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Normklasse : U 42

Meststoffen - Bepaling van het stroomgetal

Engrais - Détermination du taux d'écoulement

Fertilizers - Determination of flow rate

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Deze Europese norm EN 13299 : 2000 heeft de status van een Belgische norm.

Deze Europese norm bestaat in drie officiële versies (Duits, Engels, Frans).



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La présente norme européenne EN 13299 : 2000 a le statut d'une norme belge.

La présente norme européenne existe en trois versions officielles (allemand, anglais, français).



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English version

Fertilizers - Determination of flow rate

Engrais - Détermination du taux d'écoulement

Düngemittel - Bestimmung der Fließkennzahl

This European Standard was approved by CEN on 12 December 1999.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 260 "Fertilizers and liming materials", the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by August 2000, and conflicting national standards shall be withdrawn at the latest by August 2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

The flow rate of a fertilizer provides a measure of comparison for the mass flow when flowing out of containers or during spreading.

1 Scope

This European Standard specifies a method for the determination of the flow rate of free flowing solid fertilizers. The method is not applicable to powder materials (< 0,5 mm) or liming materials.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 1236, *Fertilizers - Determination of bulk density (loose) (ISO 3944:1992 modified)*.

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

3 Principle

Measurement of the time taken for 2 kg of fertilizer to flow from a calibrated funnel into a vessel placed on a balance.

4 Apparatus

4.1 Balance, with a capacity of at least 3,5 kg and capable of weighing to an accuracy of ± 1 g.

4.2 Funnel, as specified in EN 1236 made of stainless steel.

The slide of this funnel shall be such that the orifice is completely clear when the slide is in the open position.

4.3 Collecting vessel, capable of holding at least 3 kg of fertilizer, for example.

4.4 Stop-watch, with an accuracy of 0,1 s.

4.5 Woven wire test sieves, conforming to ISO 3310-1 with aperture sizes 3,55 mm and 4,0 mm.

4.6 Glass balls, for calibration of the funnel, conforming to the following requirements:

- Diameter : 4 mm \pm 0,3 mm ;
- Form : spherical ;
- Material : glass of density 2,5 kg/dm³ ;
- Surface : polished.

Before use, sieve the glass balls using the 4,00 mm and 3,55 mm sieves (4.5) and use only those which pass the 4,00 mm sieve and remain on the 3,55 mm sieve.