PREMIER MAGNESIA, LLC

Test Procedure Manual
Research Center, Premier Magnesia, LLC

Title: MEASUREMENT OF LOSS ON IGNITION FOR WHOLE GRAIN MATERIALS	No: TP-25	Rev: 0	
Cancels & Supersedes No: None	Page No.: 1 of 1	Effective Date: 5-22-14	

1. SCOPE

1.1 This method of test is intended for measuring the loss on ignition of whole grain, granular refractories.

2. APPARATUS

2.1 Balance, 200 g capacity, 0.0001 g sensitivity
2.2 Porcelain or platinum crucible, 50 ml capacity.
2.3 Electric muffle furnace capable of maintaining 1000°C temperature.
2.4 Sample bottle, air tight.
2.5 Desiccator.
2.6 Riffles and pans.

3. METHOD

3.1 Riffle approximately 100 g of sample material and place immediately in an air-tight sample container.
3.2 Ignite the empty crucible for one hour at 1000ºC and cool to room temperature in a desiccator.
3.3 Weigh to the nearest 0.1 mg 10 to 25 g of sample and place in a tared platinum crucible.
3.4 Place crucible and sample in muffle at 1000°C and ignite overnight or to a constant weight.
3.3A Test at 400ºC and 1000ºC for unknown matrix samples.
3.5 Remove crucible from muffle. Cool in desiccator and weigh within 10-15 minutes.

4. CALCULATION

4.1 Calculate the loss on ignition as follows:

$$\frac{\text{Loss in weight, grams, x 100}}{\text{Weight of sample, grams}} = \%\ \text{Ignition Loss}$$

NOTE : Unless sample is heated at 105-110°C to a constant weight, the LOI also includes moisture content.

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