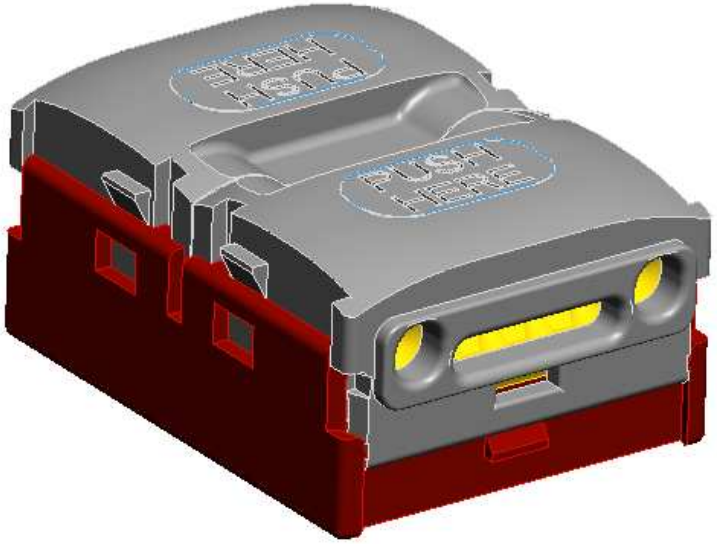
# GEL CONNECTOR
# IDC / WIRE TO WIRE





*- NOT IN SCALE -*

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| **A** | First issue | EDe | 8Feb10 | OLe | 8Feb10 |
| rev | rev. record | DR | Date | CHK | Date |

DR. Erik Derks — DATE Jul2009 | APVD — DATE







LOC I

# 1. SCOPE

## 1.1 Content

This specification covers the requirements for application of "GEL CONNECTOR; IDC / WIRE TO WIRE" in the versions listed below:

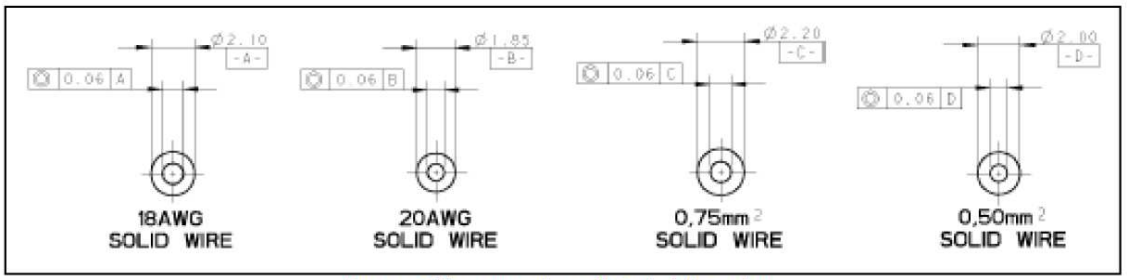
- Standard version (transparent, no color) – customer restricted : **P/N 293521-1**;
- End version with bridge (transparent, light blue color) – customer restricted : **P/N 293522-1**;
- End version no bridge (transparent, light green color) – customer restricted : **P/N 293522-2.**

# 2. REQUIREMENTS

## 2.1 Cable requirements

POWER WIRES: - 18 AWG solid wire, UL AWM 1316, 1408, 1452, PVC/nylon;
- 20 AWG solid wire, UL AWM 1316, 1408, 1452, PVC/nylon;
- 0,75 $mm^2$ solid wire, H05V-U 300/500V, PVC
- 0,50 $mm^2$ solid wire, H05V-U 300/500V, PVC

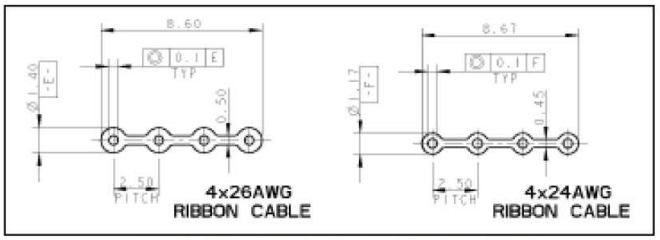
For all these wires, the max. admitted insulation diameter is 2.2mm.
Not admitted are wires with non uniform centering of the insulation of the connector




*Images of the power wires with typical dimensions*

FLAT CABLE: 4x26/7AWG (soldered tinned strands), UL AWM 2468, PVC
4x24/7AWG (soldered and unsoldered tinned strands), UL AWM 2451, PVC

For all these cables, the pitch is 2.5 mm and the maximum admitted width is 8.7 mm.
Not admitted are cables with non uniform centering of the insulation on the conductors.

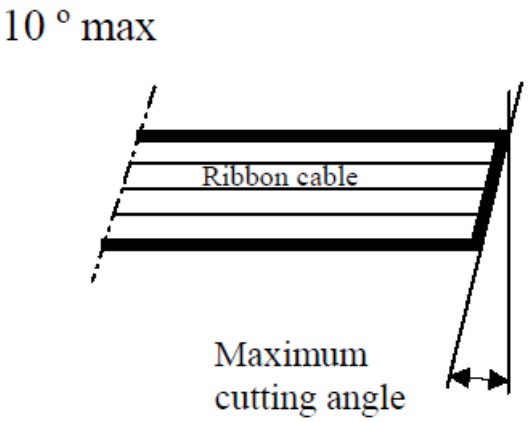



*Images of the ribbon cables with typical dimensions*

NOTE : The product is released with wire fitting in the above specification. It can be expected that if a wire fits the above specification, it will perform according the requirements.
However, due to the differences in number of strands, insulation material, tolerances on wire dims, etc, it can not be guaranteed that each random cable will meet all requirements. To avoid any risk on this, the specific wire should be submitted to the tests and prove to be meeting the requirements.

## 2.2 Cable preparation

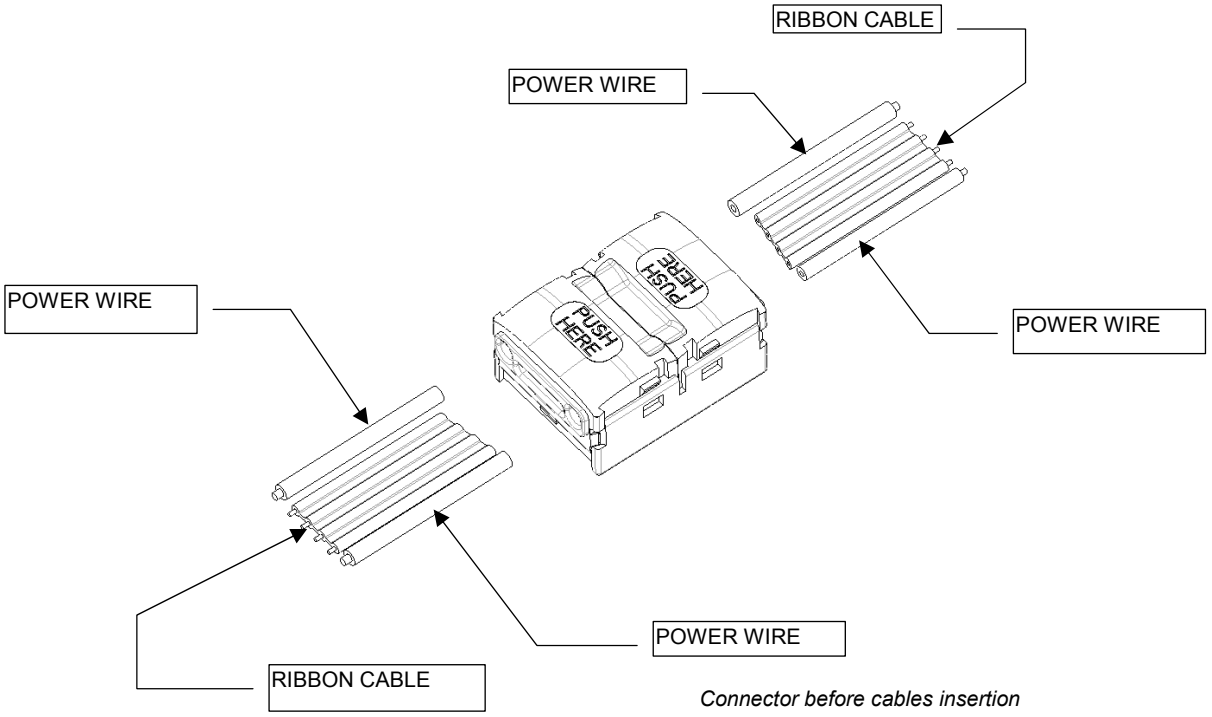
Each solid wire and ribbon cable must be clean and free of superficial pollution, like dust or other substances that can compromise the insulation level. The end of each solid wire and ribbon cable shall be cut under a maximum angle of 10° to the edge of the cable, as indicated here below :
Proper cutting tooling shall be used to avoid spacing deformation and burrs.



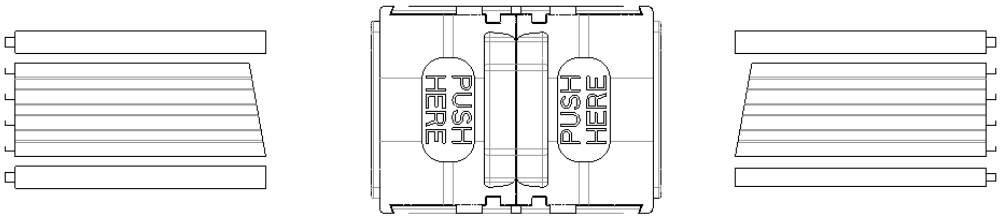

*Note: all the images present in this specification are not in scale*

## 2.3 Cables location

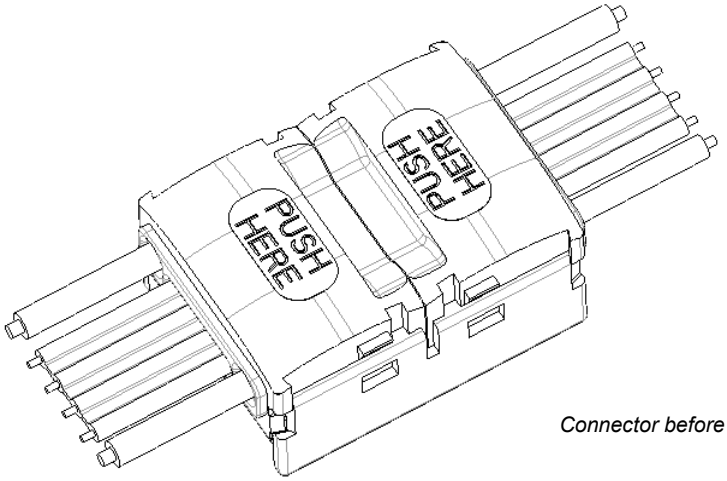
The images below, show the “fully loaded” connector (i.e. the configuration with all the possible power wires and ribbon cables). The connector can also be partially loaded.




*Connector before cables insertion*

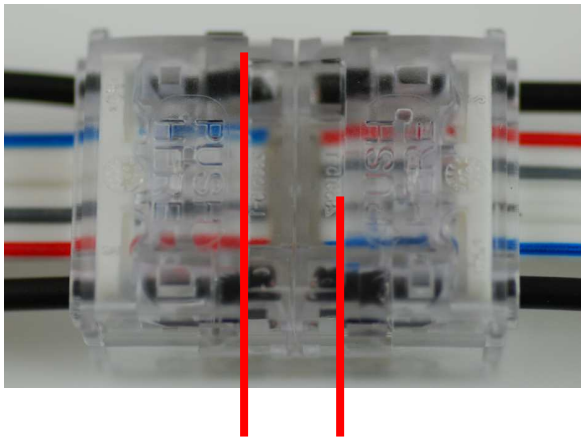



The wires have to be inserted into the connector holes as shown below:
Insert till wire or ribbon cable is blocked by the backside of the cover.
The wires will be held in place by an elastic element once inserted.




*Connector before termination*

Before the termination, it needs to be checked whether the cables are inserted in the right way. This can be done visually, by checking if the cable inserted far enough (see picture below).
As stated before, the wires will be held in place by an elastic element once inserted.



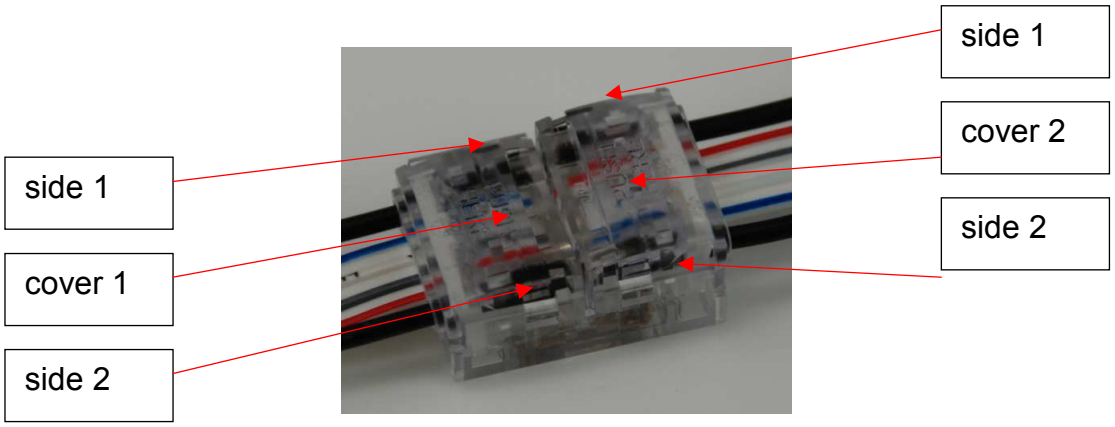
For visual inspection, there is a clear line (see red lines) in the product that the cable needs to pass.

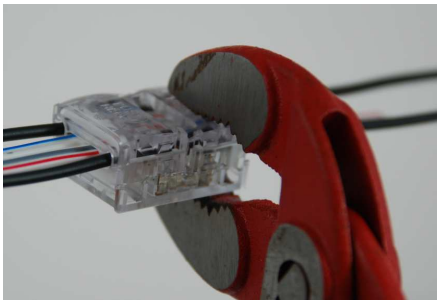
## 2.4 Cables termination

If the wires and ribbon cables are in the right position, they can be terminated.
For termination a pliers can be used like on picture below.

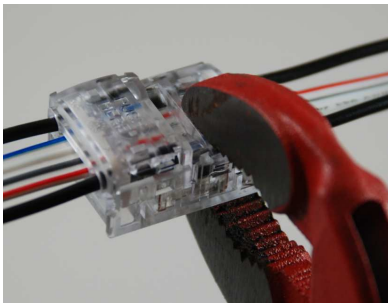
This pliers needs to be placed on the **middle** of the cover (PUSH HERE text on product).
The force on the middle of the connector will not be higher then 500 N max.
The cover has to be closed as far as possible and if possible till all latches are in.
There is an audible click for each of the 2 latches on the backside.

**CLOSING OF COVER :**





**STEP 1.**
**Press on middle (PUSH HERE text) of 1st cover to close (500 N max)**



**STEP 2.**
**Press side 1 of cover 1 to ensure latching**

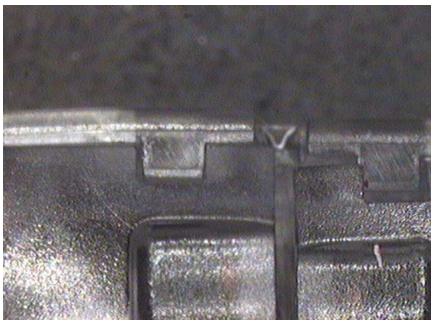
**STEP 3.**
**Press side 2 of cover 1 to ensure latching**

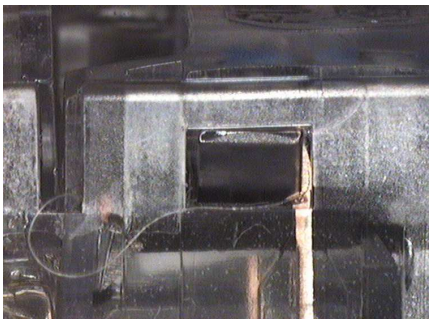
For the **Extend version** : **CLOSING OF COVER 2** : Repeat step 1, 2 & 3

INSPECTION :

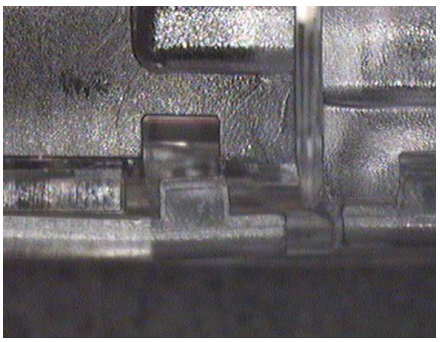
It can be checked visually if the latches are in the right position. If the base walls are bend back in their original position the latches are in the right position (see picture below).

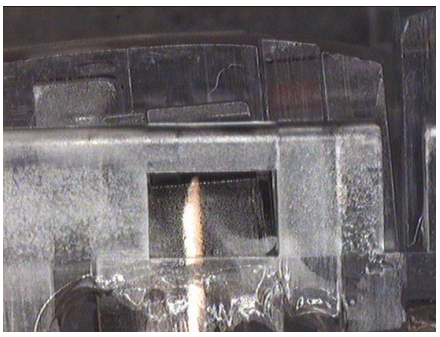
Latch OK :





Latch NOK :



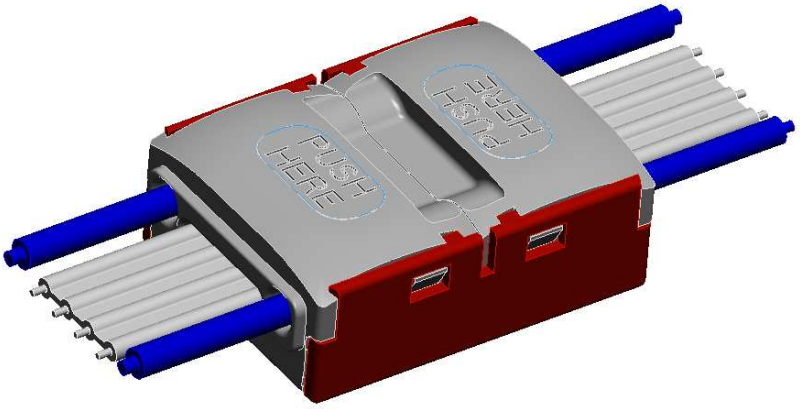


If the latches are not yet in the right position after STEP 1, also STEP 2 and maybe even STEP 3 have to be done. Particularly for the fully loaded version this can be the case.

The crimp is finished when all latches are in the right position.
There shall be no visually exposed copper chips or broken strands.

After termination the following should be checked :

- each wires and ribbon cable should be in the right position
- all latches should be engaged in the right way
- the final connector height must be 9,9±0,5 mm
- the final connector shall be carefully examined, to determine if it meets the requirements of this specification
- there shall be no signs of bent or misaligned terminals as a result of improper application.




READY.