Institute of Environmental Sciences and Technology

IEST-RP-CC001.5

Contamination Control Division
Recommended Practice 001.5

HEPA and ULPA Filters

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1 SCOPE AND LIMITATIONS

This Recommended Practice (RP) covers basic provisions for HEPA (high efficiency particulate air) and ULPA (ultra-low penetration air) filter units as a basis for agreement between customers and suppliers.

Filters that meet the requirements of this RP are suitable for use in clean air devices and cleanrooms that fall within the scope of ISO 14644 and for use in supply air and contaminated exhaust systems that require extremely high filter efficiency (99.97% or higher) for submicrometer (µm) particles.

This RP describes 11 levels of filter performance and six grades of filter construction. The customer's purchase order should specify the level of performance and grade of construction required. The customer should also specify the filter efficiency required if it is not covered by the performance levels specified in this RP.

NOTE: Products and procedures discussed in this RP 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. If a specific edition is cited, the most recent edition should be used. Where specific editions are cited, subsequent revisions of these publications do not automatically supersede the cited editions and users should investigate the applicability of revised editions.

2.1 Reference documents

Aluminum Standards and Data Book

ANSI A208.1: Particle Board, Mat-Formed Wood

ASME AG-1: Code on Nuclear Air and Gas Treatment

ASME-NQA-1: Quality Assurance Program Requirements for Nuclear Facilities Applications

ASTM A176: Stainless and Heat-Resisting Chromium Steel Plate, Sheet, and Strip

ASTM A240: Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications

ASTM A653: Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process

ASTM A1008: Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Baked Hardenable

ASTM B209: Aluminum and Aluminum-Alloy Sheet and Plate

ASTM B766: Electrodeposited Coatings of Cadmium

ASTM C209: Standard Test Methods for Cellulosic Fiber Insulating Board

ASTM D1056: Flexible Cellular Materials – Sponge or Expanded Rubber

ASTM E84: Surface Burning Characteristics of Building Materials

APA PS 1: Structural Plywood

Approval Guide: P7825c Building Materials Volume

IEST-RP-CC002: Unidirectional-Flow, Clean-Air Devices