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Standard Guide for Documenting the Results of Airborne Particle Penetration Testing of Protective Clothing Materials[1]

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INTRODUCTION

While test methods exist to measure penetration of airborne particles through barrier specimens, the data are not reported in a standard fashion. To be useful, such data should be combined with information that characterizes the test method employed. This information includes descriptions of test materials, challenge particles, test apparatus, methods used to count and measure the particles and test parameters such as flow rate, pressure drop, humidity, and temperature. The flow rate, pressure drop, particle size, and detection limits are of particular importance when comparing data from different sources during the selection of protective clothing. Some reports on particle barrier testing do not include such specificity. This guide provides a standard format for recording important test parameter information and data. The standard format is intended to facilitate the use of electronic databases to store, retrieve, and apply test results.

1. Scope

1.1 This guide provides a format for documenting information and performance data for a airborne particle penetration test.

1.2 Documented data and information are grouped into five categories that define important aspects of each test:

1.2.1 Description of material tested,

1.2.2 Challenge particles,

1.2.3 Test method,

1.2.4 Test results, and

1.2.5 Source of the data.

1.3 Use of this guide is facilitated by adherence to procedures outlined in a standard test method.

1.4 The values stated in SI units are to be regarded as standard. No other units of measurements are included in this standard.

2. Significance and Use

2.1 This guide is intended to encourage thorough and consistent documentation of airborne particle penetration testing and its results.

2.2 Uniform information and performance data increase the likelihood of selecting proper particle protective clothing by direct comparison of one material with another.

2.3 A standard format for test information and data also encourages computer storage of test results for easy retrieval, comparison, and correlations.

3. Data Fields

3.1 The reporting format is shown in Fig. A1.1.

3.2 If a particular field is not applicable to the testing performed, insert "not applicable" in that field. If a particular piece of data has not been obtained, insert "no data" or "unknown" in the field.

3.3 A description of each field of information follows:

3.3.1 *Description of Material Tested*—Identification of the specific protective clothing material tested to facilitate future identification of the test materials.

3.3.1.1 *Material Identification*—The manufacturer's code, model number, catalog number or "brand name" which uniquely describes the material tested.

3.3.1.2 *Material Description*—A unique generic description of the material composition and construction, such as the composition, thickness, and weight of various layers.

3.3.1.3 *Manufacturer*—The name, postal address, e-mail address, and telephone number of the manufacturer. If unknown, then enter the source of the tested material.

3.3.1.4 *Lot Identification or Manufacture Date*—The production lot/batch identification, date or code that uniquely identifies the material tested. If this information cannot be

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