
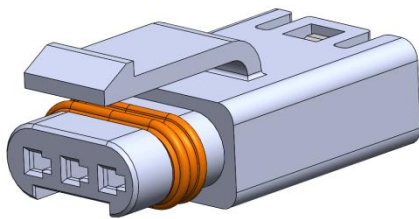


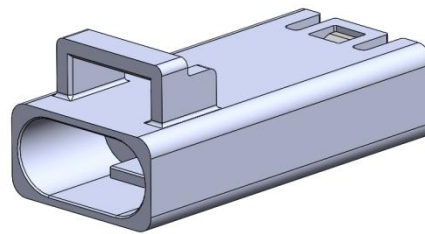
NUMBER S6147C	CATEGORY Application Specification		
TITLE FLH Series Mini Sealed Connectors 2.5 mm pitch		ISSUED BY Shan Mugañ	REVISION 1.9
		APPROVED BY Adrian Green	DATE September 24, 2021
		CLASSIFICATION Unrestricted	

1. Overview

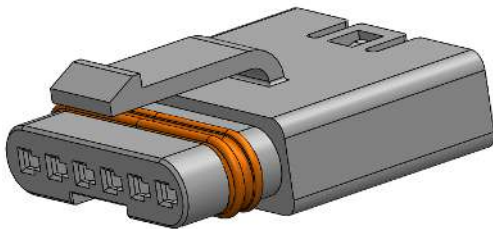
This Application Specification covers the application requirements for the mini sealed 2.5 mm pitch connectors. The pin and socket connector housings come with all the seals in place, without the contacts assembled. The wires are crimped to the contacts as needed and inserted into the housing. The connectors are sealed in the mated condition.



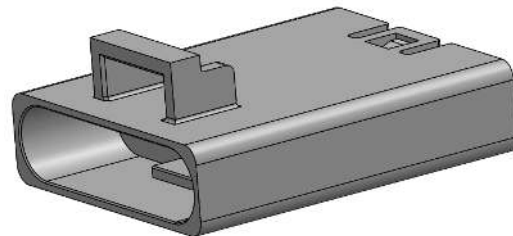
2 or 3 Socket Connector



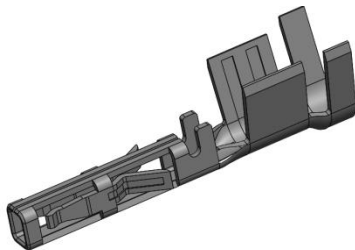
2 or 3 Pin Connector



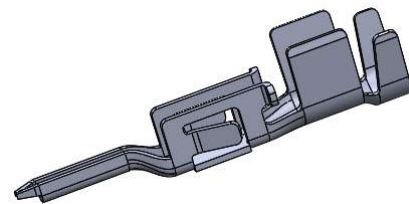
4 or 6 Socket Connector




4 or 6 Pin Connector



Socket Contact



Pin Contact

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2. Drawing Numbers

P-FLH-PX1-00	Pin housing assembly
P-FLH-SX1-00	Socket housing assembly
P-FLH-PC136-XXX	Pin contact
P-FLH-SC136-XXX	Socket contact

3. Product Specification Number

S6145C – FLH Mini sealed connectors 2.5 mm pitch

4. Wire

Wire Specification (Suggested)


UL Type: AWM 1731 (7 strands)

Wire outer diameter range 1.5 – 1.8 mm (AWG #22 – #18)

Strip wire length

When wire is stripped, do not damage or cut off wire conductors.

Recommended strip wire length $L \approx 3.1 \pm 0.10$ mm

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5. Crimping

5.1 Crimp height and width to be controlled based on different wire sizes

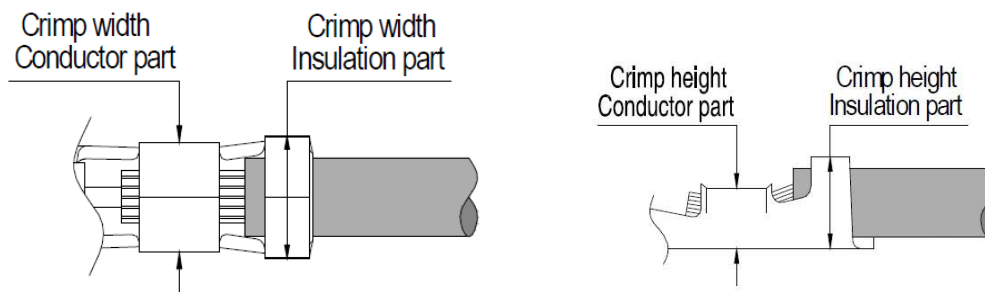



Table of crimp width and height in mm, for reference only

Wire size	Crimp width mm ± 0.15 mm		Crimp height mm ± 0.15 mm	
	Conductor part	Insulation part	Conductor part	Insulation part
AWG # 18	1.60	1.92	1.1	1.90
AWG # 20	1.60	1.92	1.1	1.65
AWG # 22	1.60	1.92	1.1	1.52

5.2 Tensile strength of crimped part

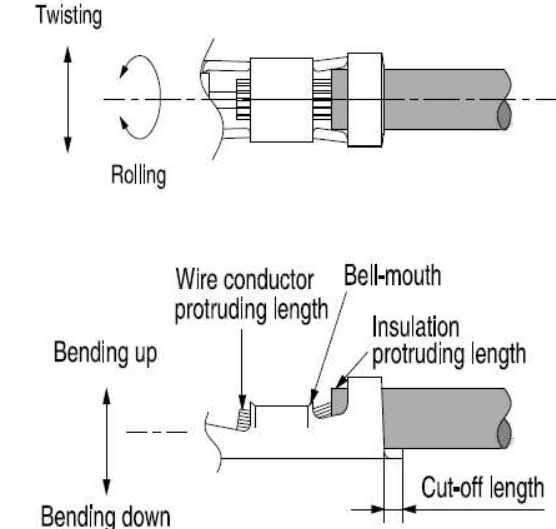
Pull test to be done to meet the following pull test of crimped joint

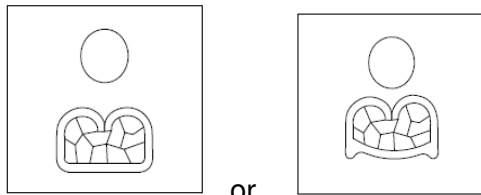
Wire size	Minimum pull out force	
	Pounds (lbs)	Newtons (N)
AWG # 18	20	89
AWG # 20	13	57.9
AWG # 22	8	35.6

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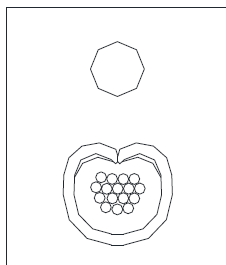
5.3 Crimp visual inspection

The following table may be used as a guide line


		For reference only
	Bending up	3° max
	Bending down	
	Twisting	
	Rolling	



Good Crimp section at the conductor

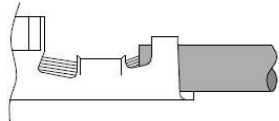


Good crimp section at the insulation

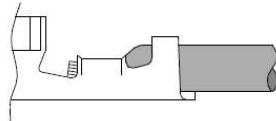
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5.4 Examples of defective crimping

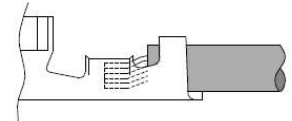
The following defects should be avoided



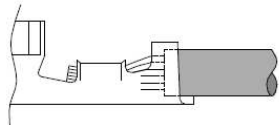
Wire conductor protruding length is long.



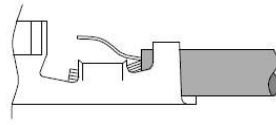
Wire barrel bites Wire insulation.



Wire conductor protruding length is short.

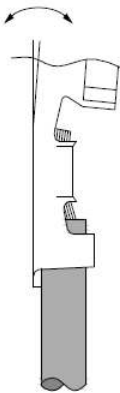


Wire insulation is not crimped sufficiently.

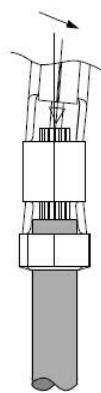


Wire conductor comes off.

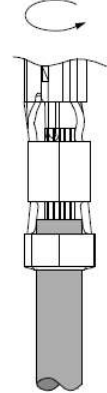
Bending up (Bending down)




Twisting



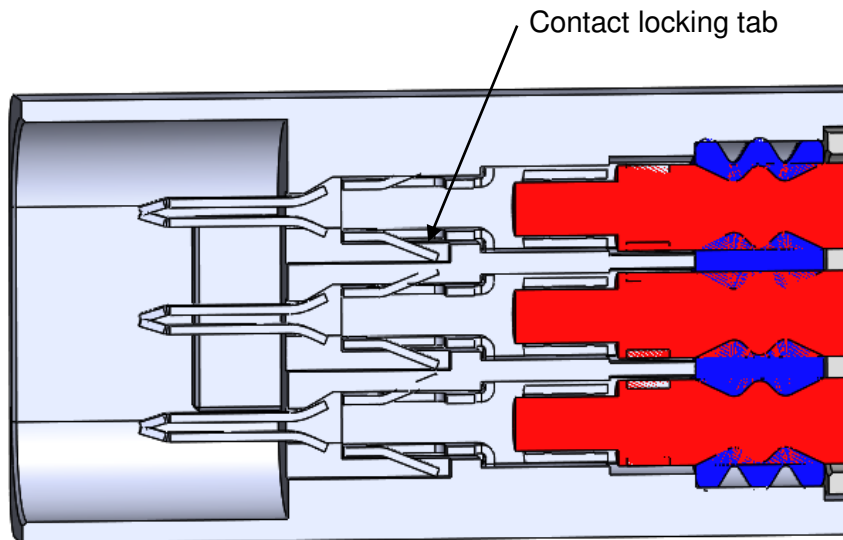
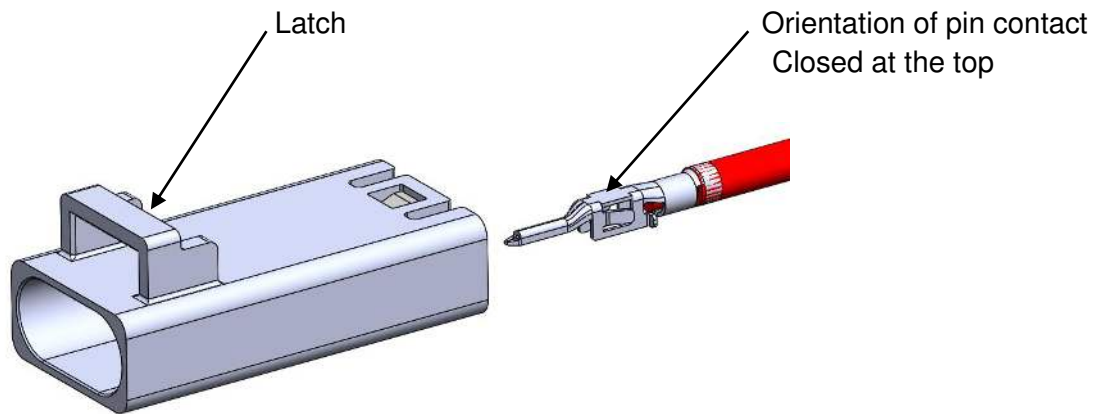
Rolling




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6. Alignment and Assembly Process

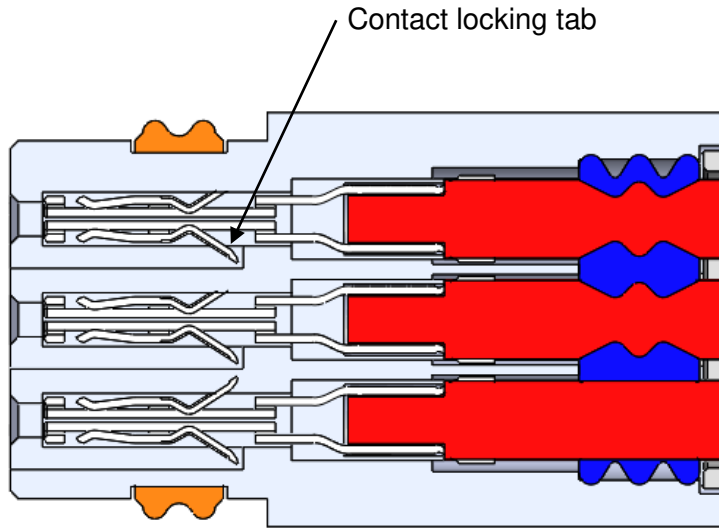
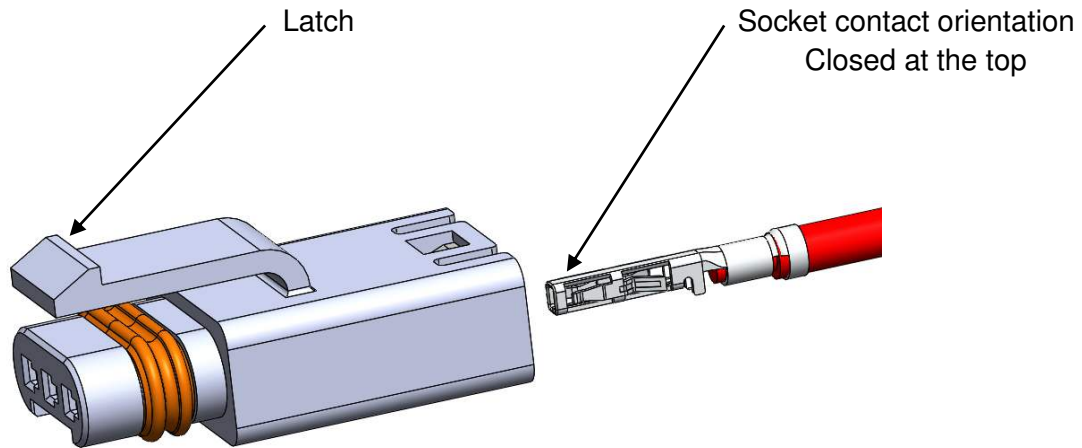
Pin Connector




Top section view t

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Socket Connector

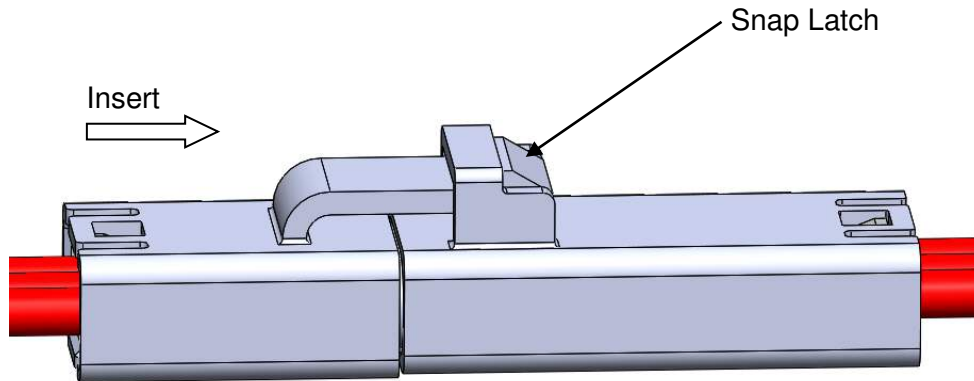


Top section view

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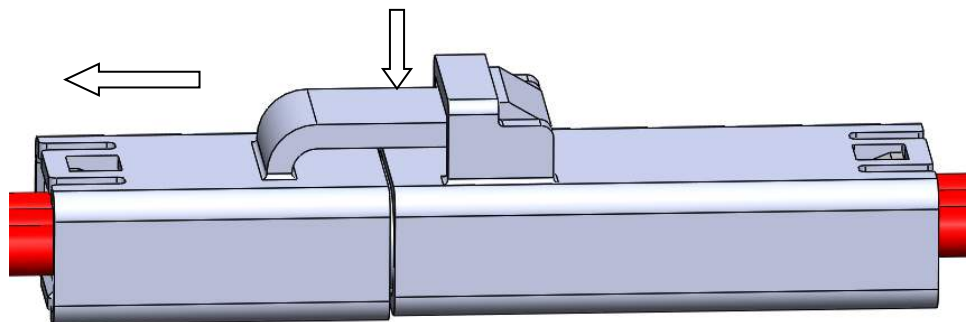
7. Mating and Unmating Connectors


Mating



Unmating

Push down the latch and pull at the same time



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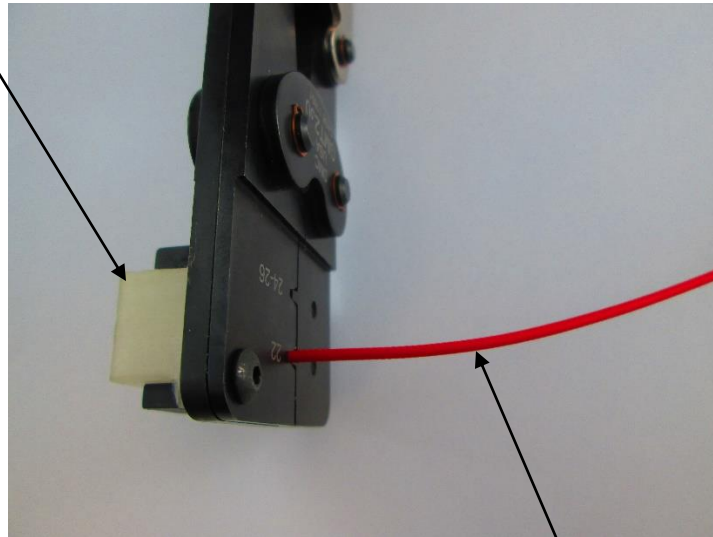
8. Applicator Tools

1- For low volume

Hand Tool: Amphenol part number FLH-CT-0-01

Ratchet crimp tool will ensure that the crimping is complete before releases the handle

Crimp locator




FLH-CT-0-01

Wire 22-18 AWG

2- For higher volume

Semi Automated Machine: Amphenol Part number FLH-CT-0-02

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