



Standard Guide for Evaluation and Selection of Alternative Daily Covers (ADCs) for Sanitary Landfills¹

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1. Scope

1.1 This guide is intended to assist specifiers and end users in assessing the different options available for sanitary landfill daily cover materials described as alternative (non-soil) daily covers (ADCs). Traditional daily cover consists of at least 6 in. of soil spread over the working faces of sanitary landfills. Alternative systems are attractive to landfill operations in order to conserve landfill disposal space, among other reasons.

1.2 This guide assists in understanding different performance features of broad classifications of ADCs, and determining the extent and degree to which different ADCs are able to “control disease vectors, fires, odors, blowing litter, and scavenging, without presenting a threat to human health and the environment,” as intended by United States Environmental Protection Agency (USEPA) regulations.

1.3 This guide is not intended to provide cost information regarding the various ADCs as a standard guide, it does not dictate a protocol for the practice and testing of ADCs, but rather provides valuable information, guidance, and recommendations to interested parties concerning the many options available.

2. Referenced Documents

2.1 ASTM Standards:

D 4982 Test Methods for Flammability Potential Screening Analysis of Waste²

E 96 Test Methods for Water Vapor Transmission of Materials³

2.2 Other Standards⁴

Solid Waste Disposal Facility Criteria, USEPA, Technical Manual EPA 530-R-93-017, Cover Material Requirements, 40 CFR 258.21, Nov 1993

“The Use of Alternative Materials for Daily Cover at Municipal Solid Waste Landfills” EPA 600/R-93/172 PB 92-227197 July 1993

Alternative Daily Cover Regulations, California Environ-

mental Protection Agency, Title 27, Division 2, Subdivision 1, Chapter 3, Subchapter 4, Article 2, Section 20680 CIWMB Daily Cover and Section 20690 CIWMB Alternative Daily Cover

3. Terminology

3.1 *alternative daily cover, n*—an alternative to the traditional 6-in. (15-cm) soil cover required by the USEPA for landfill working faces to “control disease vectors, fires, odors, blowing litter, and scavenging, without presenting a threat to human health and the environment.”

3.2 *foam, n*—a synthetic material sprayed and combined with air to form closed-cell air pockets.

3.3 *geosynthetic, n*—a planar product manufactured from polymeric material used with soil, rock, earth, or other geotechnical engineering related material as an integral part of a man-made project, structure, or system.

3.4 *indigenous, adj*—native to a particular region.

3.5 *leachate, n*—contaminated water resulting from the combination of waste with precipitation.

3.6 *nonreusable, adj*—in geosynthetics, a fabric or film intended to be placed once and then disposed of, discarded, or left in place.

3.7 *reusable, adj*—in geosynthetics, a fabric or membrane material intended to be retrieved and installed more than once to perform the cover function.

3.8 *sanitary landfill, n*—a regulated disposal site for the deposition of commercial and household wastes.

3.9 *working face, n*—the area of a landfill in which waste is actively being deposited.

4. Significance and Use

4.1 This guide provides information which the regulator/permit officials, engineers, waste disposal operators, and others will find helpful to (1) understand and distinguish between the many choices available; (2) understand the performance feature considerations for living up to EPA regulations for landfill daily covers, and (3) understand the various requirements and differences for putting these covers into practice at landfills.

5. Classifications of ADCs

5.1 *Foams*—Foam ADCs are applied to the working face of sanitary landfills using foam generation and application equipment specifically designed for that particular foam. Both

¹ This guide is under the jurisdiction of ASTM Committee D-35 on Geosynthetics and is the direct responsibility of Subcommittee D35.03 on Permeability and Filtration.

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² *Annual Book of ASTM Standards*, Vol 11.04.

³ *Annual Book of ASTM Standards*, Vol 04.06.

⁴ Available from the Superintendent of Documents, US Government Printing Office, Washington, DC 20402.