

## საქართველოს სტანდარტი

მტვრის ღრუბელის ფეთქებადობის მახასიათებლის განსაზღვრა - ნაწილი 1:  
მტვრის ღრუბელის ფეთქებადობის წნევის  $P_{max}$ -ის განსაზღვრა

საქართველოს სტანდარტებისა და მეტროლოგიის  
ეროვნული სააგენტო  
თბილისი

სსტ ენ 14034-1:2004 +A1:2011/2015

### საინფორმაციო მონაცემები

1 დამტკიცებულია და შემოღებულია სამოქმედოდ საქართველოს სტანდარტებისა და მეტროლოგიის ეროვნული სააგენტოს 2015 წლის 27 მარტის № 21 და 2015 წლის 10 თებერვლის № 9 განკარგულებებით

2 მიღებულია გარეკანის თარგმნის მეთოდით სტანდარტიზაციის ევროპული კომიტეტის სტანდარტი ენ 14034-1:2004 +A1:2011 „ მტვრის ღრუბელის ფეთქებადობის მახასიათებლის განსაზღვრა - ნაწილი 1: მტვრის ღრუბელის ფეთქებადობის წნევის Pmax-ის განსაზღვრა“

### 3 პირველად

4 რეგისტრირებულია საქართველოს სტანდარტებისა და მეტროლოგიის ეროვნული სააგენტოს რეესტრში: 2015 წლის 27 მარტი №268-1.3-6982

აკრძალულია ამ სტანდარტის გადაცემა მესამე პირებისათვის ან/და მისი სხვა ფორმით გავრცელება

English Version

Determination of explosion characteristics of dust clouds - Part  
1: Determination of the maximum explosion pressure  $p_{\max}$  of  
dust clouds

Détermination des caractéristiques d'explosion des nuages  
de poussière - Partie 1: Détermination de la pression  
maximale d'explosion  $p_{\max}$  des nuages de poussière

Bestimmung der Explosionskenngrößen von Staub/Luft-  
Gemischen - Teil 1: Bestimmung des maximalen  
Explosionsdruckes  $p_{\max}$  von Staub/Luft-Gemischen

This European Standard was approved by CEN on 9 July 2004 and includes Amendment 1 approved by CEN on 13 November 2010.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

საინფორმაციო ნაწილი. სრული ტექსტის სახსრავად შეიძინეთ სტანდარტი.

**Contents**

page

Foreword.....3

1 Scope .....5

2 Normative references .....5

3 Terms and definitions .....5

4 Test apparatus .....6

4.1 General.....6

4.2 Explosion vessel.....6

4.3 Dust dispersion system (dust container, fast acting valve, connecting tube, dust disperser).....8

4.4 Ignition source .....11

4.5 Control unit.....11

4.6 Pressure measuring system.....11

5 Dust sample.....11

6 Test procedure .....12

7 Calibration and verification .....14

7.1 Calibration .....14

7.2 Verification .....15

8 Safety precautions / instructions for use.....15

9 Alternative test equipment / procedures.....16

10 Test report .....16

Annex A (normative) Electro pneumatic valve .....17

Annex B (normative) Dust disperser with 5 mm holes .....19

Annex C (normative) 20 l sphere.....23

C.1 General.....23

C.2 Test apparatus .....23

C.3 Test conditions .....23

C.4 Test procedure .....24

C.5 Calculation and correction of  $p_{max}$  .....25

Annex ZA (informative) **ZA** Relationship between this European Standard and the Essential Requirements of EU Directive 94/9/EC **ZA**.....26

Bibliography .....27

საინფორმაციო ნაწილი. სრული ტექსტის სანახავად შეიძინეთ სტანდარტი.

## Foreword

This document (EN 14034-1:2004+A1:2011) has been prepared by Technical Committee CEN/TC 305 "Potentially explosive atmospheres - Explosion prevention and protection", 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 July 2011, and conflicting national standards shall be withdrawn at the latest by July 2011.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document includes Amendment 1, approved by CEN on 2010-11-13.

This document supersedes EN 14034-1:2004.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1** and **A1**.

This document 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(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

This document includes a Bibliography.

This document is one of a series of standards as listed below:

- EN 14034-1, Determination of explosion characteristics of dust clouds - Part 1: Determination of the maximum explosion pressure  $p_{max}$  of dust clouds;
- **A1** EN 14034-2 **A1**, Determination of explosion characteristics of dust clouds - Part 2: Determination of the maximum rate of explosion pressure rise  $(dp/dt)_{max}$  of dust clouds;
- **A1** EN 14034-3 **A1**, Determination of explosion characteristics of dust clouds – Part 3: Determination of the lower explosion limit LEL of dust clouds;
- EN 14034-4, Determination of explosion characteristics of dust clouds – Part 4: Determination of the limiting oxygen concentration LOC of dust clouds.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

## Introduction

This document specifies a method for experimental determination of the maximum explosion pressure of dust clouds. The maximum explosion pressure is the maximum value of the overpressure during explosions of explosive atmospheres in the explosion range of a combustible dust in a closed vessel. The measurement of the maximum explosion pressure forms the basis for explosion protection by design and construction of equipment, protective systems and components to reduce the explosion effects.

This maximum explosion pressure is a safety characteristic used for hazard identification and designing safety measures for the mitigation of destructive effects of dust explosions.

<sup>A1</sup> *deleted text* <sup>A1</sup>

საინფორმაციო ნაწილი. სრული ტექსტის სანახავად შეიძინეთ სტანდარტი.