
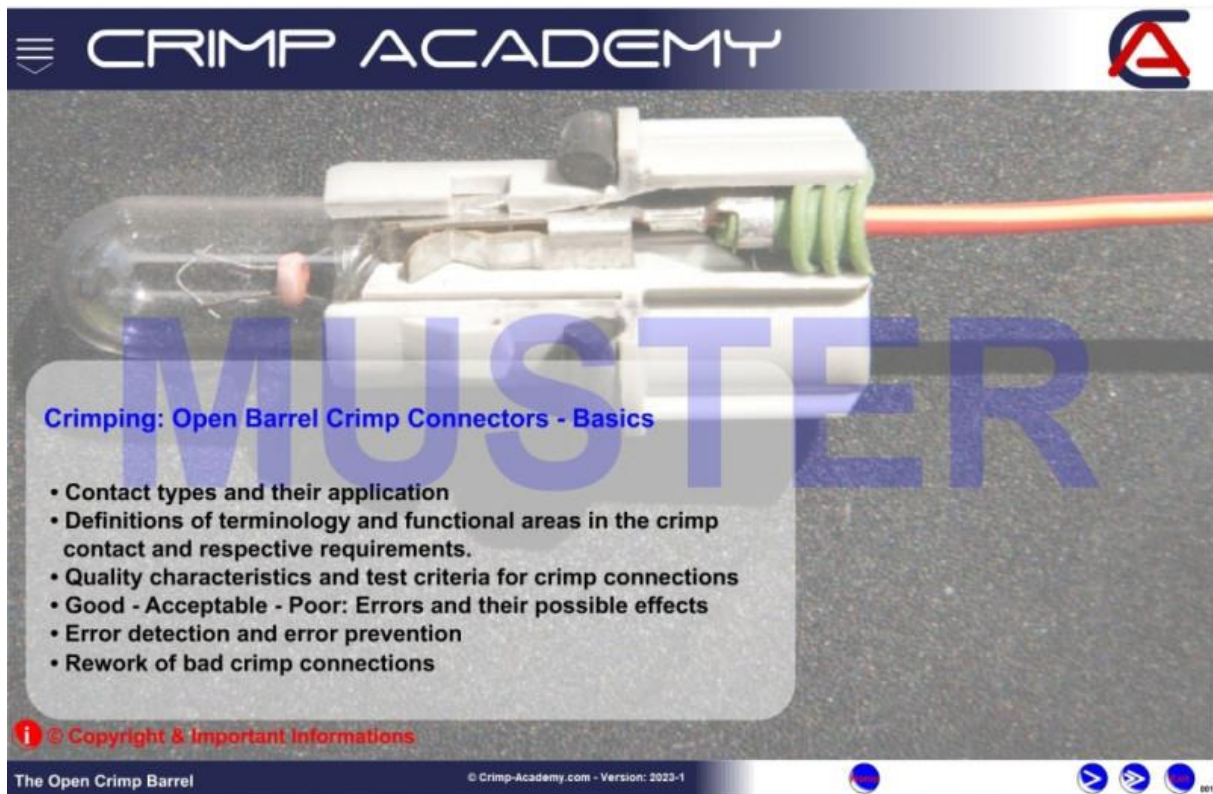


Training tool: Crimping - Open Barrel Crimp Connectors - Basics

Reference: Tool-03-EN-OCB

File format: App (exe)

Language: English 



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Crimping: Open Barrel Crimp Connectors - Basics

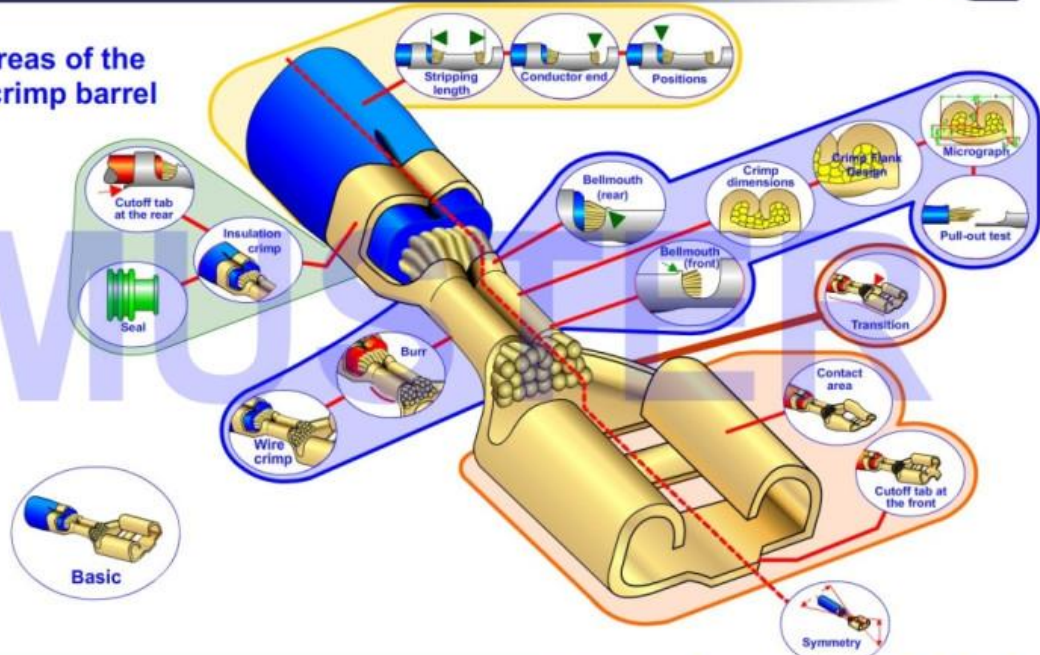
- Contact types and their application
- Definitions of terminology and functional areas in the crimp contact and respective requirements.
- Quality characteristics and test criteria for crimp connections
- Good - Acceptable - Poor: Errors and their possible effects
- Error detection and error prevention
- Rework of bad crimp connections

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The Open Crimp Barrel © Crimp-Academy.com - Version: 2023-1



The areas of the open crimp barrel



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The Wire Crimp Area

The Rear Bellmouth





The rear bellmouth (1) acts as transition between the loose stranded conductor of the cable and the crimped stranded compound in the crimping area and prevents the nicking or severing of individual strands and thus the formation of a predetermined breaking point.

The rear bellmouth (1) is mandatory and must be provided. The front bellmouth (2) is not mandatory. The front bellmouth (2) must be the same size or smaller than the rear bellmouth (1). The crimp flanks in the bellmouth area must not be incised.

Wire Crimp Area

Crimp Dimensions

Rear Bellmouth

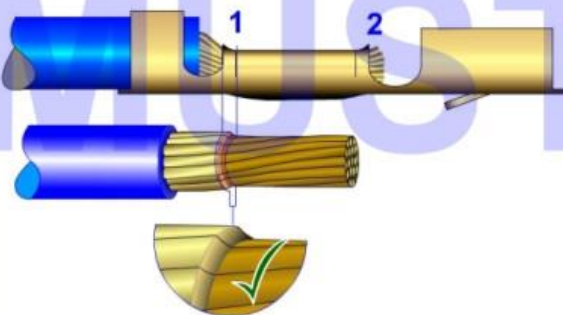
Error


Front Bellmouth

Burr formation


Crimp Flank Design

Error






OK executed wire crimp with bellmouth




Error: The bellmouth is too large.
The crimp flanks are cut open.



Error: No bellmouth present

i Requirements: Open Crimp Barrel

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Insulation crimp

Requirements

Crimp Dimensions

Crimp Shapes

Geometries





















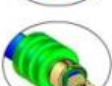



Seal

Assignment

Seal Assembly

Assembly

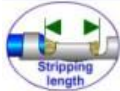
Transition

Crimp shape	Die shape
 	 
 	 
 	 
 	 
 	 
 	 

„OV“ stands for „overlap“. Insulation crimp form for open crimp sleeves. Often used for wires with reduced insulation thickness.

(1) Crimp die | (2) Anvil

Wire and wire positions
Stripping length



Position of Conductor

Position of Seal

Wire Insertion

The stripping length depends on the design of the crimp contact. The tolerances are defined according to the geometry of the crimp contact. When defining the tolerance, the position from the end of the insulation in the area between the insulation crimp and the wire crimp as well as the conductor protrusion must be taken into account (3). This also determines the maximum permissible tolerance.

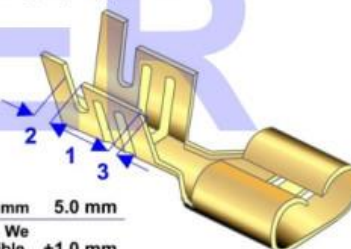
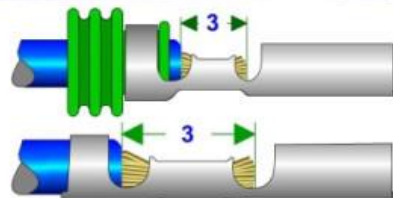
The stripping length is a specification given by the contact manufacturer.

Attention: Due to the contact pressure of the grippers and/or the feed rollers, the stripping length to be set may change according to the stretching behavior of the insulation.

The correct stripping length must be checked by making samples and adjusted if necessary. Since the stripping properties of the insulation influence the stripping result, the stripping length must be checked regularly during ongoing production.

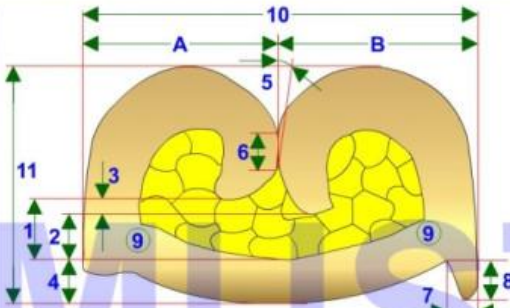
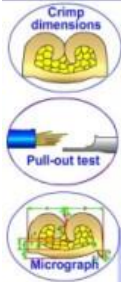
Calculating the stripping length

Important: The actual setting of the stripping length depends on the stripping behavior of the insulation. This corrective value (adjustment) must be determined in a stripping test and also adjusted during ongoing production if necessary!



(1) Length of the wire crimp area (e.g.): 5.0 mm	5.0 mm
(2) Distance between wire crimp (WC) and insulation crimp (IC): (e.g.) 2.0 mm: 2 = 1 mm. We know that in the gap between DC and IC insulation and stranded conductor must be visible. This means we take half of the distance between WC and IC.	+1.0 mm
(3) The conductor protrusion after the wire crimp must be in a range of 0.1 mm to max. 0.5 mm. This means we add another 0.2 mm to our stripping length.	+0.2 mm
Calculated stripping length in mm:	6.2 mm
Adjustment:	+ x,x mm





The basic characteristics of good crimping always remain the same. They are the same regardless of the crimp contact variants:

- No cavities and completely, uniformly filled crimp sleeve.
- Complete, non-uniform, honeycomb deformation of the individual wire strands.
- Pressure marks and deformations on the inner surface of the crimp sleeve.
- No damage and deformation on the crimp contact.

Note: First and foremost, the dimensional specifications of the parameters refer to the contact material thickness (CMT).

Position	Target	Error cause
(1) End of left crimp flank to crimp barrel wall:	Min. half CMT	
(2) End of right crimp flank to crimp barrel wall:	Min. half CMT	•Positioning error: Crimp contact on the anvil
(3) End left to right crimp flank:	Max. CMT	
(4) Base thickness after the crimping:	Min. 75% CMT	•Setting error: crimp height •Wire crimp overpressed
(5) Support angle:	Max. deviation from the vertical = 30°	•Positioning error: Crimp contact on the anvil
(6) Support height:	Min. CMT	
(7) Burr width:	Max. half CMT	•Wear in the wire crimper
(8) Burr height:	Max. CMT	•Overpressing (setting error: crimp height)
(9) Cracks on crimp base:	Not permissible	•Incorrect crimping dies (hand crimper)
(10) Crimp width:	according to specification	•Adjustment error: Crimp height
(11) Crimp height:		•Incorrect dies (hand crimper)
(A – B) Symmetry:	uniform	•Positioning error: Crimp contact on the anvil

