INSTITUTE OF ENVIRONMENTAL SCIENCES AND TECHNOLOGY

Contamination Control Division
Recommended Practice 006.3

IEST-RP-CC006.3

Testing Cleanrooms

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1 SCOPE AND LIMITATIONS

1.1 Scope

This Recommended Practice (RP) covers testing methods for characterizing the performance of cleanrooms. It is intended to assist planners, designers, manufacturers, and customers in preparing detailed specifications for cleanroom procurement and for assuring cleanroom operational compliance. Performance tests are recommended for cleanrooms and clean zones in three operational phases (see Table 1). The tests are used to evaluate and characterize the overall performance of the cleanroom or clean zone system.

The test methods provide recommended test equipment and testing procedures for determining performance parameters. Where the test method is affected by the type of cleanroom, alternative procedures are defined. For some of the tests, alternative methods and instrumentation are described, so that different end-use considerations can be accommodated. Alternative methods are not necessarily equivalent, however.

In contractual agreements, the customer selects the specific tests appropriate to the cleanroom under consideration. Specific acceptance limits are also defined in contractual agreements.

The test methods may also be used or adapted for periodic monitoring of cleanroom or clean zone performance.

1.2 Limitations

This Recommended Practice does not recommend acceptance limits, but it does provide standard terminology for specifying appropriate limits. This RP does not cover all of the tests that may be used to characterize the operating parameters of cleanrooms, such as, but not limited to, particle deposition rates, airborne molecular deposition rates, microorganisms, and electrostatic discharge (ESD); refer to appropriate RPs in the *IEST Handbook of Recommended Practices* for details on the parameters of interest.

> **NOTE:** Testing in accordance with this Recommended Practice may involve hazardous materials, operations, and equipment. This RP does not purport to address all of the safety problems associated with its use. It is the responsibility of the user to consult and establish appropriate safety and health practices and to determine the applicability of regulatory limitations prior to use of this RP.

2 REFERENCES

The following documents are incorporated into this Recommended Practice to the extent specified herein. Users should apply the most recent editions of the references.

2.1 American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE)

ASHRAE Handbook - Fundamentals