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Standard Guide for Use of Rotary Kiln Produced Expanded Shale, Clay or Slate (ESCS) as a Mineral Amendment in Topsoil Used for Landscaping and Related Purposes[1]

This standard is issued under the fixed designation D5883; 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.

~~ε[1] NOTE—Editorially updated units of measurement statement in April 2018.~~

1. Scope*

1.1 This guide covers the material characteristics, physical requirements, and sampling appropriate for the designation of the rotary kiln produced expanded shale, clay or slate (ESCS) material as a mineral amendment.

1.2 The presence in the topsoil of the ~~correct~~proper nutrient and pH level is necessary for healthy plant growth. This guide does not, however, cover a determination of the nutrients, nor their availability.[2]

NOTE 1—The nutrient content of topsoil is important and the chemicals usually evaluated are nitrogen, phosphate, and potassium. Nutrient deficiencies may be corrected by using fertilizers. Excess soluble salts should be examined as to their desirability. The acidity or alkalinity of the soil is also important. Excess acidity may be corrected by the application of lime dust. Excess alkalinity may be corrected by the application of sulfur or other suitable acidifying compounds. The latter item, in addition to lowering pH, also could be considered as an aggregate when considering the particle size distribution.

1.3 *Units*—The values stated in SI units are to be regarded as standard. The values given in parentheses after SI units are provided for information only and are not considered standard.

1.4 *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.*

1.5 *This guide offers an organized collection of information or a series of options and does not recommend a specific course of action. This document cannot replace education or experience and should be used in conjunction with professional judgment. Not all aspects of this guide may be applicable in all circumstances. This ASTM standard is not intended to represent or replace the standard of care by which the adequacy of a given professional service must be judged, nor should this document be applied without consideration of a project's many unique aspects. The word "Standard" in the title of this document means only that the document has been approved through the ASTM consensus process.*

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:*[3]

C29/C29M Test Method for Bulk Density ("Unit Weight") and Voids in Aggregate

C566 Test Method for Total Evaporable Moisture Content of Aggregate by Drying

~~D75~~D75/D75M Practice for Sampling Aggregates

D653 Terminology Relating to Soil, Rock, and Contained Fluids

~~D1140 Test Methods for Determining the Amount of Material Finer than 75-μm (No. 200) Sieve in Soils by Washing~~

[1] This guide is under the jurisdiction of ASTM Committee D18 on Soil and Rock and is the direct responsibility of Subcommittee D18.22 on Media for Plant Growth.

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[2] Nutrient testing procedures are found in the state Agricultural Experiment Station recommendations from the state within which the landscape is located, "Methods of Soil Analysis" Editor-in-Chief: C. A. Black, *Agronomy No. 9*, Vol 2, American Society of Agronomy, Inc., Madison, WI, and Hesse, P.R., *A Textbook of Soil Chemical Analysis*, Chemical Publishing Co., New York, NY 1972.

[3] 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.

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