hexagon compressions are carried out by means of mechanical or hydraulic tools acc. to DIN 48083.
«Cu» marked dies have to be used for copper or steel compression cable lugs. Designated «Al» dies are used for aluminum or aluminum alloy compression cable lugs.
In the case of hydraulic tools differentiation regarding the conductor materials is not necessary.

Assembly instruction

1. Strip conductor to sleeve length (a + 10 %). (image 1 and 2)
2. Remove dirt and oxide layers from conductor using a metal brush.
3. Insert conductor into compression sleeve up to the stop or inspection hole.
4. Before compression verify the die code with the compression mark number on the lug.
5. Start compression from the palm side to the barrel end. (image 3 and 4)
6. The number and position of the compression points is indicated by marking lines. Attention: **All** markings must be compressed.
7. Final Check: The extension length of the sleeve is about 5 % by correct compression with correct conductor – cable lug – die – combination.
8. Remove excess grease.

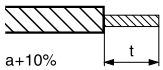
(Source: Nexans Power Accessories Germany GmbH)

①



a = sleeve length

②



③

First compression

④

Finish compression outwards

Round Stranded Compacted Conductor (RMV)

For the application of hexagonal crimp connectors and lugs.

Due to the increased use of round stranded compacted XLPE cables, crimp connectors and lugs acc. to DIN-standard – esp. for cable cross sections 185 mm² and 240 mm² could provoke heating problems.

For these cross sections we recommend the application of special connectors and lugs with an adjusted inner diameter (GPH's RMV-series).

For smaller cross sections (≤ 150 mm²) we have no knowledge of such problems.

Conductor cross section [mm²]	Inner diameter of barrel by RMV	Inner diameter of barrel by DIN 46267 part 2
50	9	9,8
70	DIN	11,2
95	12,5	13,2
120	14	14,7
150	15,5	16,3
185	17,5	18,3
240	20	21
300	22	22,3

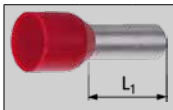
Example for choosing the appropriate connector for Round Stranded Compacted cable 240 mm²:
Cat. No. «240 ALU-ZE-T» for use of Round Stranded Compacted cable,
Cat. No. «RMV 240 ALU-ZE-T»

(Source: Nexans Power Accessories Germany GmbH)

Tooling list for end sleeves for correct crimping according to UL

Insulated end sleeves, single bag

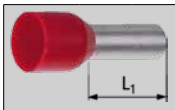
(BN 22489, BN 22490, BN 22491, BN 22493, BN 22494, BN 22495, BN 22326, BN 22327, BN 22328)

												
⍁ mm²	L_1	AWG	Stripping length [mm]	Wire class for UL486F	**Crimpit F 6 L** BN 20766 Art-# 9032433	**Crimpit F 25 L** BN 20766 Art-# 9032434	**Crimpit F 50 L** BN 20766 Art-# 9032475	**Crimpit F 6 EN** BN 20767 Art-# 9032447	**Crimpit F 16** BN 20767 Art-# 9032448	**Crimpit F 50 EN** BN 20767 Art-# 9032432	**PZ 10 SQR** BN 20768 Art-# 9032505	**PZ 10 HEX** BN 20769 Art-# 9032506
0,14*	6	26	9,5									
0,14*	8	26	12									
0,25*	6	24	9,5									
0,25*	8	24	12									
0,25*	12	24	16									
0,34*	6	22	9,5									
0,34*	8	22	12									
0,34*	12	22	16									
0,5	6	21	9,5	B, K								
0,5	8	21	12	B, K								
0,5	10	21	14	B, K								
0,5	12	21	16	B, K								
0,75	6	19	9,5	B, K, Q								
0,75	8	19	12	B, K, Q								
0,75	9	19	13	B, K, Q								
0,75	10	19	14	B, K, Q								
0,75	12	19	16	B, K, Q								
1	6	18	9,5	B, K, Q								
1	8	18	12	B, K, Q								
1	10	18	14	B, K, Q								
1	12	18	16	B, K, Q								
1,5	6	16	9,5	B, K								
1,5	8	16	12	B, K								
1,5	10	16	14	B, K								
1,5	12	16	16	B, K								
1,5	18	16	22	B, K								
2,08	8	14	12	B, K								
2,08	12	14	16	B, K								
2,5	6	14	9,5	B, K								
2,5	8	14	12	B, K								
2,5	10	14	14	B, K								
2,5	12	14	16	B, K								
2,5	18	14	22	B, K								
4	8	12	12	C, K								
4	10	12	14	C, K								
4	12	12	16	C, K								
4	18	12	22	C, K								
6	12	10	12	C, K								
6	18	10	22	C, K								
10	12	8	16	C, K								
10	18	8	22	C, K								
16	12	6	16	C, K								
16	18	6	22	C, I								
25	16	4	20	C, I								
25	18	4	22	C, I								
25	22	4	26	C, I								

Recommended combination, not certified

Certified to UL486F/CSA

*Cross-section not certified to UL486F/CSA

												
⍁ mm²	L_1	AWG	Stripping length [mm]	Wire class for UL486F	**Crimpit F 6 L** BN 20766 Art-# 9032433	**Crimpit F 25 L** BN 20766 Art-# 9032434	**Crimpit F 50 L** BN 20766 Art-# 9032475	**Crimpit F 6 EN** BN 20767 Art-# 9032447	**Crimpit F 16** BN 20767 Art-# 9032448	**Crimpit F 50 EN** BN 20767 Art-# 9032432	**PZ 10 SQR** BN 20768 Art-# 9032505	**PZ 10 HEX** BN 20769 Art-# 9032506
35	16	2	20	K, H								
35	18	2	22	K, H								
35	25	2	29	K, H								
50	20	1	24	K, H								
50	25	1	29	K, H								
50	30	1	34	K, H								

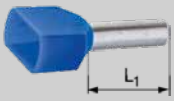
Recommended combination, not certified

Certified to UL486F/CSA

*Cross-section not certified to UL486F/CSA

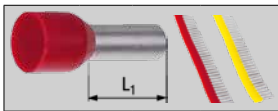
Twin end sleeves, single bag

(BN 22496, BN 22497, BN 22498, BN 22465, BN 22466, BN 22467)

												
⍁ mm²	L_1	AWG	Stripping length [mm]	Wire class for UL486F	**Crimpit F 6 L** BN 20766 Art-# 9032433	**Crimpit F 25 L** BN 20766 Art-# 9032434	**Crimpit F 50 L** BN 20766 Art-# 9032475	**Crimpit F 6 EN** BN 20767 Art-# 9032447	**Crimpit F 16** BN 20767 Art-# 9032448	**Crimpit F 50 EN** BN 20767 Art-# 9032432	**PZ 10 SQR** BN 20768 Art-# 9032505	**PZ 10 HEX** BN 20769 Art-# 9032506
2 x 0,34	8	2 x 22	11	B								
2 x 0,5	8	2 x 21	11	B								
2 x 0,5	10	2 x 21	14	B								
2 x 0,5	12	2 x 21	16	B								
2 x 0,75	8	2 x 19	11	B								
2 x 0,75	10	2 x 19	14	B								
2 x 0,75	12	2 x 19	16	B								
2 x 0,75	18	2 x 19	22	B								
2 x 1	8	2 x 18	11	B								
2 x 1	12	2 x 18	16	B								
2 x 1	14	2 x 18	18	B								
2 x 1	18	2 x 18	22	B								
2 x 1,5	8	2 x 16	11	B, K								
2 x 1,5	12	2 x 16	17	B, K								
2 x 1,5	18	2 x 16	22	B, K								
2 x 2,5	10	2 x 14	14	B, K								
2 x 2,5	12	2 x 14	16	B, K								
2 x 2,5	18	2 x 14	22	B, K								
2 x 4	12	2 x 12	17	C, K								
2 x 4	18	2 x 12	22	C, K								
2 x 6	12	2 x 10	17	C, K								
2 x 6	18	2 x 10	22	C, K								
2 x 10	12	2 x 8	17	K								
2 x 10	18	2 x 8	22	K								
2 x 16	16	2 x 6	22	K								
2 x 16	25	2 x 6	31	K								

Certified to UL486F/CSA

End sleeves, stripes
(BN 22499, BN 22500, BN 22501)



⍁ mm²	L_1	AWG	Stripping length [mm]	UL Wire class	**Crimpit F multi** BN 20770 Art-# 9032507
0,5	8	21	12	B, K	
0,75	8	19	12	B, K,Q	
1	8	18	12	B, K,Q	
1,5	8	16	12	B, K	
2,5	8	14	12	B, K	

Certified to UL486F/CSA

Non insulated end sleeves, single bag
(BN 22486)

⍁ mm²	L	AWG	Stripping length [mm]	UL Wire class	**Crimpit F 6 L** BN 20766 Art-# 9032433	**Crimpit F 25 L** BN 20766 Art-# 9032434	**Crimpit F 50 L** BN 20766 Art-# 9032475	**Crimpit F 6 EN** BN 20767 Art-# 9032447	**Crimpit F 16** BN 20767 Art-# 9032448	**Crimpit F 50 EN** BN 20767 Art-# 9032432	**PZ 10 SQR** BN 20768 Art-# 9032505	**PZ 10 HEX** BN 20769 Art-# 9032506
0,14*	7	26	7									
0,25*	5	24	5									
0,25*	5	24	5									
0,34*	5	22	5									
0,34*	7	22	7									
0,5	6	21	6	B, K								
0,5	7	21	7	B, K								
0,5	8	21	8	B, K								
0,5	10	21	10	B, K								
0,5	12	21	12	B, K								
0,75	6	19	6	B, K								
0,75	8	19	8	B, K								
0,75	10	19	10	B, K								
0,75	12	19	12	B, K								
0,75	15	19	15	B, K								
1	6	18	6	5, 6**								
1	7	18	7	5, 6**								
1	8	18	8	5, 6**								
1	10	18	10	5, 6**								
1	12	18	12	5, 6**								
1	15	18	15	5, 6**								

Recommended combination, not certified

*Cross-section not certified to UL486F/CSA

**DIN/IEC wire class

Certified to UL486F/CSA

1 Certified to UL486F/CSA, wire class C, K

2 Certified to UL486F/CSA, wire class K

3 Certified to UL486F/CSA, wire class C

												
⍁ mm²	L	AWG	Stripping length [mm]	UL Wire class	**Crimpit F 6 L** BN 20766 Art-# 9032433	**Crimpit F 25 L** BN 20766 Art-# 9032434	**Crimpit F 50 L** BN 20766 Art-# 9032475	**Crimpit F 6 EN** BN 20767 Art-# 9032447	**Crimpit F 16** BN 20767 Art-# 9032448	**Crimpit F 50 EN** BN 20767 Art-# 9032432	**PZ 10 SQR** BN 20768 Art-# 9032505	**PZ 10 HEX** BN 20769 Art-# 9032506
1,5*	6	16	6									
1,5	7	16	7	B, K								
1,5	8	16	8	B, K								
1,5	10	16	10	B, K								
1,5	12	16	12	B, K								
1,5	15	16	15	B, K								
1,5	18	16	18	B, K								
1,5	20	16	20	B, K								
2,5	7	14	7	B, C, K	1			1				
2,5	8	14	8	B, C, K	1			1				
2,5	10	14	10	B, C, K	1			1				
2,5	12	14	12	B, C, K	1			1				
2,5	15	14	15	B, C, K	1			1				
2,5	18	14	18	B, C, K	1			1				
2,5	20	14	20	B, C, K	1			1				
4	9	12	9	C, K								
4	10	12	10	C, K								
4	15	12	15	C, K								
4	18	12	18	C, K								
4	20	12	20	C, K								
6	10	10	10	C, K								
6	12	10	12	C, K								
6	15	10	15	C, K								
6	18	10	18	C, K								
6	20	10	20	C, K								
10	12	8	12	C, K								
10	15	8	15	C, K								
10	18	8	18	C, K								
10	20	8	20	C, K								
10	25	8	25	C, K								
16	12	6	12	C, K								
16	15	6	15	C, K								
16	18	6	18	C, K								
16	20	6	20	C, K								
16	25	6	25	C, K								
16	32	6	32	C, K								
25*	12	4	12									
25	15	4	15	C, K		3						
25	18	4	18	C, K		3						
25	25	4	25	C, K		3						
25	32	4	32	C, K		3						
35*	12	2	12									
35	18	2	18	K, H								
35	20	2	20	K, H								
35	22	2	22	K, H								
35	25	2	25	K, H								
35	30	2	30	K, H								
35	32	2	32	K, H								
50	18	1	18	K, H			2					
50	22	1	22	K, H			2					
50	25	1	25	K, H			2					
50	32	1	32	K, H			2					

Recommended combination, not certified

*Cross-section not certified to UL486F/CSA

**DIN/IEC wire class

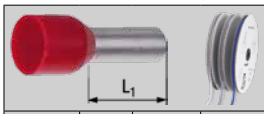
Certified to UL486F/CSA

1 Certified to UL486F/CSA, wire class C, K

2 Certified to UL486F/CSA, wire class K

3 Certified to UL486F/CSA, wire class C

Insulated end sleeves, tape-mounted
(BN 22502, BN 22503, BN 22504)



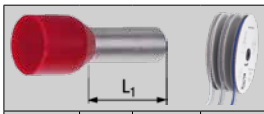
⍁ mm²	L	AWG	Stripping length [mm]	UL Wire class	UL certified machine**
0,34*	8	22	12		
0,5	8	21	12	B, K	
0,5	10	21	14	B, K	
0,75	8	19	12	B, K, Q	
0,75	10	19	14	B, K, Q	
1	8	18	12	B, K, Q	
1	10	18	14	B, K, Q	
1.5	8	16	12	B, K	
1.5	10	16	14	B, K	
2.5	8	14	12	B, K	
2.5	10	14	14	B, K	

Certified to UL486F/CSA

* Cross-section not certified to UL486F/CSA

** For more information about UL certified machines, please contact our Product Management Electrical elektro@bossard.com

Insulated end sleeves, tape-mounted, multinorm
(BN 22323, BN 22324, BN 22325)



⍁ mm²	L	AWG	Stripping length [mm]	UL Wire class	UL certified machine**
0.5	8	21	12	B, K	
0.5	10	21	14	B, K	
0.75	8	19	12	B, K, Q	
0.75	10	19	14	B, K, Q	
1	8	18	12	B, K, Q	
1	10	18	14	B, K, Q	
1.5	8	16	12	B, K	
1.5	10	16	14	B, K	
2.5*	8	14	12	B, K	
2.5*	10	14	14	B, K	

Certified to UL486F/CSA

* Identical with the standard 2,5mm²-version

** For more information about UL certified machines, please contact our Product Management Electrical elektro@bossard.com