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Standard Specification for Sprayed Slurries, Foams and Indigenous Materials Used As Alternative Daily Cover for Municipal Solid Waste Landfills¹

This standard is issued under the fixed designation D6826; 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.

^{ε1} NOTE—Units statement was inserted in Section 1.3 editorially in January 2014.

1. Scope—Scope*

1.1 This specification defines procedures for determining the performance of certain landfill daily cover materials generally described as an alternative daily cover (ADC). This specification applies only to slurries ~~that are sprayed, or foams that are spray applied, or indigenous materials that are placed onto the working face of a Municipal Solid Waste Landfill~~ municipal solid waste landfill (MSWLF) unit as a cover. It is not applicable to other types of ~~landfills. It does not apply to landfills nor geosynthetics~~ used as an ADC.

1.2 This standard addresses the evaluation of an ADC and its ability to control fires and odors and whether or not the cover contains materials that present a threat to human health and the environment. The control of disease vectors and blowing litter can be evaluated by observation, and scavenging is controlled by security procedures and other operating practices.

1.3 The U.S. Environmental Protection Agency (EPA) promulgated regulations under the Resource Conservation and Recovery Act, Subtitle D, which establish criteria for municipal solid waste landfills (MSWLF). These regulations became effective October 9, 1991. The cover material requirements of these regulations are set forth in 40 Code of Federal Regulations, Section 258.21 as follows: <https://standards.iteh.ai/catalog/standards/sist/63c4d62c-fcee-42a1-8c21-cde9fe6c75fb/astm-d6826-23>

(a) “Except as provided in paragraph (b) of this section, the owners or operators of all MSWLF units must cover disposed solid waste with 6 in. (152.4 mm) of earthen material at the end of each operating day, or at more frequent intervals if necessary, to control disease vectors, fires, odors, blowing litter, and scavenging.”

(b) “Alternative materials of an alternative thickness (other than at least 6 in. (152.4 mm) of earthen material) may be approved by the Director of the Solid Waste Regulatory Agency of an approved State if the owner or operator demonstrates that the alternative material and thickness control disease vectors, fires, odors, blowing litter, and scavenging without presenting a threat to human health and the environment.”

1.3.1 These federal regulations have the force of the law, and it is the purpose of this specification to define the test procedures necessary to comply with these regulations.

1.3.2 In order for a MSWLF landfill operator to obtain approval for use of an ADC, the operator must supply performance data to the state Solid Waste Regulatory Agency. In general, the technique used to obtain this permission involves applying to the state Solid Waste Regulatory agency for a sanitary MSWLF operating permit modification.

¹ This specification is under the jurisdiction of ASTM Committee D18 on Soil and Rock and is the direct responsibility of Subcommittee D18.25 on Erosion and Sediment Control Technology.

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*A Summary of Changes section appears at the end of this standard

NOTE 1—Manufacturers will provide performance data for their product.

1.3.3 Parties interested in the evaluation technology described in the Standard Practice should include MSWLF operators, engineering firms, local, state, and federal Solid Waste Regulatory Agencies, and manufacturers and vendors of ADC materials.

1.4 *Units*—The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.3.1 *Exception*—Metric units are used in **Note 2**.

1.5 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.6 *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.*

2. Referenced Documents

2.1 ASTM Standards:²

[D653 Terminology Relating to Soil, Rock, and Contained Fluids](#)

[D4982 Test Methods for Flammability Potential Screening Analysis of Waste](#)

[D6523 Guide for Evaluation and Selection of Alternative Daily Covers \(ADCs\) for Sanitary Landfills](#)

[E96/E96M Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials](#)

~~[G40 Terminology Relating to Wear and Erosion](#)~~

2.2 Other Documents:³

[U.S. Environmental Protection Agency Regulations, Resource Conservation and Recovery Act, Subtitle D, Code of Federal Regulations, Protection of the Environment, Title 40, Part 258, Subpart CB Operating Criteria, Section 258.21 Cover Material Requirements, pp. 393-94, revised as of July 1, 1995](#)

[U.S. Environmental Protection Agency Regulations, Resource Conservation and Recovery Act, Subtitle D, Code of Federal Regulations, Protection of the Environment, Title 40, Part 261, Subpart C Characteristics of Hazardous Waste, Section 261.24 Toxicity Characteristics](#)

[EPA Method 1311 Toxicity Characteristic Leaching Procedure](#)

[EPA Method 1312 Synthetic Precipitation Leaching Procedure](#)

[EPA Publication SW-846](#)

[EPA Method 8260](#)

[EPA Method 8270](#)

3. Terminology

3.1 *Definitions*—For definitions of some terms used in this specification, refer to Terminology **G40**.

3.1 Definitions:

3.1.1 For definitions of common technical terms used in this standard, refer to Terminology **D653**.

3.1.2 *foam, n*—a synthetic material sprayed and combined with air to form closed cell air pockets (see Guide **D6523**).

3.1.3 *indigenous, adj*—native to a particular region (see Guide **D6523**).

3.1.4 *leachate, n*—contaminated water resulting from the combination of waste with precipitation (see Guide **D6523**).

3.1.5 *municipal solid waste landfill (MSWLF) unit, n*—also known as a sanitary landfill; a regulated disposal site for the deposition of commercial and household waste (see Guide **D6523**).

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 U.S. Government Printing Office Superintendent of Documents, 732 N. Capitol St., NW, Mail Stop: SDE, Washington, DC 20401, <http://www.access.gpo.gov>.

3.1.6 *working face, n*—the area of a landfill in which waste is actively being deposited (see Guide [D6523](#)).

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *daily cover, n*—6 in. (152.4 mm) of earthen material that is spread and compacted on the top and side slopes of compacted solid waste, at least at the end of each operating day, which satisfies the U.S. Environmental Protection Agency, Resource Conservation and Recovery Act, Subtitle D.

3.2.1.1 *alternative daily cover material, n*—a substance or material other than 6 in. (152.4 mm) of earthen material, used for daily cover, which satisfies the U.S. Environmental Protection Agency, Resource Conservation and Recovery Act, Subtitle D, performance standards for an ADC (see Guide [D6523](#)).

3.2.2 *foam, n*—a synthetic material sprayed and combined with air to form closed cell air pockets (see Guide [D6523](#)).

3.2.3 *indigenous, adj*—native to a particular region (see Guide [D6523](#)).

3.2.4 *leachate, n*—contaminated water resulting from the combination of waste with precipitation (see Guide [D6523](#)).

3.2.5 *municipal solid waste landfill (MSWLF) unit, n*—a regulated disposal site for the deposition of commercial and household waste.

3.2.6 *working face, n*—the area of a landfill in which waste is actively being deposited (see Guide [D6523](#)).

4. Significance and Use

4.1 The U.S. Environmental Protection Agency promulgated regulations under the Resource Conservation and Recovery Act, Subtitle D, which establish criteria for municipal solid waste landfills (MSWLF). These regulations became effective October 9, 1991. The cover material requirements of these regulations are set forth in 40 Code of Federal Regulations, Section 258.21 as follows:

(a) “Except as provided in paragraph (b) of this section, the owners or operators of all MSWLF units must cover disposed solid waste with 6 in. (152.4 mm) of earthen material at the end of each operating day, or at more frequent intervals if necessary, to control disease vectors, fires, odors, blowing litter, and scavenging.”

(b) “Alternative materials of an alternative thickness (other than at least 6 in. (152.4 mm) of earthen material) may be approved by the Director of the Solid Waste Regulatory Agency of an approved State if the owner or operator demonstrates that the alternative material and thickness control disease vectors, fires, odors, blowing litter, and scavenging without presenting a threat to human health and the environment.”

4.2 These federal regulations have the force of the law, and it is the purpose of this specification to define the test procedures necessary to comply with these regulations:

4.3 In order for a MSWLF landfill operator to obtain approval for use of an ADC, the operator must supply performance data to the state Solid Waste Regulatory Agency. In general, the technique used to obtain this permission involves applying to the state Solid Waste Regulatory agency for a sanitary MSWLF operating permit modification.

Note 1—Manufacturers will provide performance data for their product.

4.4 Parties interested in the evaluation technology described in the Standard Practice should include MSWLF operators, engineering firms, local, state, and federal Solid Waste Regulatory Agencies, and manufacturers and vendors of ADC materials.

4. Classification of ADCs (Other than Geosynthetic ADCs)

4.1 This standard does not apply to geosynthetic ADC’s. The ADC’s identified in this standard are sprayed on foams, sprayed on slurries, and indigenous materials as classified below. These classifications are consistent with those given in Guide [D6523](#).

4.2 *Foams*—Foam ADCs are applied to the working face of MSWLF units using foam generation and application equipment specifically designed for that particular foam. Both hardening and non-hardening foams are currently available.