

norm

NEN-EN 13821

Bepaling van de minimum
ontstekingsenergie van
stof/lucht-mengsels

Publicatie uitsluitend voor commentaar

Determination of minimum ignition energy of dust/air mixtures

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ICS

English version

Determination of minimum ignition energy of dust/air mixtures

Bestimmung der Mindestzündenergie von Staub/Luft-
Gemischen

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 305.

If this draft becomes a European Standard, 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.

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Preview

Foreword

This European Standard has been prepared by the Technical Committee CEN/TC 305 "Potentially explosive atmospheres - Explosion prevention and protection", the Secretariat of which is held by DIN.

The text of the draft standard was submitted to formal vote and was approved by CEN as EN XXXXX on YYYY-YY-YY.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive 94/9/EC of the European Parliament and the Council of 23 March 1994 on the approximation of the laws of the Member States concerning equipment and protective systems intended for use in potentially explosive atmospheres. For relationships with EU Directive 94/9/EC, see informative annex C, which is an integral part of this standard.

In this standard annexes A to C are informative.

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publication of an identical text or by endorsement, at the latest by [...], and conflicting national standards shall be withdrawn at the latest by [...].

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Preview

1 Scope

This European Standard specifies a method of test to determine the minimum ignition energy of a dust/air mixture by an electrically-generated spark. It is intended that the dust be tested in a form (particle size, moisture content etc.) representing conditions of actual use so that assessment of the hazard present can be made.

This European Standard is applicable to the determination of the minimum ignition energy of a combustible dust dispersed in air, referred to hereafter as a "dust/air mixture".

The test method is not suitable for use with recognised explosives, gunpowder, dynamite, explosives which do not require oxygen for combustion; pyrophoric substances, or substances or mixtures of substances which may under some circumstances behave in a similar manner. Where any doubt exists about the existence of a hazard due to explosive properties, expert advice should be sought.

WARNING:
Precautions shall be taken to safeguard the health of personnel conducting the tests against the risk of fire, explosion and/or the effects, including toxic effects, of combustion. Compliance with this European standard does itself confer immunity from legal obligations.

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 1127-1

Safety of machinery – Fire and Explosions – Part 1: Explosion prevention and protection

IEC 50 [20]

European Electrotechnical Vocabulary Group 20: Scientific and industrial measuring instruments

IEC 1241-2-3

Electrical apparatus for use in the presence of combustible dusts – Part 2: Test methods, Section 3: Method for determining minimum ignition energy of dust/air mixtures

ISO 4225

Air Quality – General aspects Vocabulary

3 Definitions

For the purposes of this standard, the following definitions apply¹⁾:

3.1 Dust

Small solid particles that are able to remain suspended in air for some time.

NOTE: Normally maximum particle sizes will not exceed 500 µm. This definition includes what are defined in ISO 4225 as "dust" and "grit".

3.2 Combustible dust

Dust able to undergo an exothermic reaction with air when ignited.

3.3 Explosive dust/air mixture

A suspension of combustible dust in air under atmospheric condition throughout which, after ignition, combustion spreads.

3.4 Spark discharge

Transient discrete electric discharge which takes place between two conductors which are at different potentials. The discharge bridges the gap between the conductors in the form of a single ionisation's channel.

¹⁾ The definitions given above are proposed, the final definitions will depend on decisions of CEN/TC 305/WG 4.

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