

National Bureau of Standards

Certificate of Analysis

Standard Reference Material 114m

Portland Cement

This Standard Reference Material is intended for use in calibrating the Wagner turbidimeter, the Blaine fineness meter, and the 2-inch diameter No. 325 sieve in accordance with Federal Test Method Standard 158 where applicable or ASTM methods of test for fineness of cement. The air-permeability test should be made at a porosity of 0.500.

Residue on No. 325 sieve, electro-formed sheet (45.0 μm), wet method.	6.9 percent
Surface area (Wagner turbidimeter) by ASTM Method C115-70 (or subsequent issue)	2040 cm^2/g
Surface area (air-permeability).	3930 cm^2/g
Mean particle diameter (air-permeability).	4.85 μm

The surface areas and mean particle diameter reported on this Standard Reference Material are calculated on the assumption that its specific gravity is 3.15, and this value should be used in all calibration computations.

The overall direction and technical measurements leading to certification were performed under the direction of J. R. Dine and R. R. Woolf, Materials Reference Laboratories, Products Evaluation Technology Division.

The technical and support aspects involved in the preparation, certification, and issuance of this Standard Reference Material were coordinated through the Office of Standard Reference Materials by A. R. Woolf, C. L. Stanley, and R. E. Michaelis.

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J. Paul Cali, Chief
Office of Standard Reference Materials

Directions for use:

To open the vial, make a deep scratch with a file about 1/4 inch from the bottom of the vial. Invert the vial and press a red hot file point against the scratch to cause a circumferential crack around the vial. Remove the end of the vial carefully and remove any glass fragments which may have fallen into the sample.

The specific surface of cement changes on being exposed to the air. Therefore, after opening the container, the sample must be protected from atmospheric moisture until the time of test. The sample should be used as soon as possible after opening in any case within 4 hours.

For use with the Blaine air-permeability apparatus, the sample should be fluffed in a 4- to 6-ounce bottle as described in the current issue of Federal Test Method Standard 158 or ASTM Method C 204, before being used.