

Standard Method of Test for

Pressure Testing Corrugated Aluminum and Spiral Rib Aluminum Pipe Joints

SCDOT Designation: SC-T-134 (12/08)

1. SCOPE

- 1.1 To test Corrugated Aluminum Pipe and Spiral Rib Aluminum Pipe Joint (band and gasket) under 5 % deflection as required by SCDOT Supplemental Technical Specification **SC-M-714**.
- 1.2 This hydrostatic test is intended only for use as a quality control test and not as a simulated service test. The 10 psi or 13 psi pressure criterion should not be considered an indication of the hydrostatic pressure capability of the joint and gasket under installed conditions.

2. REFERENCED DOCUMENTS

- 2.1 SCDOT Supplemental Technical Specification **SC-M-714**

3. APPARATUS & TEST EQUIPMENT

- 3.1 Apparatus:
 - 3.1.1 Appropriate diameter aluminum test apparatus with 2"-2 2/3" x 1/2" re-rolled ends to index connecting band
 - 3.1.2 Neoprene gasket
 - 3.1.3 Lubricant
 - 3.1.4 Pipe wrench (to tighten bolts)
- 3.2 Test Equipment:
 - 3.2.1 Pressure gauge
 - 3.2.2 Water source
 - 3.2.3 Tape measure
 - 3.2.4 Deflection device

4. TEST SPECIMENS

- 4.1 Aluminum Band and Flat Gasket

5. PROCEDURE

- 5.1 Select corrugated aluminum sheets the same gage as to the pipe to be tested.
- 5.2 Select corrugated aluminum sheets for connecting bands (16-ga. or three gages less than pipe gage over 12-ga.)
- 5.3 Curve the aluminum sheets to produce the diameter of pipe required and weld the horizontal seams inside and outside.
- 5.4 Curve the sheet to produce the diameter of connecting band required for the test pipe.
- 5.5 Attach two angles, bar and strap connectors or necessary Rod and Lug connectors to the corrugated curved band sheet.
- 5.6 Weld an aluminum bulkhead to one end of the two pipe sections and weld a 2-inch threaded pipe fitting in each of the bulkheads.
- 5.7 Assemble the two sections:
 - 5.7.1 Lubricate the ends of each pipe section with an approved lubricant.
 - 5.7.2 Connect the two pieces of pipe together with the appropriate rubber gasket.
 - 5.7.3 Lubricate the inside of the corrugated band and place it around the gasket. Insert bolts through the bar and strap and tighten until the gasket is completely compressed between the coupling and pipe. The corrugated pipe joint test specimen is ready for Hydrostatic testing.
- 5.8 Place a pressure gauge/air vent and connect water supply into the two pipe fittings welded in the bulkheads. The water fill pipe must have a control valve near the test site.
- 5.9 Place the test specimen on a flat level surface and secure from movement utilizing wood blocks measuring approximately 4"x 4"x12".
- 5.10 Slowly fill the test specimen with water and observe any leaks.
- 5.11 After the test specimen is filled with water close the air vent and continue filling until the desired water pressure is reached (10 psi or 13 psi).
- 5.12 Shut off the water supply and check for any water leaks at the joint.
- 5.13 If no leaks are observed proceed with the 5 % deflection test.
- 5.14 Place a load distribution block on top of the test specimen. The block is to be an approximately 4"x4" wood block or an approximately 1"x 4" steel bar placed across the pipe joint. The length of the block is to be width of the corrugated band plus 12".

- 5.15 Slowly apply the load on the distribution block required to deflect the joint specimen 5 % of the specimen nominal diameter while maintaining a 10 psi or 13 psi water pressure.
- 5.16 Check for any water leaks at the joint. If no leaks are observed after 10 continuous minutes, release the test load. The test is complete and the specimen passed.

6. TEST REPORT

- 6.1 Report the test date, location, pipe size, joint type, deflection condition, pressure reading and observations of pipe performance during the test, name of the person performing the test, and name of the engineer responsible for the test results.
- 6.2 Results are to be reported by a registered South Carolina Professional Engineer.