
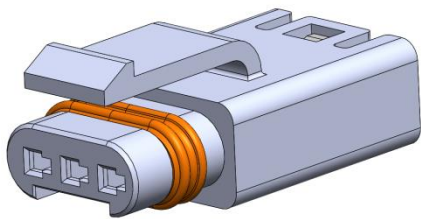


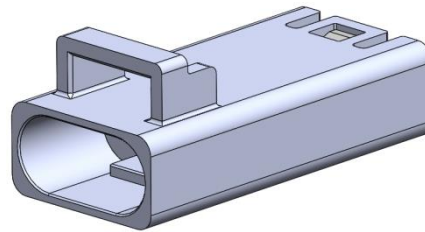
<b>NUMBER</b> <b>S6147C</b>	<b>CATEGORY</b> <b>Application Specification</b>		
<b>TITLE</b> <b>FLH Series</b> <b>Mini Sealed Connectors</b> <b>2.5 mm pitch</b>		<b>ISSUED BY</b> Shan Mugan	<b>REVISION</b> 1.9
		<b>APPROVED BY</b> Adrian Green	<b>DATE</b> September 24, 2021
		<b>CLASSIFICATION</b> Unrestricted	

## 1. Overview

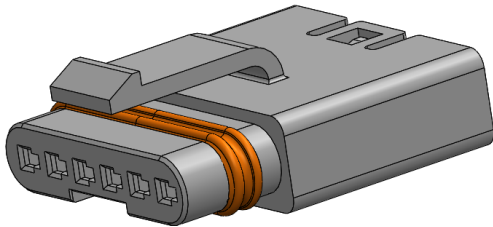
This Application Specification covers the application requirements for the mini sealed 2.5 mm pitch connectors. The pin and socket connector housings come with all the seals in place, without the contacts assembled. The wires are crimped to the contacts as needed and inserted into the housing. The connectors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



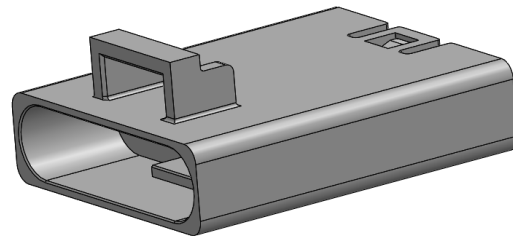
**2 or 3 Socket Connector**



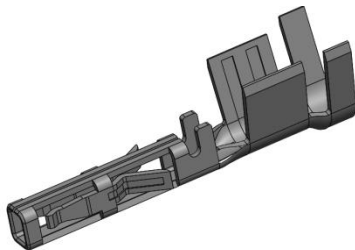
**2 or 3 Pin Connector**



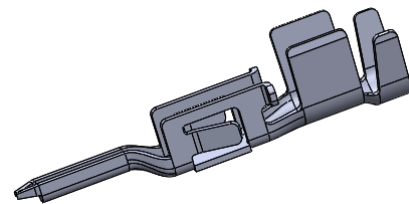
**4 or 6 Socket Connector**




**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

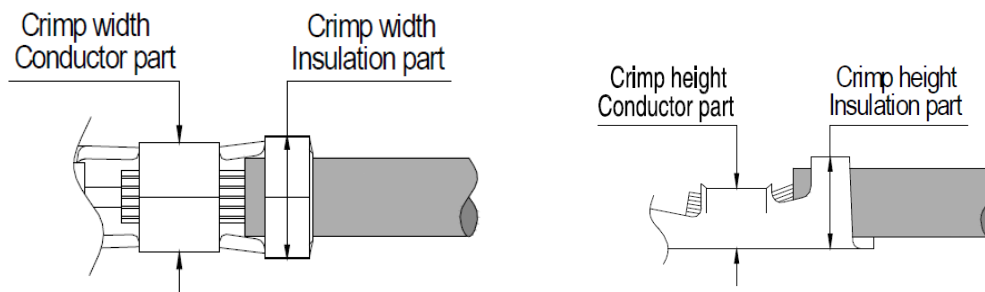



Table of crimp width and height in mm, for reference only

Wire size	Crimp width mm $\pm 0.15$ mm		Crimp height mm $\pm 0.15$ 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

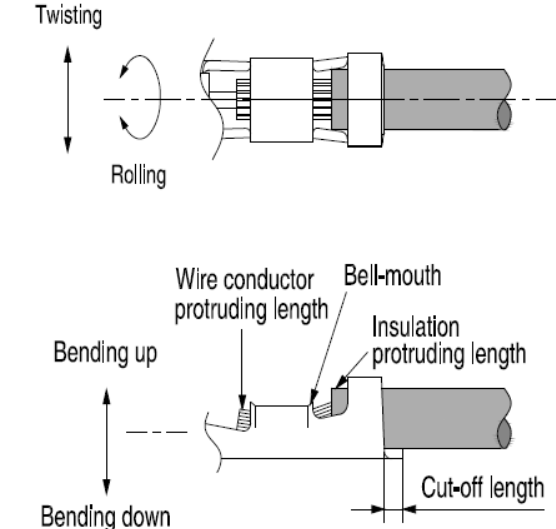
Pull test to be done to meet the following pull test of crimped joint

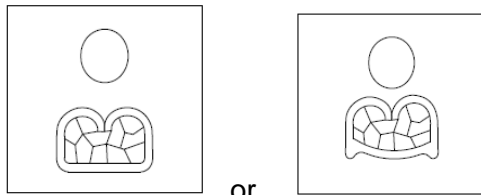
Wire size	Minimum pull out force	
	Pounds (lbs)	Newtons (N)
AWG # 18	20	89
AWG # 20	13	57.9
AWG # 22	8	35.6

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### 5.3 Crimp visual inspection

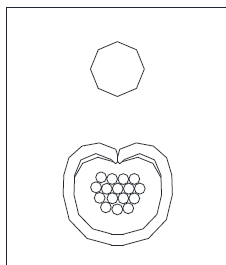
The following table may be used as a guide line

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




or

Good Crimp section at the conductor

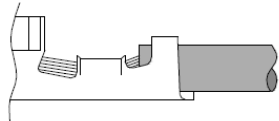


Good crimp section at the insulation

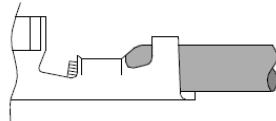
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### 5.4 Examples of defective crimping

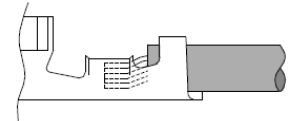
The following defects should be avoided



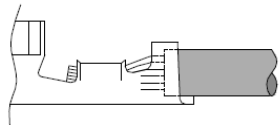
Wire conductor protruding length is long.



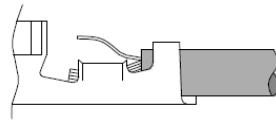
Wire barrel bites Wire insulation.



Wire conductor protruding length is short.

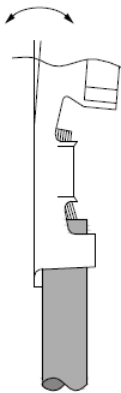


Wire insulation is not crimped sufficiently.

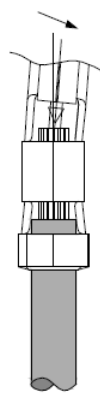


Wire conductor comes off.

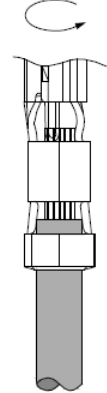
Bending up (Bending down)




Twisting



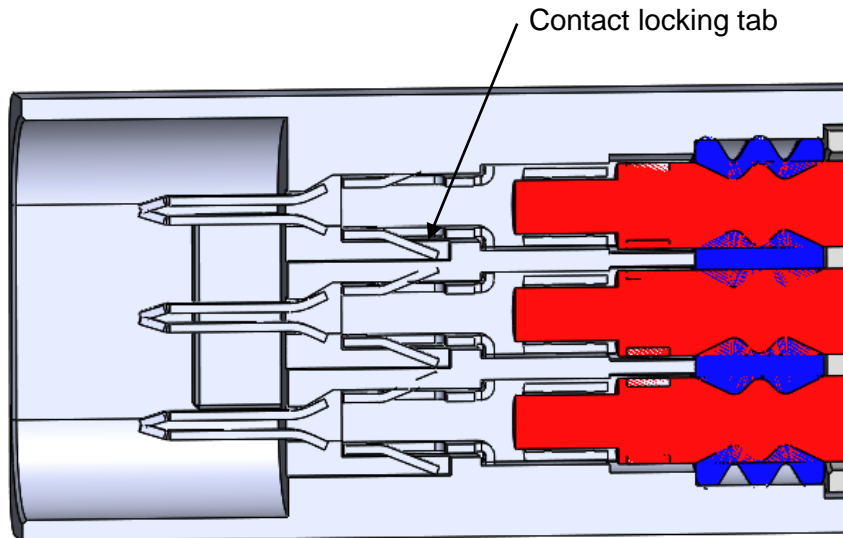
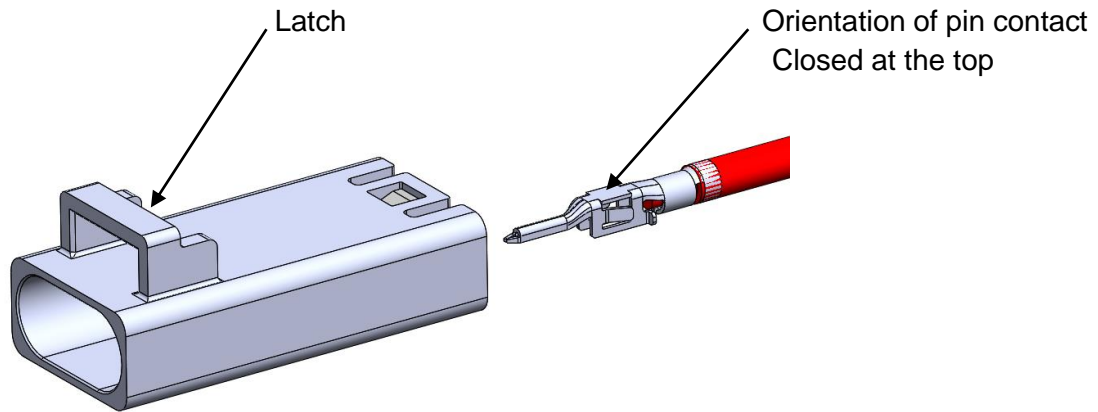
Rolling




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## 6. Alignment and Assembly Process

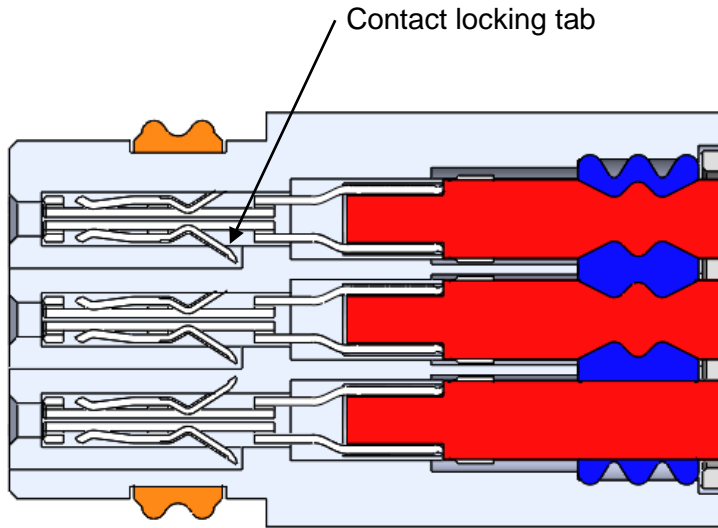
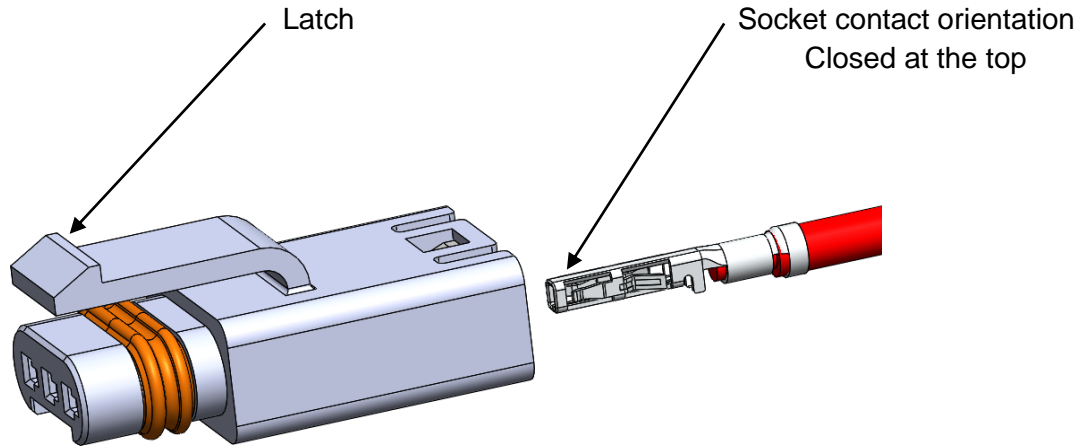
### Pin Connector




Top section view t

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**Socket Connector**

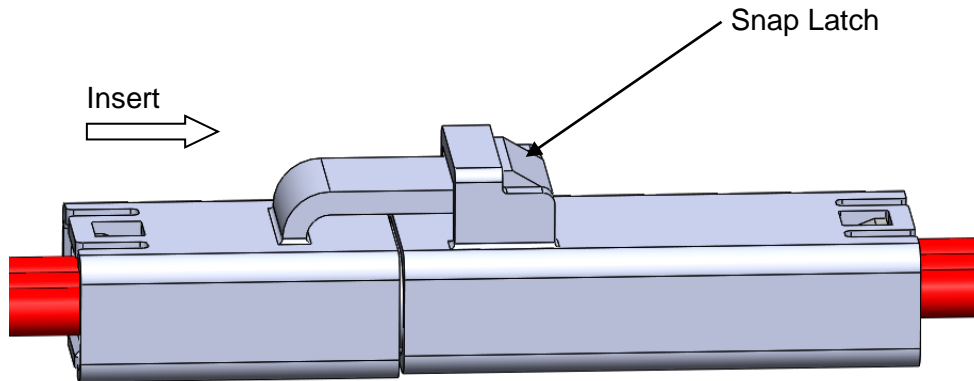


Top section view

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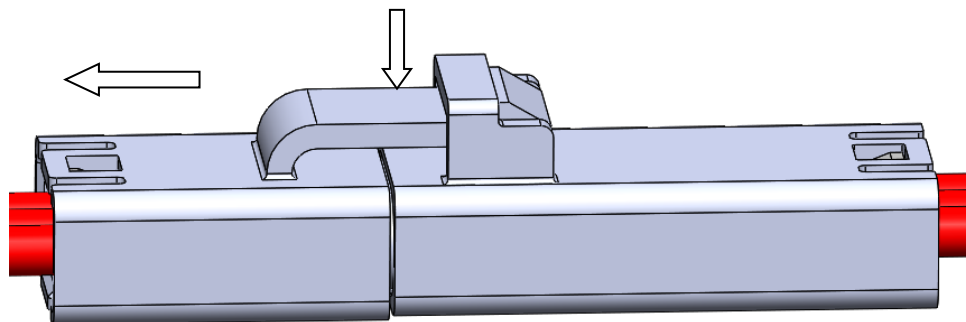
## 7. Mating and Unmating Connectors

### Mating




### Unmating

Push down the latch and pull at the same time





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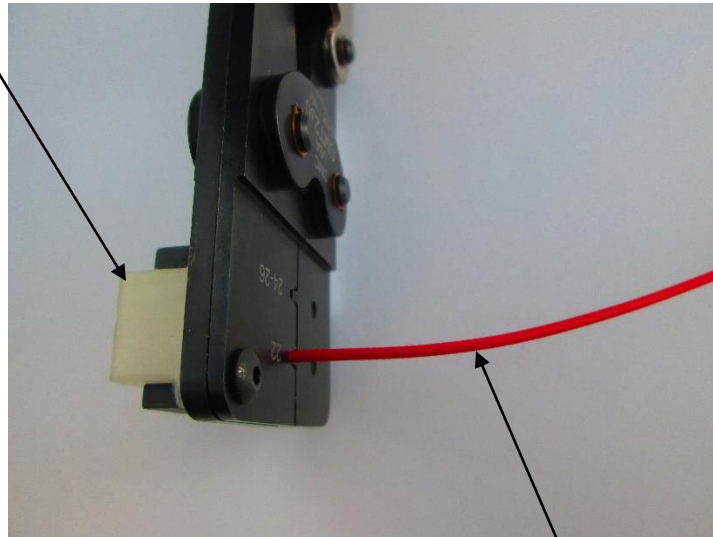
## 8. Applicator Tools

### 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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Please contact Amphenol for more details.

