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Fine ceramics (advanced ceramics, advanced technical ceramics) — Determination of drying loss of ceramic granules

Céramiques techniques — Détermination de la perte au séchage des granulés de céramique

Reference number
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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

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Foreword

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The committee responsible for this document is ISO/TC 206, *Fine ceramics*.

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Fine ceramics (advanced ceramics, advanced technical ceramics) — Determination of drying loss of ceramic granules

1 Scope

This International Standard specifies the testing method to determine the drying loss of granulated ceramic powders. The drying loss of granulated ceramic powders means the loss of mass that occurs from drying under specified conditions.

2 Principle

Granulated ceramic powders may contain water, solvent, organic additives, and other volatile matters. Because water, solvent, and, to some extent, also organic additives are removed from granulated powders by drying at high temperature, a mass loss occurs after drying under specified conditions. The mass loss of granulated ceramic powder divided by its initial mass gives its drying loss in percentage by mass.

3 Apparatus

3.1 Drying oven

A drying oven capable of maintaining temperatures up to 110 °C with a precision of ±5 °C and circulating air in oven. The type of oven shall be stated in the test report, as the design of the oven can influence the test result.

3.1.1 Flat-bottomed dish

A flat-bottomed metallic dish (for example, tin or aluminium), approximately 50 mm in diameter and 30 mm in height. The dimensions of the dish are not critical, but the base should be flat to ensure good thermal contact and to permit the test portion of the powder to be spread to a thin, even layer (the thickness of powder can have a significant influence on the test result).

3.1.2 Balance

A balance capable of weighing at least 10 g with a precision of ±0,001 g (1 mg).

3.1.3 Desiccator

A desiccator containing a desiccant such as dried calcium chloride impregnated with cobalt chloride.

3.2 Moisture analyser

A moisture analyser with a precision of ±0,001 g (1 mg) that has a halogen or infrared heating source (instead of the apparatus described in 3.1).

4 Sampling

4.1 The granulated ceramic powder should be tested in the as-received condition.

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