molex — TEST SUMMARY

MINI-FIT SIGMA SEAL (Individual Wire): PTV FOAM LEAK TEST SUMMARY

1.0 SCOPE

This Test Summary covers the details of Foam leak test conducted on Mini-Fit Sigma Seal Panel mount Connector for 8 & 14 CKT.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND PART NUMBER(S)

Description	Series Number
Mini-Fit Sigma Seal Plug housing	207017
Mini-Fit Sigma Seal (Individual wire)	207019

2.2 FIXTURES AND TEST EQUIPMENT

An Acrylic box having one side with panel cutouts

FOAM: ICFS 1k Assembly polyurethane Expansion PU Foam Spray

2.3 DIMENSIONS, MATERIALS

See the appropriate sales drawings for the information on dimensions, materials and markings.

2.4 PRODUCT SPECIFICATION TITLE AND DOCUMENT NUMBER

Title : Product Specification for Mini-Fit Sigma Seal Connector System.
Document No. : 2070170000-PS
Title : Test Summary for Mini-Fit Sigma Seal Connector System.
Document No. : 2070170000-TS

REVISION:	EC INFORMATION:	TITLE:	SHEET No.
A	EC No: **629453630128** DATE: **12/19/201920 20/01/08**	**TEST SUMMARY FOR MINI-FIT SIGMA SEAL CONNECTOR SYSTEM [FOAM LEAK TEST]**	**1** of **7**

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3.0 APPLICABLE DOCUMENTS AND SPECIFICATION

See sales drawings and other sections of this specification for the necessary referenced documents and specifications.

4.0 TEST OBSERVATION AND TEST SEQUENCES

TESTING PROCEDURES AND SEQUENCES

Mounting all the Assembled connector inside the panel and routing the wires in different directions to check the unsealing at the extreme bending of the wires. Filling the Foam by spraying it over the connectors ensuring foam fills all the gaps surrounded by the connector. Leaving whole setup to dry naturally over 8hours.

1. Mounting connector into panel cut outs inside the box.

2. Start filling the foam from the bottom of the testing box.

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3. Filling the foam completely and allowing it for getting self-expanded and leaving the whole setup as it is for up to 8 hours to for curing as shown below.

A small gap observed when wires are bent at extremes when force is applied at the end of the Housing.

> A small gap found with respect to panel when force applied extremely on the cable


This case is not taken into consideration since external factors such as bending or deforming of the wires are recommended 1 inch away from the end of the housing (PS) Refer below section

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5.0   CABLE TIE OR WIRE TWIST LOCATION

CKT Size	Dim T Min.
2-6	.50" (12.7 mm)
8	.75" (19.1 mm)
10-12	1.00" (25.4 mm)
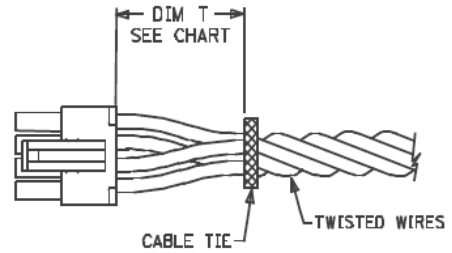
The "T" dimension defines a "free" length of wire, or a length of wire that is not subject to significant bias by external factors such as a wire tie, wire twisting, or other means of bending or deforming of the wires that repositions them from their natural relaxed state or location where they enter the housing. Wires are to be dressed in such a manner to allow the terminals to float freely in the pocket. This dimension is a general recommendation and may need to be adjusted for different wire gauges and wire type and insulation thickness and insulation material.
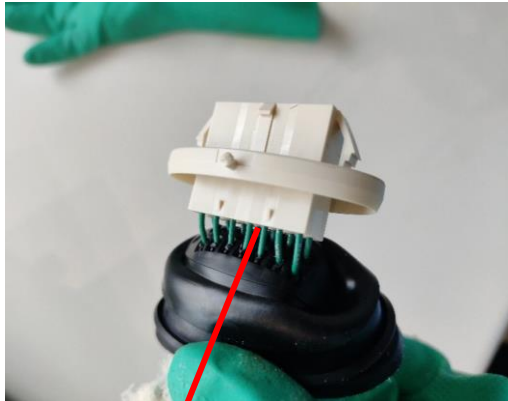
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6.0   PERFORMANCE

The 14 CKT and 8 CKT samples are tested & observations are as follows:

1.   14 CKT OBSERVATION

No leakage found inside the plug housing
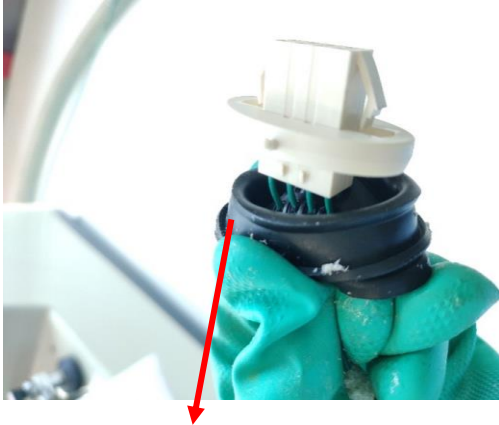

No leakage found on panel side of the housing

28 AWG

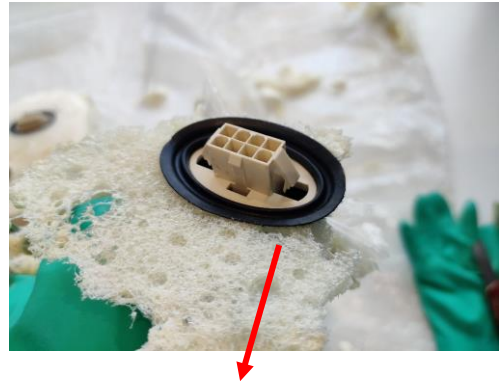16 AWG

No leakage through surface of the cover

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2. 8 CKT OBSERVATION

No leakage found inside the plug housing

No leakage found on panel side of the housing

28 AWG

16 AWG

No leakage through surface of the cover

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7.0 TEST SUMMARY

1. We found there is good sealing with respect to each wire even when wires are bent in different direction
2. Hence there was no leakage of foam entering inside the cover as shown in above pictures.

FOAM SEALING PERFORMANCE RESULTS

No leakage found in the any of the Mini-Fit Sigma Seal.

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