This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

Designation: E2952 – 17

Standard Specification for Air-Purifying Respiratory Protective Smoke Escape Devices (RPED)[1]

This standard is issued under the fixed designation E2952; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification covers the minimum requirements for the design, performance, testing, and certification of air-purifying respiratory protective smoke escape devices for immediate emergency evacuation without entry/re-entry.

1.2 The purpose of this specification shall be to provide minimum requirements for respiratory protective escape devices that provide limited protection for 15 min for escape from the by-products of fire, including particulate matter, carbon monoxide, other toxic gases, and the effects of radiant heat.

1.3 The requirements of this specification specify an air-purifying respiratory protective escape device with a laboratory-tested 15-min service life intended to provide head, eye, and respiratory protection from particulate matter, irritants, and toxic gases and vapors commonly produced by fire.

1.4 Controlled laboratory tests that are used to determine compliance with the performance requirements of this specification shall not be deemed as establishing performance levels for all situations to which individuals can be exposed.

1.5 This specification shall not apply to the requirements for provision, installation, or use of air-purifying respiratory protective smoke escape devices.

1.6 This specification shall not apply to respiratory protective escape devices intended for use in circumstances in which an oxygen deficiency (oxygen less than 19.5 % by volume) exists or might exist.

1.7 This specification is not intended to be used as a detailed manufacturing or purchase specification, but shall be permitted to be referenced as a minimum requirement in purchase specifications.

1.8 *Units*—The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.9 *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

2.1 *ASTM Standards:*[2]

B117 Practice for Operating Salt Spray (Fog) Apparatus

D1003 Test Method for Haze and Luminous Transmittance of Transparent Plastics

D4101 Specification for Polypropylene Injection and Extrusion Materials

F1140 Test Methods for Internal Pressurization Failure Resistance of Unrestrained Packages

2.2 *ISO Standards:*[3]

ISO/IEC 17065 Conformity Assessment—Requirements for Bodies Certifying Products, Processes and Services

ISO 9001 Quality Systems—Model for Quality Assurance in Design, Development, Production, Installation, and Servicing

ISO 9002 Quality Systems—Model for Quality Assurance in Production, Installation, and Servicing.

2.3 *NFPA Standard:*[4]

NFPA 1981 Standard on Open-Circuit Self-Contained Breathing Apparatus for the Fire Service

3. Terminology

3.1 *Definitions:*

3.1.1 *air-purifying respiratory protective smoke escape device, RPED, n*—air-purifying respirator used to protect a person while escaping from a fire by removing certain contaminants of fire-generated products of combustion from the inhaled air.

[1] This specification is under the jurisdiction of ASTM Committee E54 on Homeland Security Applications and is the direct responsibility of Subcommittee E54.04 on Personal Protective Equipment (PPE).

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[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[3] Available from International Organization for Standardization (ISO), 1, ch. de la Voie-Creuse, CP 56, CH-1211 Geneva 20, Switzerland, http://www.iso.org.

[4] Available from National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02169-7471, http://www.nfpa.org.

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