



Document Summary

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Test Method D5756-95 Standard Test Method for Microvacuum Sampling and Indirect Analysis of Dust by Transmission Electron Microscopy for Asbestos Mass Concentration

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1. Scope

1.1 This test method covers a procedure to () identify asbestos in dust and () provide an estimate of the concentration of asbestos in the sampled dust, reported as either the mass of asbestos per unit area of sampled surface or as the mass of asbestos per mass of sampled dust.

1.1.1 If an estimate of asbestos structure counts is to be determined, the user is referred to Test Method D5755.

1.2 This test method describes the equipment and procedures necessary for sampling, by a microvacuum technique, non-airborne dust for levels of asbestos. The non-airborne sample is collected inside a standard filter membrane cassette from the sampling of a surface area for dust which may contain asbestos.

1.2.1 This procedure uses a microvacuuming sampling technique. The collection efficiency of this technique is unknown. Variability of collection efficiency for any particular substrate and across different types of substrates is also unknown. The effects of sampling efficiency differences and variability on the interpretation of dust sampling measurements have not been determined.

1.3 Asbestos identified by transmission electron microscopy (TEM) is based on morphology, selected area electron diffraction (SAED), and energy dispersive X-ray analysis (EDXA). Some information about structure size is also determined.

1.4 This test method is generally applicable for an estimate of the concentration of asbestos starting from approximately 0.24 pg of asbestos per square centimeter (assuming a minimum fiber dimension of 0.5 [mu]m by 0.025 [mu]m, see 17.8), but will vary

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Standard Test
Method for
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Structure
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Direct Transfer
(TEM)**

D6480:
Standard Test
Method for
Wipe Sampling
of Surfaces,
Indirect
Preparation, and
Analysis for
Asbestos
Structure
Number
Concentration
by Transmission
Electron
Microscopy

aggregated asbestos into fundamental fibrils, fiber bundles, clusters, or matrices that can be more accurately quantified by transmission electron microscopy. However, as with all indirect sample preparation techniques, the asbestos observed for quantification may not represent the physical form of the asbestos as sampled. More specifically, the procedure described neither creates nor destroys asbestos, but it may alter the physical form of the mineral fibers.

1.5 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.6 This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

2. Referenced Documents

D1193 Specification for Reagent Water

D1739 Test Method for the Collection and Measurement of Dustfall (Settleable Particulate Matter)

D3195 Practice for Rotameter Calibration

D3670 Guide for Determination of Precision and Bias of Methods of Committee D-22

D5756 Test Method for Microvacuum Sampling and Indirect Analysis of Dust by Transmission Electron Microscopy for Asbestos Mass Concentration

Index Terms

asbestos structure