

National Bureau of Standards

Certificate

Standard Reference Material 1006a

Smoke Density Chamber Standard

Non-flaming Exposure Condition

This Standard Reference Material is recommended for checking the operation of smoke density chambers under non-flaming exposure conditions. However, it does not obviate the need for following the prescribed calibration and standardization techniques outlined in the test procedure. Due to gradual aging of cellulose-base papers, there may be some change in the certified value with time. Therefore, the smoke density measurements are determined periodically and changes made accordingly in the certified value. This value is certified for a period of four months from the date of certification.

The certified value for maximum specific optical density is:

Date of Certification: _____

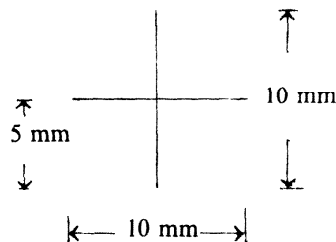
$D_m =$ _____*

$D_{m (corr.)} =$ _____

These mean values are the result of 72 tests on representative samples of a lot of 0.036 inch (0.91 mm) thick cotton-linter paper (principally α -cellulose). The estimate of precision is the computed standard deviation based on 72 measurements. Smoke density measurements were made under non-flaming exposure conditions in accordance with the detailed procedures outlined in American Society for Testing and Materials (ASTM) Standard E 662-79, "Test Method for Determining the Specific Optical Density of Smoke Generated by Solid Materials," and in National Fire Protection Association (NFPA) 258-1976, "Standard Test Method for Measuring the Smoke Generated by Solid Materials."

Note: For this particular test material, a small cross must be cut through the thickness at the center of the specimen with a sharp razor blade. Each cut should have a total length of 10 mm and the arms of the cross should extend 5 mm from the center point (see figure below). Prior to test, the material must be dried for 24 hours at 60 °C and then conditioned to equilibrium at 23 ± 3 °C and 50 ± 5 percent relative humidity.

Cross 10 mm x 10 mm must be cut through SRM 1006a.



The original measurements for certification of this Standard Reference Material were performed by T. G. Lee of the Center for Fire Research using a commercially available smoke density chamber. Recertification of this material was performed by J. Randall Lawson of the Center for Fire Research.

*Without correction for window deposit.