APPENDIX C

METHOD OF TEST FOR PREFORMED POLYCHLOROPRENE ELASTOMERIC JOINT SEAL JET-FUEL-RESISTANCE

C-1 Scope.

This test method provides a procedure for evaluating the ability of preformed polychloroprene elastomeric (PPE) joint seals to withstand the effects of jet fuel. The effect of fuel is determined by noting the change in weight of the seal before and after immersion in a test fuel.

C-2. Preparation of Specimens.

Compliance with the change in weight requirement shall be determined by tests conducted in accordance with the methods specified using specimens cut from manufactured seals. Three specimens shall be tested for each lot of batch or seal submitted for testing. Each specimen shall be rectangular having dimensions of 60±1 millimeter by 20±1millimeter by 2±0.1 millimeter. Specimens shall be the thickness of the seal as received when they are less than 2 millimeter thick; otherwise the specimens shall be buffed to a thickness of 2±0.1 millimeter.

C-3. Test Procedures.

Each test specimen shall be weighed to the nearest 0.01 gram and then immersed for 24±0.25 hours in clean test fuel maintained at 49±°Celsius (120±2°Fahrenheit). The specimens shall be suspended in the test fuel so that the bottoms of the test specimen are a minimum of 12 millimeter above the container bottom, and there is a minimum of 12 millimeter of test fuel over the tops of the specimens. The container for the test fuel and specimens shall be semiclosed to reduce fuel evaporation and eliminate pressure buildup. The overall dimension of the container shall be deep enough to allow the test specimens to be suspended by wire or string and covered with not less than 12 millimeter of test fuel. Several specimens of the same material may be immersed in the same container provided each test specimen is separated from any adjacent test specimen and container walls by a minimum of 6 millimeter and the minimum fuel cover is maintained. A constant temperature water bath shall be used to maintain the test fuel and specimens at the 49±1°Celsius (120±°Fahrenheit) for 24 hours. Immediately after the 24 hour fuel immersion, the specimens shall be removed from the test fuel and dried in a forced draft oven at 70±1°Celsius (158±2°Fahrenheit for 24±0.25 hours. The forced air shall be maintained at an air velocity of 150 to 500 feet per minute. After oven drying, the specimen shall be allowed to cool for 30 minutes at room temperature and than weighed to the nearest 0.01 gram.

C-4. Calculations

The change in weight shall be calculated as follows—

$$\text{Change in weight, percent} = \frac{W_1 - W_2}{W_{1K}} 100$$

where

W_1 = initial specimen weight

W_2 = final weight after immersion and oven drying

The average of three specimens shall be reported as the percent change in weight.

C-5. Requirement.

When tested as specified herein, the PPE joint seal material shall have an average change in weight on exposure to fuel of 25 percent or less.