

5.16.29 FIELD SAMPLING OF PORTLAND CEMENT, LIME AND FLYASH  
(Kansas Test Method KT-29)

**a. SCOPE**

This method covers the procedures for sampling Portland Cement, lime and flyash in the field. Procedures for sampling these materials at producing plants are governed by production, storage, sampling and loading facilities and are not covered in this method.

**b. APPARATUS**

**b.1.** Clean, 4 L (1 gal) friction top pails for shipping samples to the laboratory.

**b.2.** Tube designed for sampling cement.

**b.3.** Drying pans.

**b.4.** Shovel, hand scoop, safety goggles, and other miscellaneous equipment.

**c. PROCEDURE**

**c.1.** Portland Cement.

**c.1.a.** Cement used by ready mix and central mix plants is commonly sampled by passing a suitable container, such as a drying pan through the discharge stream between the cement weigh hopper and the mixing chamber. Make several passes through the stream to insure that the combined sample will be representative of the cement going into the work.

Other points and methods of sampling are permissible as long as the samples are representative of the cement being used and they are not contaminated with foreign material.

**c.1.b.** Cement being used to produce job-mixed concrete is usually sampled by opening the loading hatch of the truck or car, digging a trench in the exposed surface of the cement and taking samples below the bottom of the trench by means of the sampling tube. Other methods of sampling are permissible if they produce representative, uncontaminated samples.

**c.2.** Hydrated Lime and flyash: Field samples of hydrated lime and flyash are most conveniently obtained by discharging a small amount of material from the spreading truck on to a canvas or

large sheet of paper placed on the ground and selecting a representative portion for the sample.

Samples may also be taken by opening the loading hatches of cars or trucks, digging a trench in the exposed surface and taking samples below the bottom of the trench by means of the sampling tube.

**c.3. Quicklime:** Field samples of quicklime are most conveniently obtained from a windrow after the quicklime is discharged from the transporting truck. Material must be selected so that it will represent an average of all parts of the discharge from a single truck. Quicklime absorbs moisture quite readily and, therefore, the following sampling procedure must be carried out quickly and immediately after discharge from the truck. Place a quartering canvas on the ground in the intended path of the vehicle depositing the pebble quicklime. After the vehicle has deposited the material on the quartering canvas, quarter the sample in the standard manner until a sample of the proper size has been obtained, approximately 8 L (2 gal). Care should be taken to minimize the loss of fines due to the wind. This sample shall be placed in an airtight container(s) preferably two 4 L (1 gal), friction top cans. Care must be taken that lumps of quicklime are not crushed excessively during handling.

**d. SAFETY PRECAUTIONS:**

Quicklime can cause burns if contact is made with the eyes or with the face and arms or other exposed parts of the body, especially in hot weather when the worker is perspiring. Workers should remain at a safe distance when the quicklime is being discharged from the truck, avoiding the dust that is created. Safety goggles are recommended when working around quicklime. If quicklime should get into the eyes or on the skin, flush the effected area immediately with large amounts of water and notify your immediate supervisor. If irritation or burning persists, seek medical attention.