Fluid **S**ealing **A**ssociation

STANDARD

FSA-NMG-202-02

RECOMMENDED PRACTICE
FOR DETERMINATION
OF WATER SOLUBLE CHLORIDES FOR
NON-METALLIC GASKETING MATERIAL

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RECOMMENDED PRACTICE FOR DETERMINATION OF WATER SOLUBLE CHLORIDES FOR NON-METALLIC GASKETING MATERIAL

1. SCOPE

1.1 This method covers the measurement of Water Soluble Chloride in Gasket Material.

2. SIGNIFICANCE

2.1 This method is designed to compare related material under controlled conditions for soluble chloride content. It also is designed to measure the water soluble chloride level at levels which are acceptable in nuclear service.

3. GENERAL

3.1 This procedure incorporates the proper preparation method for the gasket material to be tested. It incorporates the standard ASTM-D512 which allows four methods to test "chloride ion in water".

The four methods are as follows:

Method A - Mercurimetric Titration
Method B - Silver Nitrate Titration
Method C - Colorimetric Method
Method D - Ion-Selective Electrode Method

4. REAGENTS

4.1 Reagent grade chemicals shall be used in all tests. Unless otherwise indicated, it is intended that all reagents shall conform to the specification of the Committee on Analytical Reagents of the American Chemical Society. Other grades may be used provided these are of sufficient high quality to permit the use without affecting the accuracy of the method.

5. TEST SPECIMEN

5.1 Specimen shall consist of not less than 15 grams of material. The specimens shall be cut into appropriate square pieces (1/8" - 1/4"). For gasket material thicker than 1/8" split the pieces in half with a knife to obtain thinner cross sections.

5.2 No conditioning of the specimen is necessary, however precautions should be taken to insure no contamination is allowed to affect the outcome of the test.

6. PROCEDURE

6.1. Weigh suggested portions of cut-up sample to the nearest .001 gram into 100 ml of distilled water.

6.2 Transfer samples to 250 ml Erlenmeyer flasks with ground glass necks (See Note A).

6.3 100 ml of distilled water in a flask is needed to serve as a blank determination. Carry blank through the rest of the procedure.

6.4 Install flasks under water cooled reflex condensers with ground glass joints over a hot plate. Boil for two hours minimum after refluxing begins.

6.5 Filter and wash flasks and samples with distilled water from a wash bottle. Final volume of filtrates should be about 125 ml.

6.6 Cool filtrates to room temperature (See Note B).

NOTES:

A. If the specified flask and reflux condenser are not available, a 400 ml glass beaker covered with a watch glass may be used for boiling the sample.

B. Flasks may be allowed to cool by standing on the bench or may be rapidly cooled to about 25°C (77°F) in a water batch.

7. DETERMINATION OF CHLORIDE ION

7.1 Follow one of the agreed upon methods as covered in ASTM - D512 “Standard Test Methods for Chloride Ion in Water”.

NOTE: An alternate test method that has found general acceptance and could be used, is ASTM-D4327 “Standard Test Method for Anions in Water by Ion Chromatography”. In using this method it may be necessary to make adjustments to this procedure. This should be agreed upon between all parties interested in the results.