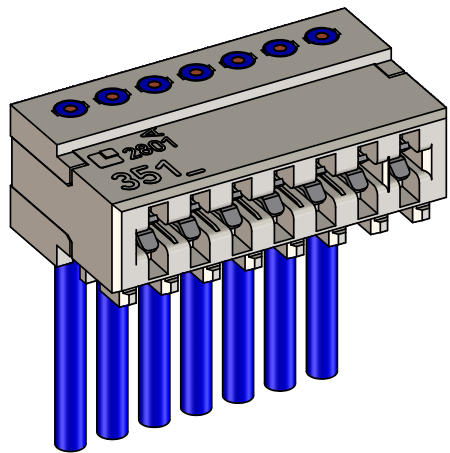
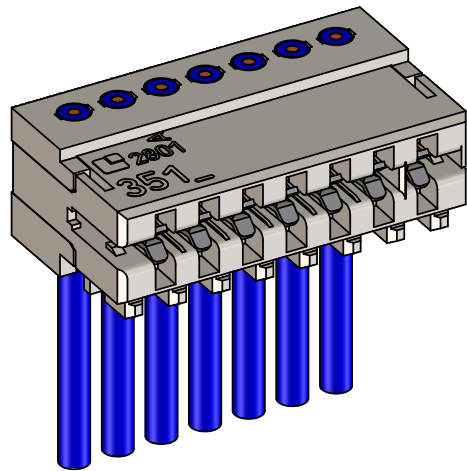


3510-5




3517-5




	Date	Name	Edition	1	2	3	4	5	6
Author	23.03.22	fs	Name	fs					
checked	28.07.22	jas	Date	28.07.22					

[illegible]

<p>LUMBERG CONNECT GMBH</p> <p>Im Gewerbepark 2 58579 Schalksmühle</p>	<h1>Processing Instruction</h1> <h2>Connector RAST 2.5</h2>	<p>Lumberg  passion for connections</p> <p>35V04EN</p> <p>Page 3 of 18</p>
--	---	---

Contents

1. Product description.....	4
1.1. Product types.....	5
Direct connector 3510-5.....	5
Direct connector 3517-5.....	5
2. System features.....	6
3. Contact principle.....	7
4. Cutting-off coding keys.....	8
4.1. Coding acc. to RAST 2.5.....	8
4.2. Cutting blades.....	8
5. Application tooling and machines for 3510-5 and 3517-5.....	9
6. Cable specification.....	10
6.1. Cable specifications cross section for connection 0,38 mm ²	10
6.2. Cable specifications cross section for connection 0,35 mm ²	10
7. Assembly.....	11
7.1. Connector feed.....	11
7.2. Impression die stamp.....	12
7.3. Shut height dimension of the termination machine.....	12
7.4. Wire end position.....	13
7.5. Wire (stranded wire / flat cable).....	13
7.6. Housing.....	14
8. Quality assurance.....	15
8.1. Quality features.....	15
8.2. Quality features / IDC.....	15
8.3. ID slot width.....	15
8.4. Symmetry of the ID slot.....	15
8.5. Cable quality.....	15
8.6. Contact insertion depth.....	16
8.7. Cable protrusion.....	16
8.8. Retention force of the wire.....	16
8.9. Contact gap.....	17
8.10. Electrical testing.....	17
9. Storage.....	18

<p>LUMBERG CONNECT GMBH</p> <p>Im Gewerbepark 2 58579 Schalksmühle</p>	<h1>Processing Instruction</h1>	<p>Lumberg  passion for connections</p> <p>35V04EN</p> <p>Page 4 of 18</p>
	<p>Connector RAST 2.5</p>	

1. Product description

Connector in insulation displacement technology (IDT) for direct mating
acc. RAST 2.5 standard, alternatively with or without keying ribs and / or closed sides

Material of the connector: PBT / PA

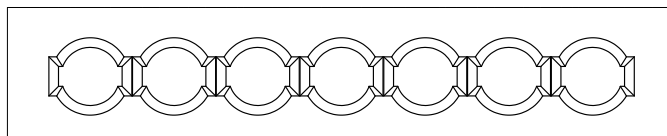
Connectable wire in insulation displacement area

for 4 A

2 – 9 pole

max. insulation diameter Ø 1,6 mm

standard design

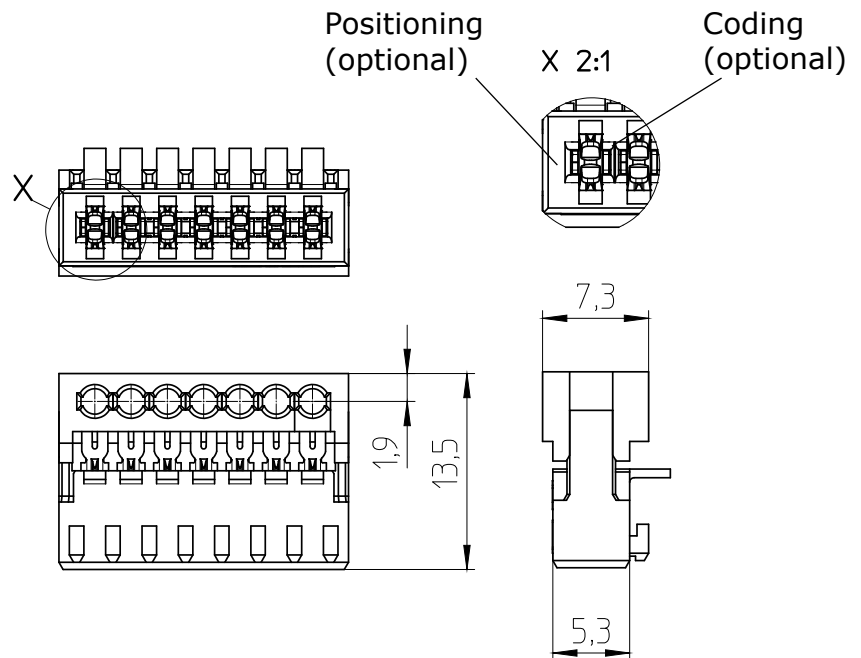


1.1. Product types

Direct connector 3510-5

Pitch 2,5 mm

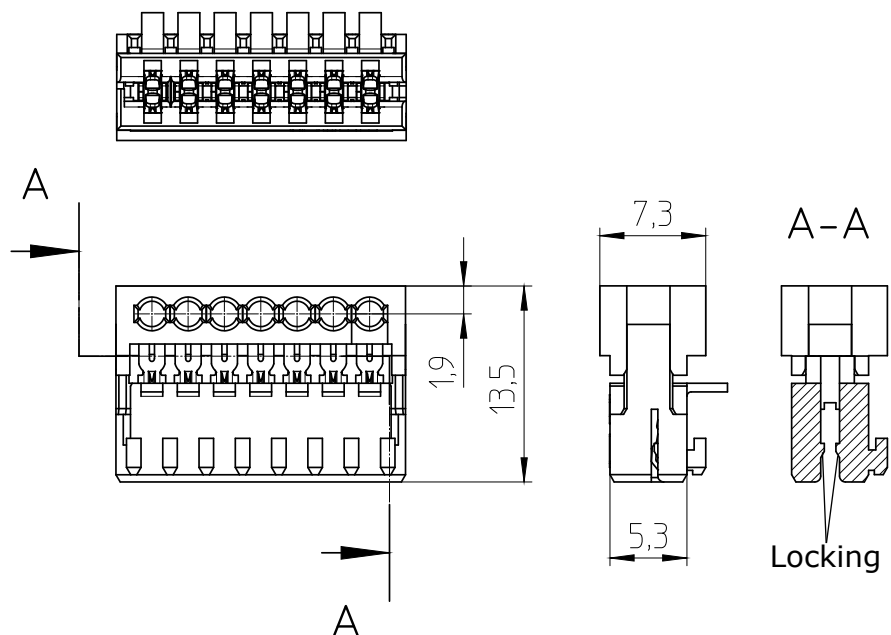
acc. to spec. sheet 3510 13

**For each number of poles
a special die is required**

Direct connector 3517-5

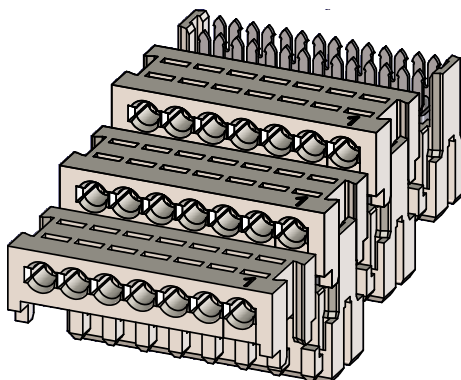
Pitch 2,5 mm

acc. to spec. sheet 3517 12

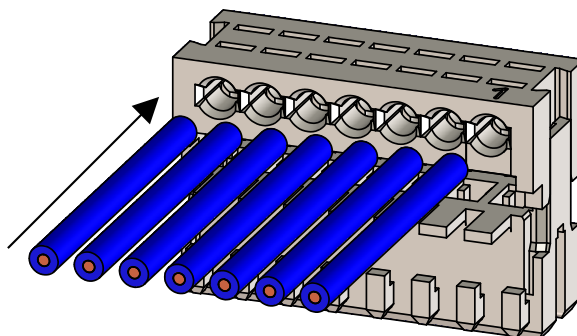
**For each number of poles
a special die is required**

2. System features

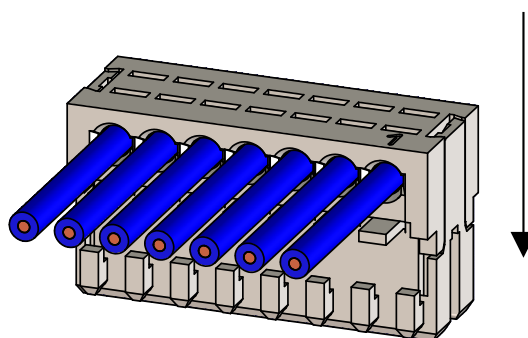
Two-part body
Supplied in following stacks



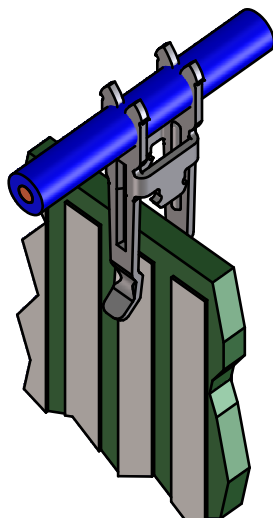
Wire termination



Insulation displacement connection by pressing the top
Wire exit 90°



3. Contact principle



PCB 1,0 mm

Insulation displacement connection
(test acc. to DIN EN 60352-4 / IEC 60352-4)

4. Cutting-off coding keys

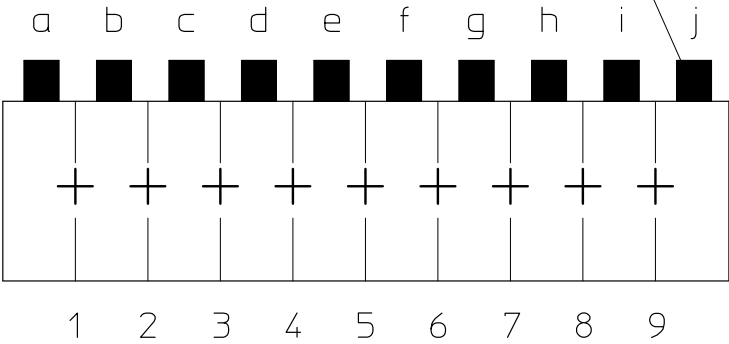
The cutting-off coding keys acc. to RAST 2.5 standard at the termination machine and the allocation of connector, color marking and cutting-off coding keys are the sole responsibility of the customer.

Caution !
Connectors, pin headers and guide frames are always marked in mating direction.

4.1. Coding acc. to RAST 2.5


basic connector in mating direction


coding



4.2. Cutting blades

To ensure a correct cutting-off of the coding keys, use only Lumberg cutting blades. A minimal remaining burr is permitted.

<p>LUMBERG CONNECT GMBH</p> <p>Im Gewerbepark 2 58579 Schalksmühle</p>	<p>Processing Instruction</p> <p>Connector RAST 2.5</p>	<p>Lumberg  passion for connections</p> <p>35V04EN</p> <p>Page 9 of 18</p>
<p>5. Application tooling and machines for 3510-5 and 3517-5</p> <p>The function, safety and quality of the connectors are only guaranteed by using of Lumberg processing equipment. It has to be taken into account that the connectors aren't checked electrically before the processing / assembling. Because of that an electrical test should be carried out after processing / assembling.</p> <p>The user bears full responsibility if any other processing equipment is used.</p> <p>In case of using any lubricants or sliding agents in the feed and press areas residues (impurities) must not come into contact with the connectors.</p> <p>Manual processing tool For fitting single wires and ribbon cables. For single and small series.</p> <p>Manual processing device For fitting single wires and ribbon cables. For small series.</p> <p>Pneumatic processing device Pneumatically assisted processing device with manual cable feed and connector feed. For small and middle series.</p> <p>Semi-automatic processing device To the economic assembling of automatic connector feed and manual cable feed. For serial production.</p> <p>Automatic processing device For optimal assembling of automatic wire feed and connector feed. For industrial mass production.</p>		

LUMBERG CONNECT GMBH Im Gewerbepark 2 58579 Schalksmühle	<h1>Processing Instruction</h1>	
	Connector RAST 2.5	35V04EN Page 10 of 18

6. Cable specification

The cable specification must be kept. Any deviation must be discussed and approved by Lumberg.

6.1. Cable specifications cross section for connection 0,38 mm²

Technical specification sheet 908 14 PVC-stranded wire =0,38 mm²

6.2. Cable specifications cross section for connection 0,35 mm²

Technical specification sheet 908 32 FLR-stranded wire =0,35 mm²

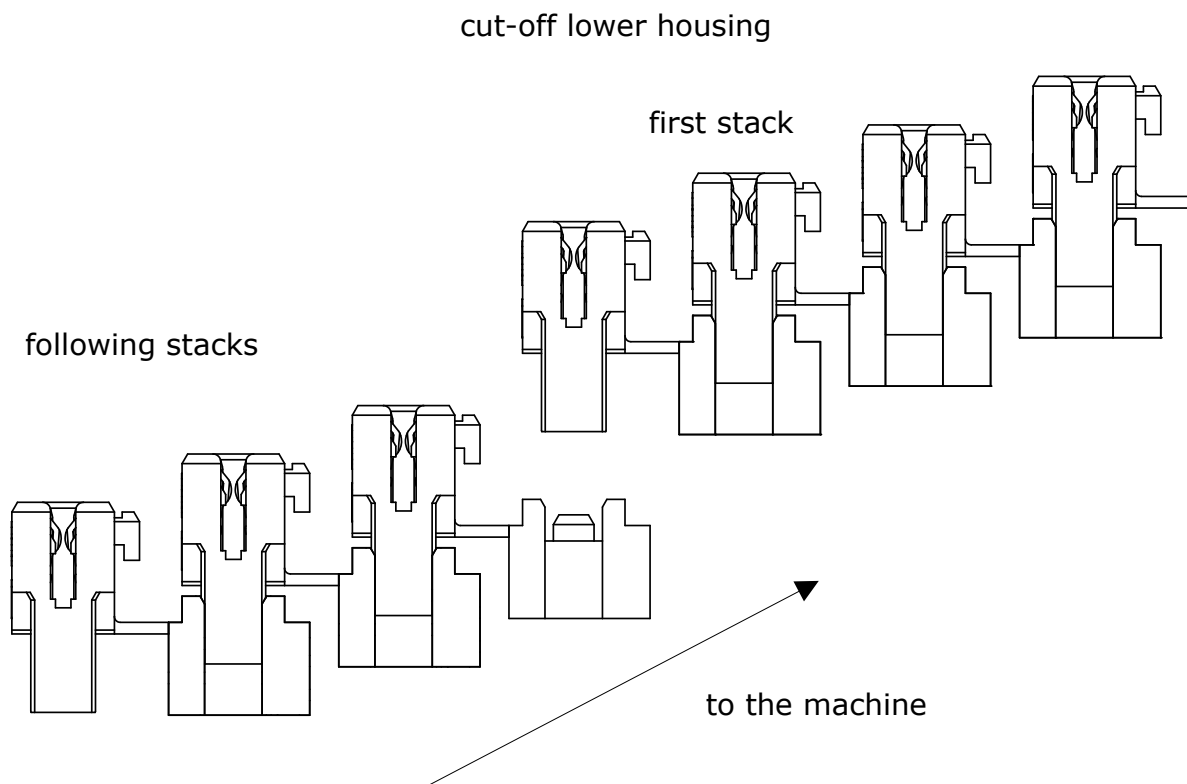
Other approved cable see Lumberg release list in the internet at www.lumberg.com

7. Assembly

Connector and cross section should be adapted with each other acc. Lumberg specification (see technical data sheet).

7.1. Connector feed

The lower housing must be cut off before the first stack of connectors is fed into the termination head. To feed a new stack into the machine the upper housing of the stack in the machine must be placed into the lower housing of the new stack. The cutting-off of the single connector from the stack is done by the machine. The links will remain on the connector. The connection of links typically remain on the connector in this case. These links can be removed if the customer requires it.



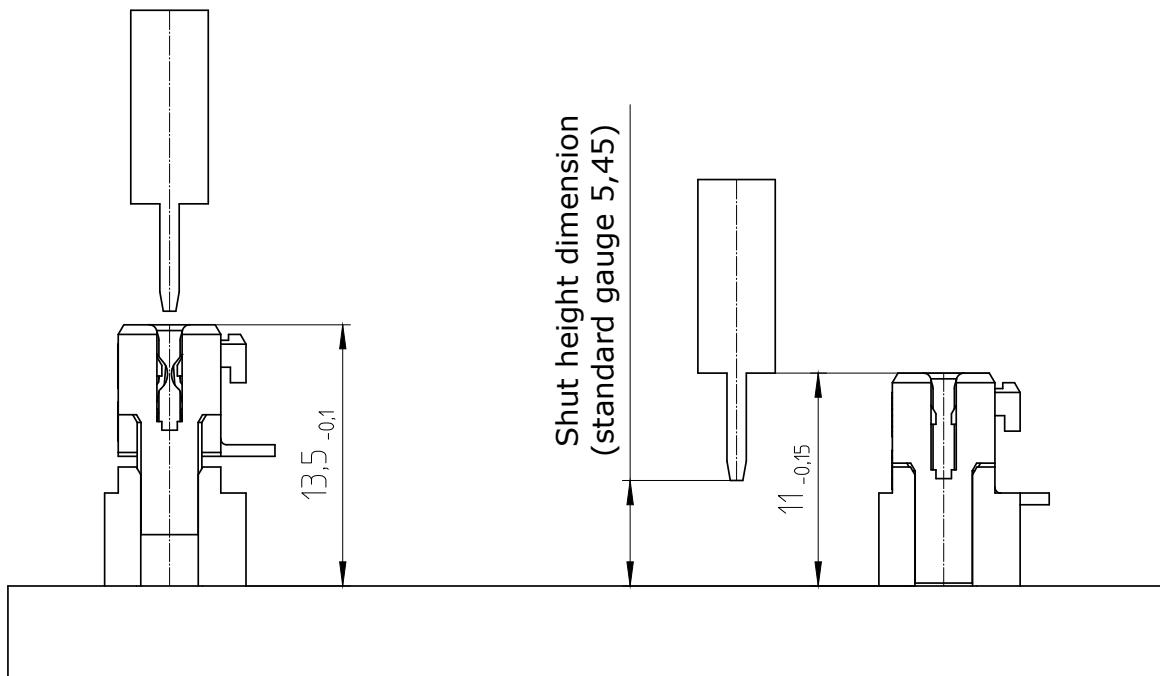
7.2. Impression die stamp

Only use impression die stamps from Lumberg.

Impression die stamps: free of lubricants and sliding agents.

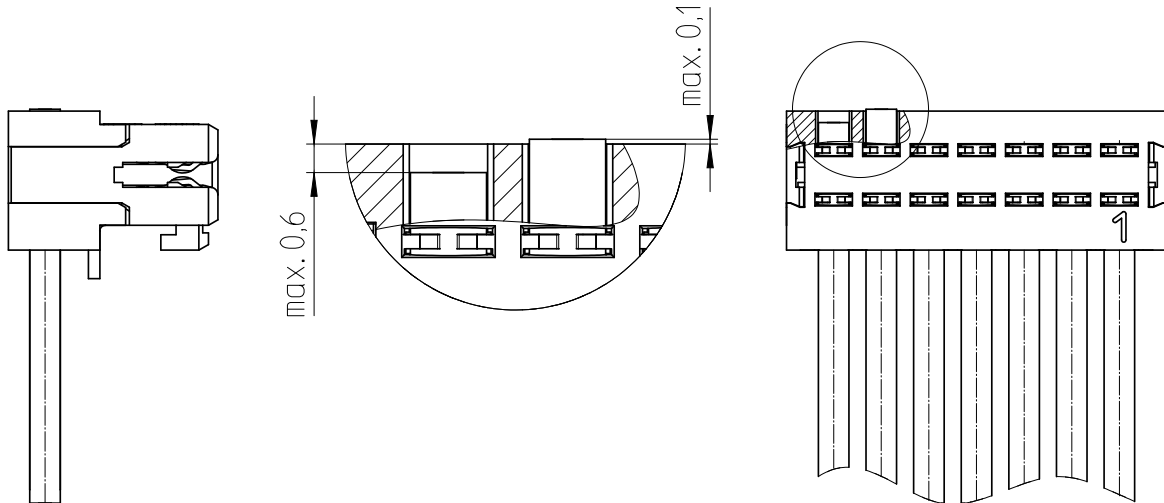
7.3. Shut height dimension of the termination machine

An important feature for the correct function of the connector is the connector height, measured 30 minutes after assembling. It is determined by the shut height dimension of the termination machine. The height adjustment will be determined max. 30 minutes after the pressing process and must be within the specification.



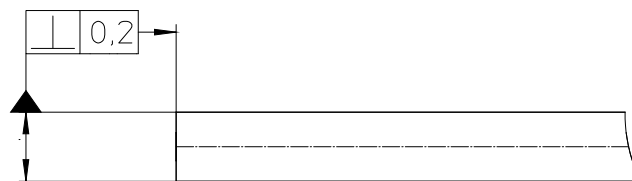
7.4. Wire end position

The correct position of the wire guarantees the mating of both ID slots. After termination no cable protrusion is allowed at the connector in order to ensure a correct mating and dismating of the connection. The wire insulation may only be removed from the area specified.

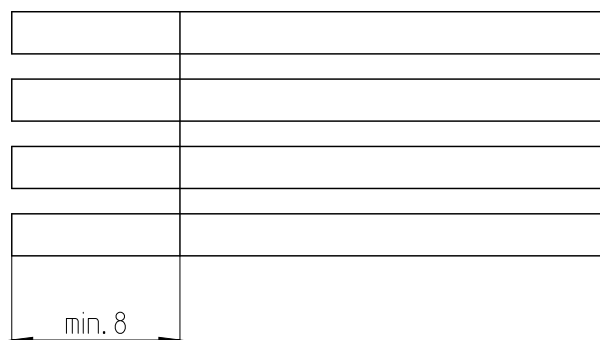


7.5. Wire (stranded wire / flat cable)

No cuts in the insulation are allowed in wire exit direction (visual check). The cables must be cut off without burr and deformity. Insulation cuts are permitted between the ID slots of the contact.



Flat cables must be punched out.



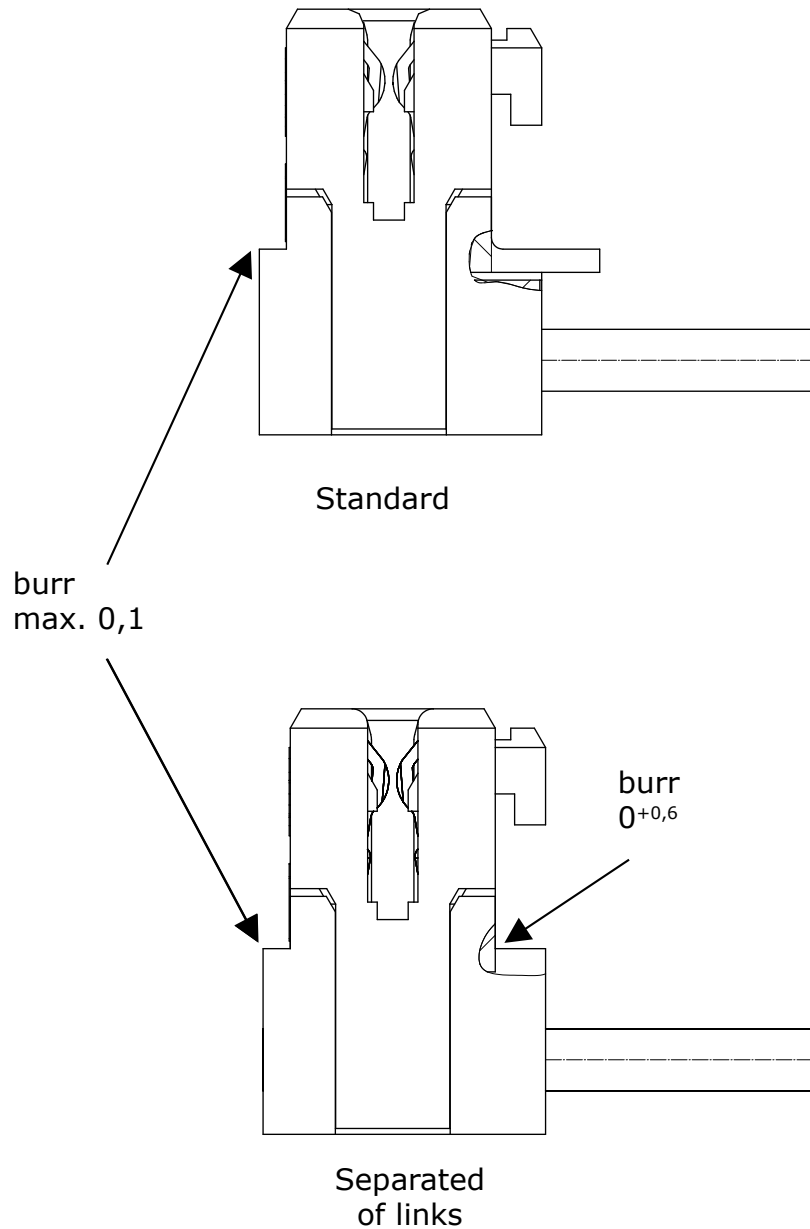
7.6. Housing

After termination no visual damages of the housing are allowed (visual check).


The links must be cut off without burr.

The mating function must be guaranteed (functional test).

The contact must be in correct position in the housing (visual check).

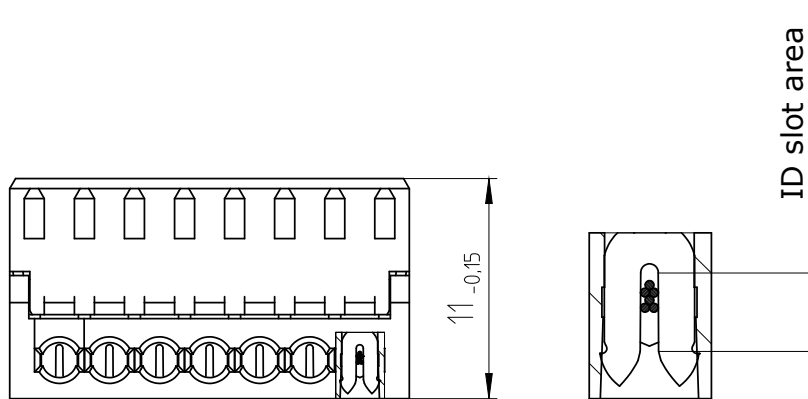


Make sure that the cut-off links are no longer adhering to the component and that they do not remain in the connector after they are cut off.

<p>LUMBERG CONNECT GMBH</p> <p>Im Gewerbepark 2 58579 Schalksmühle</p>	<p>Processing Instruction</p> <p>Connector RAST 2.5</p>	<p>Lumberg  passion for connections</p> <p>35V04EN</p> <p>Page 15 of 18</p>
<p>8. Quality assurance</p> <p>For all working and processing steps and alterations (e.g. product launch, changes of the cable, changes of the tool or machine ...), which may affect the product quality, the responsible departments have to take care for appropriate quality assurance steps.</p> <p>8.1. Quality features</p> <p>The following quality features must be taken into consideration:</p> <p>8.2. Quality features / IDC</p> <ul style="list-style-type: none"> • ID slot width • Symmetry of the ID slot • Cable quality • Cable insertion depth • Cable protrusion • Electrical testing <p>8.3. ID slot width</p> <p>Lumberg guarantees correct ID slot.</p> <p>8.4. Symmetry of the ID slot</p> <p>Symmetry of ID slot (cable tolerance $\pm 0,1$) is guaranteed by the body.</p> <p>8.5. Cable quality</p> <p>The cable must meet Lumberg specification acc. to point 6. Customized cables, which are listed in the release lists, have to correspond with the available specification sheets. Only Lumberg released cables are to be used. The customer bears full responsibility for the correct mating when cables are used which are not listed in the release lists.</p>		

8.6. Contact insertion depth

The wire insertion depth is determined by the height of the body. All single conductors must be in the ID slot area.



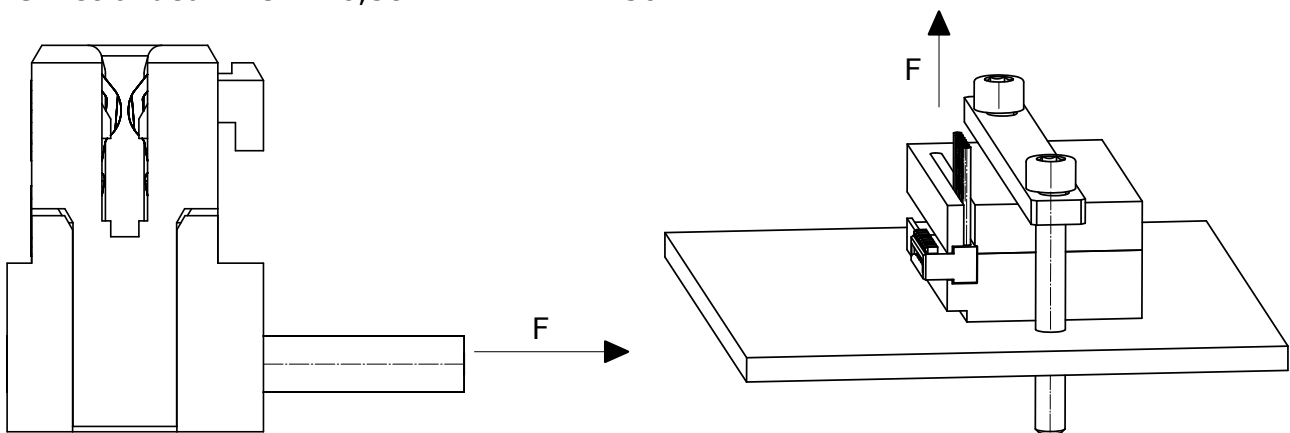
8.7. Cable protrusion

The cable protrusion acc. to point 7.4 must be kept. A protrusion of the cable in the housing leads to an incorrect mating.

8.8. Retention force of the wire

Minimal retention force of the wire from the insulation displacement contact:

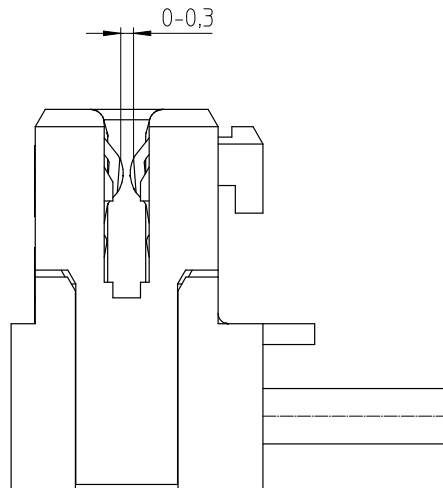
PVC – stranded wire: $0,38 \text{ mm}^2 > 50 \text{ N}$



The stated value for the conductor's pull-out force is the typical value established during a test carried out with a standard $0,38 \text{ mm}^2$ line. All values were determined under laboratory conditions and serve as a reference.

8.9. Contact gap


Contact gap after termination.



8.10. Electrical testing

Electrical testing shall be performed in accordance with IPC/WHMA-A-620.

The nature and extent of the electrical tests (e.g. short circuit testing, continuity testing, insulation testing, high voltage testing, etc.) should be specified depending on the application and the processing machine.

<p>LUMBERG CONNECT GMBH</p> <p>Im Gewerbepark 2 58579 Schalksmühle</p>	<p>Processing Instruction</p> <p>Connector RAST 2.5</p>	<p>Lumberg  passion for connections</p> <p>35V04EN</p> <p>Page 18 of 18</p>
<p>9. Storage</p> <p>Due to physical processes, surface finished components are subject to aging processes, which can have a negative effect on further processability. To ensure optimum processability, the following instructions should be observed and ensured during further processing steps:</p> <p>Storage conditions: The parts should ideally be stored in the original packaging, at a constant temperature of 21-25°C, with a relative humidity of no more than 55%. the components should not be exposed to direct light. They should also be protected from any extreme ambient conditions (such as air pollution).</p> <p>Due to the physical properties of the parts the storage times should be reduced as short as possible. Silver-plated components have to be processed within half a year and tin-plated components within one year after delivery. For components that are soldered due to their application, it is necessary to use a commercially available suitable flux.</p> <p>These specifications are based on experience using components stored under optimal conditions. They do not constitute a binding commitment for the fulfillment of any characteristics.</p> <p>Ask Lumberg for more information about alternative packaging options for other temperatures and environment conditions.</p>		