NOTICE: This standard has either been superseded and replaced by a new version or withdrawn.
Contact ASTM International (www.astm.org) for the latest information

Designation: D 1214 – 89 (Reapproved 1994)ε1

Standard Test Method for Sieve Analysis of Glass Spheres[1]

This standard is issued under the fixed designation D 1214; 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—Unit of measurement statement was added editorially in October 1994.

1. Scope

1.1 This test method covers the sieve analysis of glass spheres used for retroreflective pavements markings and industrial uses.

1.2 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

1.3 *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:*

D 346 Practice for Collection and Preparation of Coke Samples for Laboratory Analysis[2]

D 2013 Method for Preparing Coal Samples for Analysis[2]

E 11 Specification for Wire-Cloth Sieves for Testing Purposes[3]

3. Summary of Test Method

3.1 The spheres are hand-sieved through standard sieves, starting with the sieve with the largest opening specified and progressing successively through the specified sieves in the order of decreasing size of opening, and computing the weight of glass spheres and the percent passing each of the sieves.

4. Significance and Use

4.1 The size or gradation of glass spheres is one measurable aspect of performance as a retroreflective media. The function of this test is to measure the size of glass spheres and to determine compliance with applicable specifications.

NOTE 1—This method has been used in other industrial areas outside the intended scope of this test method.

5. Apparatus

5.1 *Balance*, sensitive to 50 mg.

5.2 *Sieves*, 8 in. (200 mm) in diameter, conforming to Specification E 11, and including such sieves as may be required by the specifications for the glass spheres.

5.3 *Oven*.

6. Samples

6.1 By quartering or riffle sampling (Note 2), select a representative sample from the material to be tested. Take at least two representative samples of approximately 500 g each from separate packages from each shipment in the ratio of two samples for each 10 000 lb (5000 kg) or fraction thereof. Approximately 0.02 oz (50 g) of dry glass spheres are required for each test. This specimen is also selected by quartering or riffling.

NOTE 2—The quartering procedure for reducing bulk samples, to obtain representative test samples of suitable size, is described and illustrated in Practice D 346. Various types of riffle samplers are illustrated in Method D 2013.

7. Procedure

7.1 *Hand Sieving*:

7.1.1 Dry the specimen to substantially constant weight at a temperature of 105 to 110 °C.

7.1.2 Weigh 50 g of the dried glass spheres to the nearest 0.1 g and place on the sieve with the largest opening in the series specified for the test, which shall be thoroughly dry. Hold the sieve, with pan and cover attached, in one hand in a slighty inclined position so that the specimen will be well distributed over the sieve, at the same time gently striking the side about 150 times per minute against the palm of the other hand on the upstroke. Turn the sieve every 25 strokes about one sixth of a revolution in the same direction. Continue the operation until not more than 0.05 g passes through the sieve in 1 min of continuous sieving. Each time, before weighing the material passing through the sieve, tap the side of the sieve with the brush handle in order to remove any material adhering to the wire cloth.

[1] This test method is under the jurisdiction of ASTM Committee D-1 on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee D01.44 on Traffic Coatings.

Current edition approved May 26, 1989. Published July 1989. Originally published as D 1214 – 52T. Last previous edition D 1214 – 58(1983)ε[1].

[2] *Annual Book of ASTM Standards*, Vol 05.05.

[3] *Annual Book of ASTM Standards*, Vol 14.02.

iTeh Standards (https://standards.iteh.ai) Document Preview
ASTM D1214-89(1994)e1
https://standards.iteh.ai/catalog/standards/sist/69c350a3-17e7-42e8-b258-b4f8a53f6a8b/astm-d1214-891994e1

Copyright © ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States.