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**Sredstva za apnjenje - Določevanje prahu v granuliranih sredstvih za apnjenje  
pred in po simuliranih postopkih ravnanja**

Liming materials - Determination of the dust content of granular liming materials before  
and after simulated handling conditions

Calcium-/Magnesium-Bodenverbesserungsmittel - Bestimmung des Staubanteils von  
granulatförmigen Calcium-/Magnesium-Bodenverbesserungsmitteln vor und nach  
simulierten Behandlungsbedingungen

Amendements minéraux basiques - Détermination de la teneur en fines des  
amendements minéraux basiques granules avant et après simulation des conditions de  
manipulation

**Ta slovenski standard je istoveten z: CEN/TS 16305:2012**

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**ICS:**

65.080

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Fertilizers

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TECHNICAL SPECIFICATION  
SPÉCIFICATION TECHNIQUE  
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**CEN/TS 16305**

January 2012

ICS 65.080

English Version

**Liming materials - Determination of the dust content of granular  
liming materials before and after simulated handling conditions**

Amendements minéraux basiques - Détermination de la  
teneur en fines des amendements minéraux basiques  
granulés avant et après simulation des conditions de  
manipulation

Calcium-/Magnesium-Bodenverbesserungsmittel -  
Bestimmung des Staubanteils von granulatförmigen  
Calcium-/Magnesium-Bodenverbesserungsmitteln vor und  
nach simulierten Behandlungsbedingungen

This Technical Specification (CEN/TS) was approved by CEN on 31 October 2011 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

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## Foreword

This document (CEN/TS 16305:2012) has been prepared by Technical Committee CEN/TC 260 “Fertilizers and liming materials”, the secretariat of which is held by DIN.

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## Introduction

A standard method for the determination of the dust content of granulated liming materials is required to indicate the stability and quality of the product and to simulate the dust produced during handling and storage.

A rotating device is used to simulate the abrasion caused by handling.

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## 1 Scope

This European Standard specifies a method for the determination of the amount of dust in granulated liming materials, both before and after simulated handling conditions.

This method applies to all granulated and screened liming materials.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1235, *Solid fertilizers — Test sieving (ISO 8397:1988, modified)*

EN 1482-2, *Fertilizers and liming materials — Sampling and sample preparation — Part 2: Sample preparation*

EN 12944-3:2001, *Fertilizers and liming materials — Vocabulary — Part 3: Terms relating to liming materials*

ISO 565, *Test sieves — Metal wire cloth, perforated metal plate and electroformed sheet — Nominal sizes of openings*

ISO 3310-1, *Test sieves — Technical requirements and testing — Part 1: Test sieves of metal wire cloth*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12944-3:2001 apply.

NOTE For further definitions see EN 12944-1 and EN 12944-2.

## 4 Principle

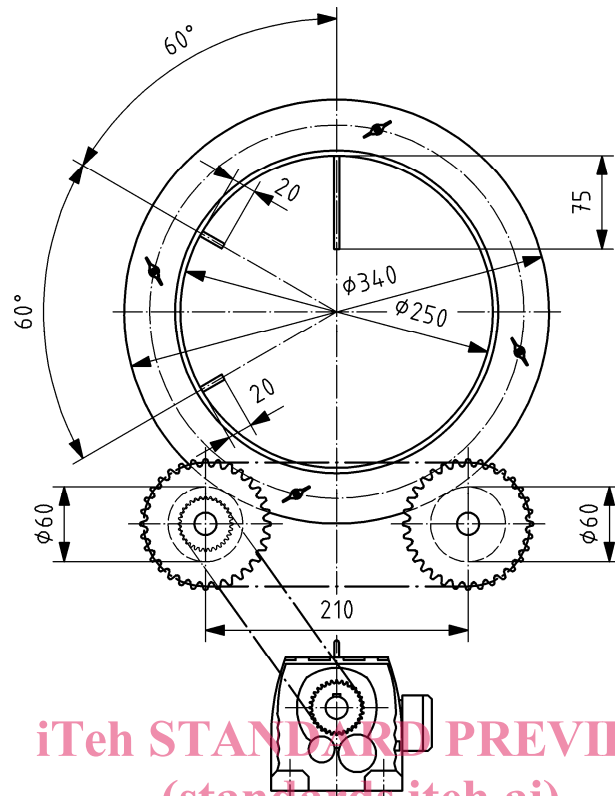
Dry sieving of a granulated liming material using a mechanical sieve. Abrasion using a Mechanical Rotating Device (MRD). Dry sieving of the product from the MRD using a mechanical sieve. Determination of the content of dust (i. e. material below 1 mm) before and after abrasion.

## 5 Apparatus

**5.1 Mechanical Rotating Device (MRD)**, according to Figure 1, with the following specific characteristics:

- cylinder internal diameter 250 mm, external diameter 340 mm, internal thickness 120 mm, external thickness  $\approx$  130 mm;
- three internal paddles: 75 mm length set at 0 °, 20 mm length set at 240 ° (clockwise), 20 mm length set at 300 ° (clockwise);
- cylinder speed rotation, 19 min<sup>-1</sup>.

Dimensions in millimetres



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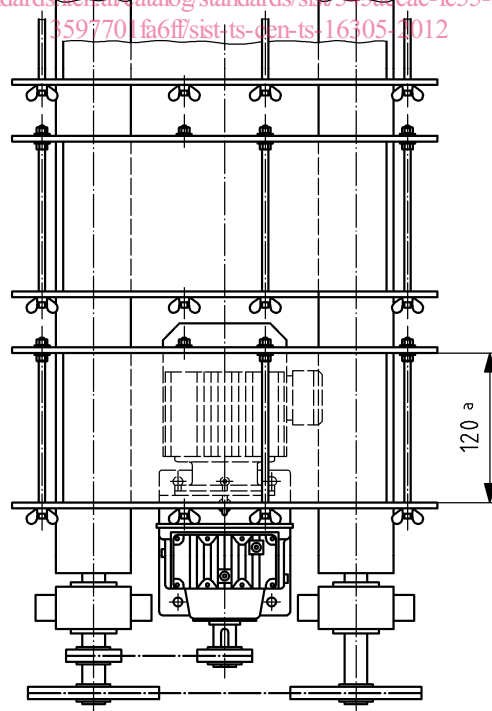


Figure 1 — Mechanical rotating device



The machine shall be capable of counting the number of revolutions. It shall be capable of stopping after a pre-determined number of revolutions.

**5.2 Balance**, capable of weighing to the nearest 0,01 g.

**5.3 Sieving machine**, capable of horizontal and vertical motion on a single or a nest of sieves.

**5.4 Sieve**, 1 mm metal wire cloth sieve according to ISO 565 and ISO 3310-1.

NOTE Additional sieve sizes may be used when determining a range of size fractions within a sample.

## 6 Sampling

Sampling is not part of the method specified in this document. A recommended sampling method is given in EN 1482-1.

Sample preparation shall be carried out in accordance with EN 1482-2.

Use 2 kg of material to determine both part 1 and part 2. Use 1 kg if either part 1 or part 2 is to be determined separately.

NOTE Handling soft materials during sample preparation can influence the dust content of the sample. Care should be taken when handling and preparing the samples.

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## 7 Procedure

### 7.1 Determination of the amount of material initially passing 1 mm

**7.1.1** Weigh  $300\text{ g} \pm 1\text{ g}$  to the nearest 0,01 g of the sampled material.

**7.1.2** Place on the 1 mm sieve and mechanically sieve for 1 min at frequency 50 Hz to 100 Hz.

**7.1.3** Weigh the residue remaining on the 1 mm sieve to the nearest 0,01 g and record the mass of material passing 1 mm. Retain the material remaining on the sieve and store for further testing (see 7.2.3).

**7.1.4** Repeat the operation three times. Calculate and record the mean of the results.

### 7.2 Determination of the amount of material passing 1 mm after simulated handling conditions

#### 7.2.1 General

NOTE Sometimes, the initial content of dust of the sample received is not representative of the product itself because of its possible alteration during transport. If the received product initially contains a significant amount of dust, removing existing dust before abrasion may alter the results, because lower amounts will fall down in the cylinder. It is the reason why the method includes two parts for measurement: with or without initial dust, but always with the same amount in the MRD.

If initial content of dust is considered as representative of the product, part 1 is to be preferred. If initial content of dust in the sample is suspicious, part 2 would be preferred, but the final result ( $A_4$ ), may always be considered as the specific production of dust due to this conventional handling.