

AMP MCP 9.5

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Revision	Description	Date	Drawn	Approved

1 SCOPE

This specification contains the guidelines for the application of the **AMP MCP 9.5 Contact System**. The instructions are intended primarily for automatic or semi-automatic application of all versions, for wire and for single wire seal. If agreed it can also be applied to manual crimp tools.

The contacts are listed by their use, the wire size ranges and crimping data in section 5.

Note: Only the AMP crimp tools specified in section 5 may be used for application of the contacts. Any exceptions to this rule are defined by customer specific documents.

2 REFERENCED DOCUMENTS

2.1 Customer Drawings

The dimensions and materials of the contacts are shown in the AMP customer drawing **1355037**. In the case of a conflict between this document and the customer drawing, the customer drawing takes precedence.

2.2 Product Specification

The product specification 108-18630 describes the characteristics of these contacts, together with the electrical and mechanical requirements.

2.3 Application Specifications

The general guidelines laid down in Application Specifications 114-18018 and 114-18022 also apply to the crimp quality.

2.4 Instructional Material

CM contains information about crimping machines for MQC crimping tool.
AI describes the MQC crimping tool.

2.5 Instruction Sheets

IS 7424 explains how to measure the crimp height.

2.6 National / International Standards

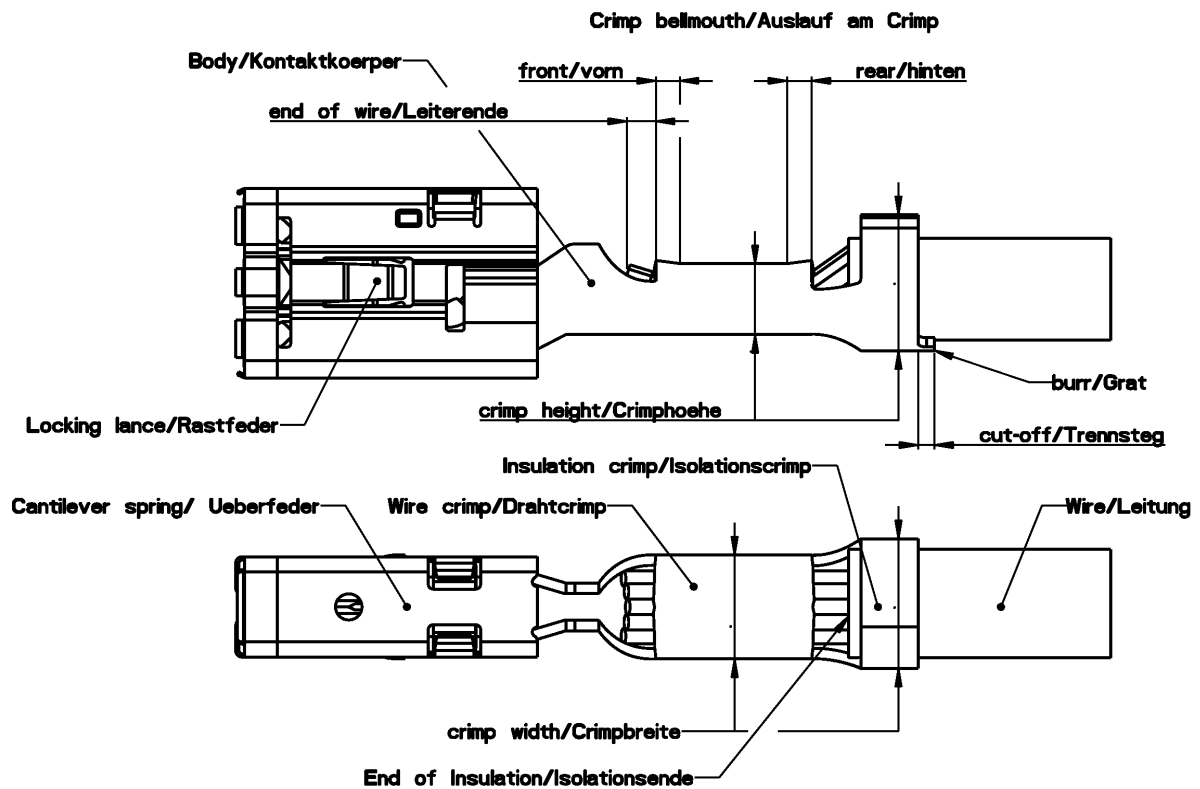
DIN ISO 6722 T3/03.93 Unscreened low-tension cables (FLK)

DIN EN 60352 T2/09.95 Solderless crimped connections

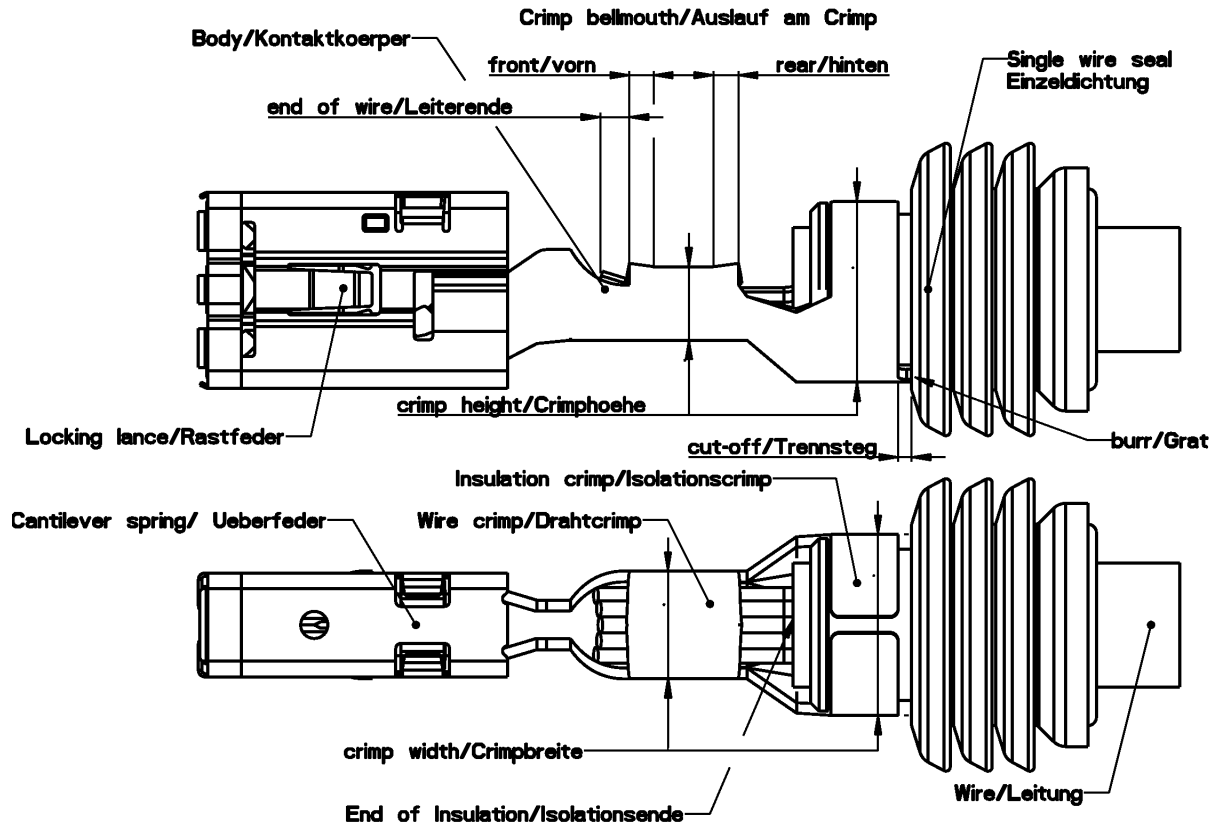
3 DESCRIPTION

The terms shown below are used in the specification.

3.1 Contacts for Wires



3.2 Contacts for Single Wire Seal



4 REQUIREMENTS

4.1 Wires

A Selection

Only conductors in accordance with DIN ISO 6722 (FLK) which comply with the conditions specified in tables 1 and 2 may be used. Other conductors require the approval from the development department.

Single termination is preferred. Double termination with FLK conductors, this is possible only with restrictions.

B Preparation

The wire must be stripped to the lengths shown in tables 1 and 2. Take care that the individual strands of the wire are not bent or cut off.

For single wire sealing care must be taken that the insulation of the wire in the sealing area is not damaged, compressed or deformed. The insulation must be clean and free of contamination.

4.2 Cut-off and Burr

The cut-off must be visible after crimping. Its length may not exceed 0,5 mm. The burr at the shearing point may not exceed 0,05 mm.

4.3 Wire Crimp

A Wire position

After crimping the end of the wire must extend 0,5 to 1,0 mm beyond the front end of the wire crimp. In no case may the end of the insulation be crimped in the wire crimp.

B Crimping data

The shape, height and width of the crimp, and the wire range, are shown in tables 1 and 2.

The crimp height is measured as described in the operating instructions from IS 7424 using a crimp height micrometer, AMP Order No. 675836-0.

The crimp width is determined by the crimping tool and is defined as the distance between the intersections of the two rolling radii with the vertical. It is not possible to monitor production by measuring the crimp width.

C Extraction forces

The extraction forces must fulfil the requirements of DIN EN 60352 part 2.

D Crimp bellmouth

The size of the rear bellmouth depends on the wire range:

4,0 mm	: 0,5 ±0,2 mm
6,0 mm ²	: 0,6 ±0,3 mm
10,0 mm ²	: 0,8 ±0,4 mm
16,0 mm ²	: 1,0 ±0,5 mm

A missing of the front bellmouth is permitted.

E Burr on base of crimp

The burr on the base of the crimp may be, that is fixed in the specification 114-18022 not to exceed..

4.4 Insulation crimp and Crimp for Single Wire Seal

A Position of the end of of insulation

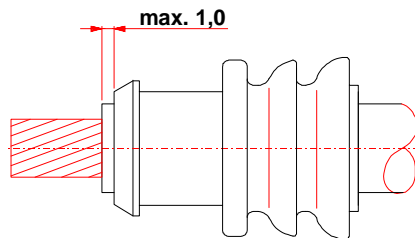
The end of the insulation must be visible in the transition between the wire crimp and the insulation crimp. In no case may the insulation be crimped in the wire crimp and conversely the insulation must extend at least to the front edge of the insulation crimp.

B Crimping data for wires

The shape and width of the crimp, and the insulation diameter are shown in table 1. The crimp height is adjusted either after the bending test or after the wrapping test to DIN EN 60352 part 2.

C Position of the single wire seal on the wire

The end of the wire insulation must at least be flush with the front face of the seal and may extend not more than 1,0 mm beyond this.



D Crimping data for single wire seals

The shape and width of the crimp, and the part number of the single wire seal, are shown in table 2. The crimp height is correctly adjusted if the crimp encloses the seal in the shape of a circle. It is recommended that the crimp height tolerance on the basis of the extension of the collar of the seal by the wire be fully utilized.

E Position of the single wire seal in the crimp

The collar of the single wire seal must be visible in the window in the base of the crimp. At the most, it may touch the edge of the crimp.

F Visual inspection

After crimping the single wire seal may have no visible cuts or notches around the diameter of the collar. Only pressure points which cannot cause tearing or splitting of the seal in the long term are permitted.

4.5 Contact Area

After crimping neither the cantilever spring, the locking lances and the contact body may be bent nor deformed.

4.6 Shape and Position Tolerances of the crimped Contact

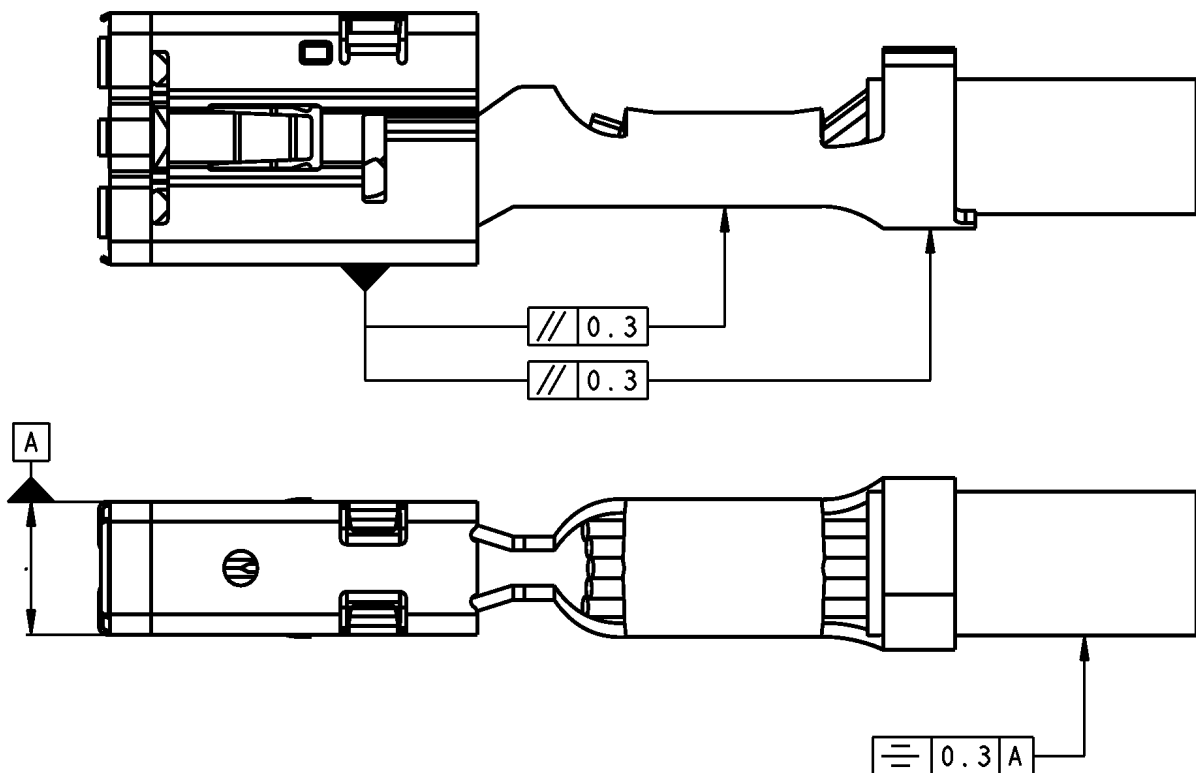
A Contacts for Wires

Parallelism

The bottom of the wire crimp or of the insulation crimp must be parallel with the contact body, with a tolerance of 0,3 mm.

Symmetry

The width of the insulation crimp must be symmetrical with the contact body, with a tolerance of 0,3 mm.



B Contacts for Single Wire Seal

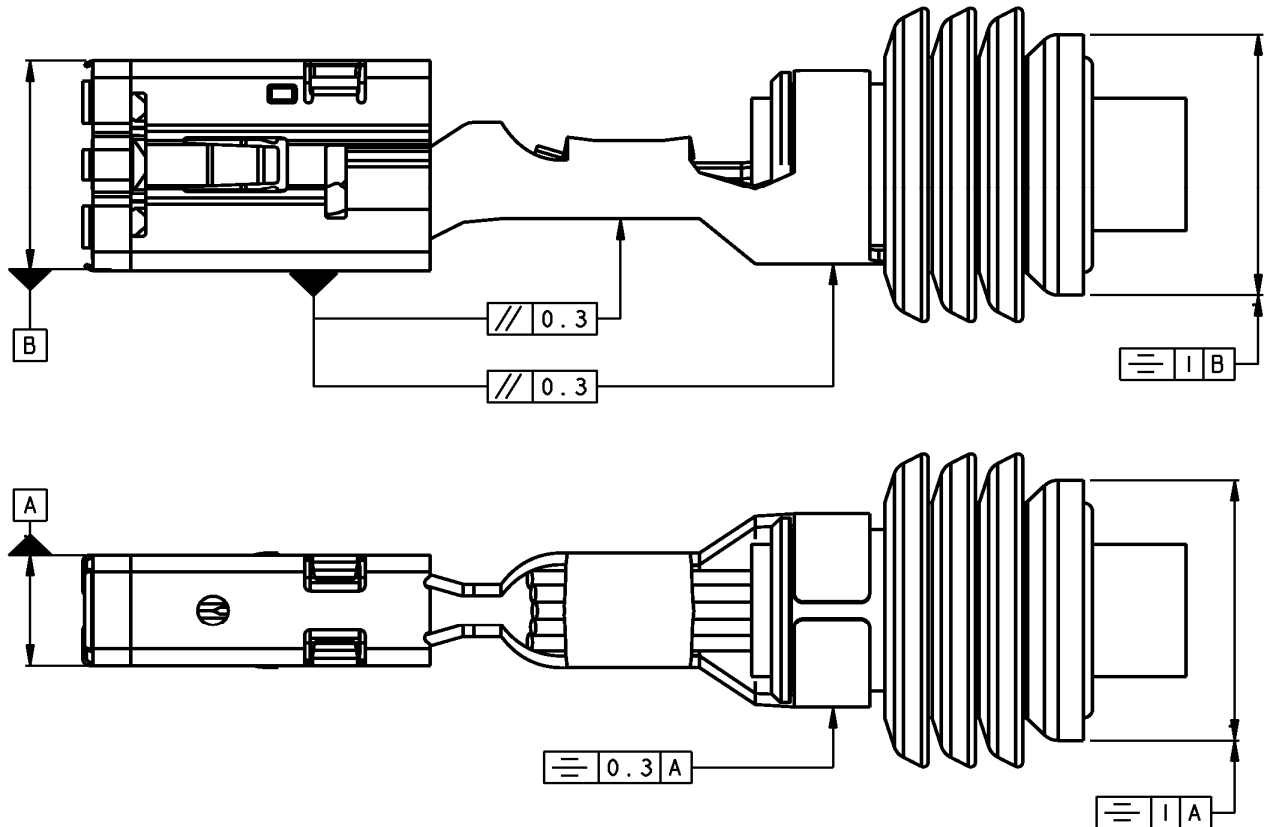
Parallelism

The bottom of the wire crimp or of the insulation crimp must be parallel with the contact body, with a tolerance of 0,3 mm.

Symmetry

The lateral offset of the crimp for the single wire seal must lie within a tolerance of 0,3 mm symmetrical to the contact body.

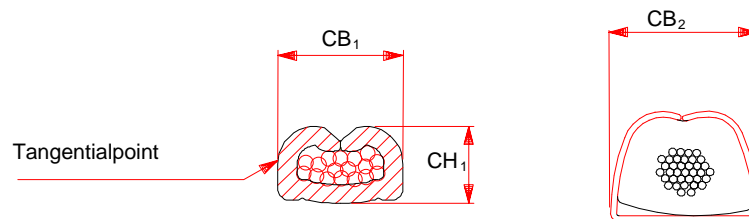
The single wire seal itself must lie within a vertical symmetry tolerance of 1 mm.



5 CRIMPING DATE

5.1 Table 1 Contacts with Insulation Crimp (Version for Tab 1,2mm)

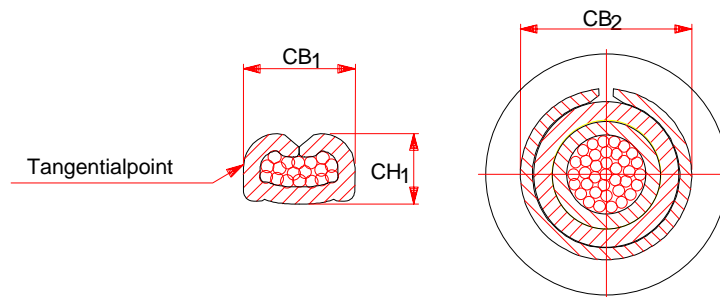
Contacts with Insulation Crimp (Version for Tab 1,2mm)												
Order-No.		Cable Type	Wire size	Insulation- Ø	Stripped length	Wire crimp			Insulation crimp		Application tool	Die for hand tool
			[mm ²]	[mm]	[mm] ±0.3	Width	Height	Shape	Width	Shape		
Strip form	Loose piece					Width CB₁ [mm]	Height CH₁ ±0.05 [mm]	Shape	Width CB₂ [mm]	Shape		Basis hand tool 539783-1
967588	929150	FLK	6	4,6 – 5,1	10	5,08	3,22	F	7,62	F	x-541664-x	539783-5
			8	5,8 – 6,4			3,53					1579001-1
			10				3,84					539783-6
967589	929151	FLK	16	7,1 – 7,7	13	6,35	4,38	F	8,64	F	x-541671-x	539783-7



5.2 Table 2 Contacts with crimp for Single Wire Seal (Version for Tab 1,2 mm)

Contacts with crimps for Single Wire Seal (Version for Tab 1,2 mm)															
Order-No.		Cable Type	Wire size [mm ²]	Insulation- ∅ [mm]	Stripped length [mm] ±0.3	Wire crimp			Single wire seal crimp		Application tool	Die for hand tool	Single wire seal		Dead and plug
Strip form	Loose piece					Width	Height	Shape	Width	Shape			Basis hand tool	Order-No.	
						CB ₁ [mm]	CH ₁ ±0.05 [mm]		CB ₂ [mm]			539783-1			
967590	929152	FLK	6 ^{*1)} 10	4,6 – 5,1 5,8 – 6,4	10	5,08	3,22 3,84	F	10,92	O	x-541665-x	539783-8 539783-9	1355437-1 1355437-2	violet sky blue	1355437-4
967591		FLK	16	7,1 – 7,7	13	6,35	4,38	F		O	541710	1-539783-0	1355437-3	orange	1355437-4

*1) Wire size 6mm² also permitted for FLR-conductor according to DIN 72551, part 6

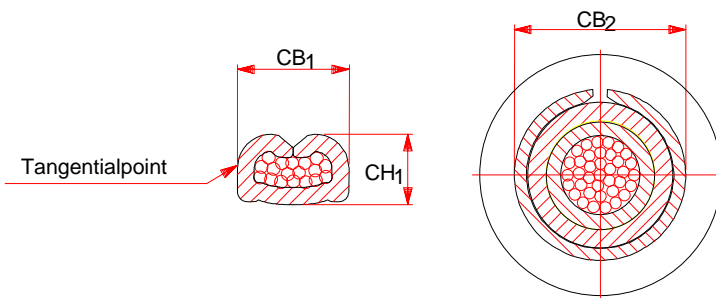


5.3 Table 3 Contacts with Insulation-Crimp (Version for Tab 0,8 mm)

Contacts with Insulation Crimp (Version for Tab 0,8 mm)												
Order-No.		Cable Type	Wire size [mm ²]	Insulation-∅ [mm]	Stripped length [mm] ±0.3	Wire crimp			Single wire seal crimp		Application tool	Die for hand tool
Strip form	Loose piece					Width CB₁ [mm]	Height CH₁ ±0.05 [mm]	Shape	Width CB₂ [mm]	Shape		
1719386	1719385	FLK	3 *1) 4 5 *1) 6 *2)	4,0 – 4,5 4,6 – 5,1	8,3	4,57	2,55 2,74 2,91 3,08	F	6,35	F		Basis hand tool 539783-1
1241930	1241938	FLK	6 8 *1) 10	4,6 – 5,1 5,8 – 6,4	10	5,08	3,22 3,53 3,84	F	7,62	F	x-541664-x	539783-5 1579001-1 539783-6

*1) special wires, not according to DIN 6722 (FLK)

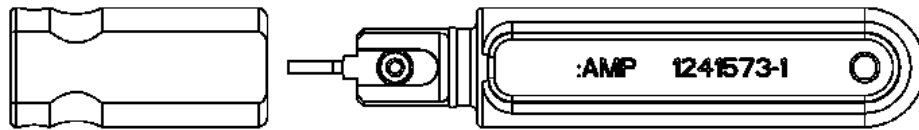
*2) use preferably 1241930



6 AUXILIARY TOOLS

6.1 Ausdrückwerkzeug

The release of contacts from the housings is made with extraction tool order-no. 1241573-1..



6.2 Dead End Plugs Assembly

Dead end plugs are available for sealing cavities which are not occupied by contacts. The dead end plug is positioned as follows in the cavity:

