

Methods of test for Desiccants —

Part 7: Determination of particle size

NOTE It is recommended that this Part be read in conjunction with BS 3482-1 “*Sampling, and preparation and storage of test samples*” which is issued separately.

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Chemicals Standards Policy Committee (CIC/-) to Technical Committee CIC/2, upon which the following bodies were represented:

- Chemical Industries Association
- Ministry of Defence
- Royal Society of Chemistry
- Society of British Aerospace Companies Limited
- Society of Environmental Engineers

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Foreword

This Part of BS 3482 has been prepared under the direction of the Chemicals Standards Policy Committee. This revision of BS 3482 comprises Part 1, which describes procedures for sampling and preparation and storage of test samples and a number of Parts describing methods of test for desiccants. This revision supersedes BS 3482:1962 which is withdrawn. It differs from BS 3482:1962 in that individual methods have been published in separate Parts and have been generally updated. Some additional methods not included in BS 3482:1962 have also been incorporated.

This Part of BS 3482 also supersedes the methods given in Appendix G of BS 2540:1960, Appendix G of BS 2541:1960 and Appendix F of BS 3523:1962 which are withdrawn.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 and 2, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This Part of BS 3482 describes a method for the determination of the particle size of desiccants.

NOTE The title of the publication referred to in this standard is given on the inside back cover.

2 Principle

A test portion is sieved through British Standard test sieves. Results are expressed as the percentage by mass of particles retained on the larger aperture sieve and passing the smaller aperture sieve.

3 Apparatus

3.1 Ordinary laboratory apparatus, and the following are required.

3.2 Test sieves, 200 mm in diameter, complying with BS 410, of aperture size as specified in the appropriate desiccant product standard.

4 Procedure

4.1 Test portion

Weigh approximately 100 g of a laboratory sample to the nearest 0.01 g (m_1).

4.2 Sieving

Assemble the sieves (**3.2**) as prescribed in the desiccant product specification. Transfer quantitatively the test portion to the top sieve, cover with a lid and oscillate the sieves manually in the horizontal plane for 2 min at a frequency of 1 Hz with a 15 mm amplitude (i.e. so that attrition of particles is kept to a minimum).

4.3 Reweighing

Immediately collect, quantitatively, the material retained on the larger aperture sieve and reweigh to the nearest 0.01 g (m_2). Likewise collect the material passing through the smaller aperture sieve and reweigh to the nearest 0.01 g (m_3).

5 Calculation and expression of results

Calculate the particle size expressed as a percentage by mass of material retained on the larger mesh sieve (I) and material passing through the smaller mesh sieve (II) from the following expressions:

$$\frac{m_2 \times 100}{m_1} \quad (\text{I})$$

$$\frac{m_3 \times 100}{m_1} \quad (\text{II})$$

where

- m_1 is the original mass of the test portion (**4.1**) (in g);
- m_2 is the mass of material retained on the larger mesh sieve (see **4.3**) (in g);
- m_3 is the mass of material passing the smaller mesh sieve (see **4.3**) (in g).

6 Test report

The test report shall include the following information.

- a) A complete identification of the sample.
- b) A reference to this British Standard method, i.e. BS 3482-7:1991.
- c) The results, expressed in accordance with clause **5**.
- d) Any unusual features noted during the determination.

Publication(s) referred to

BS 410, *Specification for test sieves*.

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