

Coating powders - Part 2: Determination of density by gas comparison pyknometer (referee method)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 8130-2:2010 sisaldab Euroopa standardi EN ISO 8130-2:2010 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 31.12.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

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Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN ISO 8130-2:2010 consists of the English text of the European standard EN ISO 8130-2:2010.

This standard is ratified with the order of Estonian Centre for Standardisation dated 31.12.2010 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

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English Version

Coating powders - Part 2: Determination of density by gas
comparison pycnometer (referee method) (ISO 8130-2:1992)

Poudres pour revêtement - Partie 2: Détermination de la
masse volumique à l'aide d'un pycnomètre à gaz (méthode
de référence) (ISO 8130-2:1992)

Pulverlacke - Teil 2: Bestimmung der Dichte mit einem
Gasvergleichspyknometer (Schiedsverfahren) (ISO 8130-
2:1992)

This European Standard was approved by CEN on 16 October 2010.

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Foreword

The text of ISO 8130-2:1992 has been prepared by Technical Committee ISO/TC 35 "Paints and varnishes" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 8130-2:2010 by Technical Committee CEN/TC 139 "Paints and varnishes" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2011, and conflicting national standards shall be withdrawn at the latest by May 2011.

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Endorsement notice

The text of ISO 8130-2:1992 has been approved by CEN as a EN ISO 8130-2:2010 without any modification.

Coating powders —

Part 2:

Determination of density by gas comparison pyknometer (referee method)

1 Scope

This part of ISO 8130 specifies a method for the determination of the density of coating powders using a gas comparison pyknometer. It can be used for all types of coating powder, is simple to carry out but requires more expensive instrumentation than is often used for density determinations.

The density of coating powders can also be determined using the liquid displacement pyknometer method described in ISO 8130-3. The apparatus is relatively inexpensive, but the liquid displacement pyknometer method is liable to give erroneous results, particularly if the powder swells in contact with the displacement liquid used or the displacement liquid does not totally displace the air between the powder particles. The liquid displacement method is much slower in execution, less accurate and is only to be used if it can be shown that the same results will be obtained as for the gas comparison pyknometer method.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this part of ISO 8130. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this part of ISO 8130 are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 842:1984, *Raw materials for paints and varnishes — Sampling*.

3 Principle

The volume of a weighed test portion is determined by measuring the volume of gas displaced within a receptacle when the test portion is introduced. This is achieved by equalizing the pressure difference which arises due to the displacement of the gas. The density is then calculated from the mass and the volume of the test portion.

4 Material

4.1 Air or, if desired, **helium**, commercial grade, in a steel cylinder.

Other gases may be used provided that the product under test is not affected and this deviation from the method is noted in the test report.

5 Apparatus

5.1 Gas comparison pyknometer, for the manual or automatic determination of the density, complying with the requirements given below.

The essential design of a typical gas comparison pyknometer using air as the medium is outlined in figure 1. It consists of two cylinders (A and B) with pistons of exactly equal dimensions. The cylinders are connected by a valve and a pressure difference meter. The test portion, contained in a 50 ml beaker, is placed in cylinder B. Both pistons are moved by an equal amount which results in a pressure difference between cylinders A and B. The measuring piston in cylinder B is then moved again to re-