APPENDIX B TO SUBPART HHHH OF PART 63—METHOD FOR THE DETERMINATION OF LOSS-ON-IGNITION

1.0 Purpose
The purpose of this test is to determine the loss-on-ignition (LOI) of wet-formed fiberglass mat.

2.0 Equipment
2.1 Scale sensitive to 0.001 gram (g).
2.2 Drying oven equipped with a means of constant temperature regulation and mechanical air convection.
2.3 Furnace designed to heat to at least 625 °C (1,157 °F) and controllable to ±25 °C (±45 °F).
2.4 Crucible, high form, 250 milliliter (mL).
2.5 Desiccator.
2.6 Pan balance (see Note 2 in 4.9)

3.0 Sample Collection Procedure
3.1 Obtain a sample of mat in accordance with Technical Association of the Pulp and Paper Industry (TAPPI) method 1007 "Sample Location."
3.2 Use a 5- to 10-g sample cut into pieces small enough to fit into the crucible.
3.3 Place the sample in the crucible.
   (NOTE 1: To test without the use of a crucible, see Note 2 after Section 4.8.)
3.4 Condition the sample in the furnace set at 105 ±3 °C (221 ±5 °F) for 5 minutes ±30 seconds.

4.0 Procedure
4.1 Condition each sample by drying for 5 minutes ±30 seconds at 105 ±3 °C (22 ±5 °F).
4.2 Remove the test sample from the furnace and cool in the desiccator for 30 minutes in the standard atmosphere for testing glass textiles.
4.3 Place the empty crucible in the furnace at 625 ±25 °C (1,157 ±45 °F). After 30 minutes, remove and cool the crucible in the standard atmosphere (TAPPI method 1008) for 30 minutes.
4.4 Identify each crucible with respect to each test sample of mat.
4.5 Weigh the empty crucible with respect to the nearest 0.001 g. Record this weight as the tare mass, T.
4.6 Place the test sample in the crucible and weigh to the nearest 0.001 g. Record this weight as the initial mass, A.
4.7 Place the test sample and crucible in the furnace and ignite at 625 ±25 °C (1,157 ±45 °F).
4.8 After ignition for at least 30 minutes, remove the test sample and crucible from the furnace and cool in the desiccator for 30 minutes in the standard atmosphere (TAPPI method 1008).
4.9 Remove each crucible, and test each sample separately from the desiccator, and immediately weigh each sample to the nearest 0.001 g. Record this weight as the ignited mass, B.
   (NOTE 2: When it is known that no ash residue separates from the test sample during the weighing and igniting processes, you may weigh the sample separately without the crucible. When this occurs, the tare mass (T) equals zero. With appropriate care, you can dry and weigh a single piece of mat and place with tongs into the ignition oven on appropriate refractory supports. When the ignition time is over, remove the sample as an intact fragile web and weigh it directly on a pan balance.)

5.0 Calculation
5.1 Calculate the LOI for each sample as follows:
   \[
   \% \text{ LOI} = 100 \times \frac{(A - B)}{(A - T)}
   \]
   Where:
   A = initial mass of crucible and sample before ignition (g);
   B = mass of crucible and glass residue after ignition (g); and
   T = tare mass of crucible, (g) (see Note 2).
5.2 Report the percent LOI of the glass mat to the nearest 0.1 percent.

6.0 Precision
The repeatability of this test method for measurements on adjacent specimens from the same sample of mat is better than 1 percent.