
AMPSEAL Sealed Header – Flange Seal

1. SCOPE

1.1 Content

This specification covers the test procedure for evaluating the flange seal on the AMPSEAL headers. The flange seal can be either a dispensed seal or a manually assembled seal.

2. APPLICABLE DOCUMENTS

The following documents constitute a part of this specification to the extent specified. Unless otherwise specified, the latest edition of the document applies

2.1. Specifications

- A. EIA 364-17 Temperature Life
- B. EIA 364-18 Visual Examination
- C. USCAR2-6 Rev 02-2013 Section 5.6.5 Performance Specification for Automotive Electrical Connector Systems

3. TEST SPECIMENS

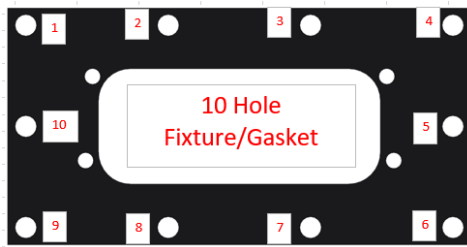
- 3.1 A test specimen shall include an AMPSEAL header assembly with an assembly machine dispensed flange seal or an assembled flange seal, PN 2374209, and a pressure fixture, PN 2383698

4. SPECIMEN PREPERATION

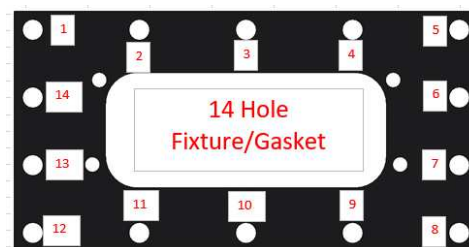
- 4.1 Mount the header to the fixture faceplate, torquing the four mounting screws, Delta PT25 or equivalent, to 0.6N-m using an X pattern starting at any screw position
- 4.2 Place the red rubber seal on the base, aligning the mounting holes on the seal to the base



- 4.3 Assemble the faceplate with the attached header to the base plate with M4 screws, torque to 5-7 in-lbs using one of the screw patterns below



Pattern: 1-6-9-4-8-3-7-2-5-10



Pattern: 1-10-5-8-3-12-6-13-7-14-9-2-4-11

- 4.4 The header pocket shall be filled with Loctite 5091 Self-Leveling Nuva-Sil to the top of the header pins to prevent water intrusion into the test fixture which would signify a test failure

5. PROCEDURE

- 5.1 Seal the test fixture per Step 4 prior to pressure and immersion steps
- 5.2 Place an air fitting in the side of the base
- 5.3 Attach a 1/8" ID hose to the fitting
- 5.4 Submerge the fixture into a container of clean room temperature water to a minimum depth of 100mm
- 5.5 Shake the fixture slightly while submerged to remove any air trapped between the header shroud and the fixture faceplate
- 5.6 Pressurize the fixture to 7psi and observe the area around the header shroud for air leakage for 15 seconds
- 5.7 Remove the fixture from the water and remove the hose and the hose fitting
- 5.8 Place the fixture in a 125°C oven for 96 hours
- 5.9 After 96 hours, remove the fixture and allow it to cool for 24 hours or room temperature
- 5.10 Place an air fitting in the side of the base
- 5.11 Attach a 1/8" ID air hose fitting
- 5.12 Submerge the fixture into a container of clean room temperature water to a minimum depth of 100mm
- 5.13 Shake the fixture slightly while submerged to remove any air trapped between the header shroud and the fixture faceplate
- 5.14 Pressurize the fixture to 5psi and observe the area around the header shroud for air leakage for 15 seconds
- 5.15 Remove the fixture from the water and remove the hose and the hose fitting
- 5.16 Insert bolt with nylon washer before starting Step 5.17
- 5.17 Complete Submersion test per USCAR2-6, Section 5.6.5, Steps 1-6. Set the chamber to 105°C. Do not perform IR Testing.
- 5.18 Open the test fixtures and inspect for any water intrusion

6. DOCUMENTATION

6.1 Test documentation shall contain the following

- A. Title of test
- B. Specimen description
- C. Number of specimens
- D. Test equipment used
- E. Test procedure
- F. Deviations from test conditions
- G. Date of test, name of operator and sequence steps
- H. Ambient temperature and humidity
- I. Other observations and comments

6.2 The following shall be specified in reference document

- A. Number of specimens to be tested
- B. Test specimen preparation outside the referenced spec
- C. Acceptance criteria