



National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 13938-2:2004

ICS 71.100.30

**EXPLOSIVES FOR CIVIL USES -
PROPELLANTS AND ROCKET
PROPELLANTS - PART 2: DETERMINATION
OF RESISTANCE TO ELECTROSTATIC
ENERGY**

National Standards
Authority of Ireland
Glasnevin, Dublin 9
Ireland

Tel: +353 1 807 3800
Fax: +353 1 807 3838
<http://www.nsai.ie>

Sales
<http://www.standards.ie>

*This Irish Standard was
published under the
authority of the National
Standards Authority of
Ireland
and comes into effect on:
January 12, 2005*

**NO COPYING WITHOUT NSAI
PERMISSION EXCEPT AS
PERMITTED BY COPYRIGHT
LAW**

© NSAI 2004

Price Code G

Údarás um Chaighdeán Náisiúnta na hÉireann

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 13938-2

October 2004

ICS 71.100.30

English version

**Explosives for civil uses - Propellants and rocket propellants -
Part 2: Determination of resistance to electrostatic energy**

Explosif à usage civil - Poudre propulsive et propergol pour
fusée - Partie 2 : Détermination de la résistance à l'énergie
électrostatique

Explosivstoffe für zivile Zwecke - Treibladungspulver und
Raketentreibstoffe - Teil 2: Bestimmung der
Widerstandsfähigkeit gegen elektrostatische Energie

This European Standard was approved by CEN on 23 August 2004.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

	Page
Foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms and definitions.....	4
4 Apparatus	4
5 Preparation of test sample.....	5
6 Procedure	5
7 Test report	5
Annex A (informative) Range of applicability of the test method.....	8
Annex B (normative) Sieving method.....	9
Annex C (normative) Calibrating procedure for electrostatic discharge generator	10
C.1 General.....	10
C.2 Device to be tested	10
C.3 Apparatus	10
C.4 Procedure	11
C.4.1 Voltage and capacitor calibration	11
C.4.2 Discharge circuit calibration	11
C.4.3 Additional calibration in case of an additional series resistance.....	12
C.5 Requirements for the generator	13
Annex D (normative) Screening method for electrostatic discharge generator	14
D.1 Material	14
D.2 Procedure	14
Annex ZA (informative) Clauses of this European Standard addressing essential requirements or other provisions of EU Directives.	15

Foreword

This document (EN 13938-2) has been prepared by Technical Committee CEN/TC 321 "Explosives for Civil Uses", the secretariat of which is held by AENOR.

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 April 2005, and conflicting national standards shall be withdrawn at the latest by April 2005.

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 European Standard is one of a series of standards with the generic title *Explosives for civil uses - Propellants and Rocket Propellants*. The other parts of this series are listed below:

- | | |
|-----------|--|
| EN13938-1 | <i>Part 1: Requirements.</i> |
| EN13938-3 | <i>Part 3: Determination of deflagration to detonation transition.</i> |
| EN13938-4 | <i>Part 4: Determination of burning rate under ambient conditions.</i> |
| EN13938-5 | <i>Part 5: Solid rocket propellants. Determination of voids and fissures</i> |
| EN13938-6 | <i>Part 6: Solid rocket propellants. Guide for the determination of integrity of inhibitor coatings.</i> |
| EN13938-7 | <i>Part 7: Determination of properties of black powder.</i> |

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

EN 13938-2:2004 (E)

1 Scope

This document specifies a method for the determination of resistance to electrostatic energy for propellants containing a mass fraction of at least 5 % of particles which pass through a 1 mm sieve. This method does not apply to black powder.

NOTE: If the mass fraction of particles smaller than 1 mm size is less than 5 % the propellant is considered to be insensitive to electrostatic energy and this test is not performed.

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 13857-1:2003, *Explosives for civil uses — Part 1: Terminology*.

EN ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025:1999)*.

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13857-1:2003 and the following apply.

3.1 reaction

occurrence of report, crackling, sparkling and/or flame

3.2 partial reaction

change of colour, opening of the cell or heat traces at the surface of the cell

4 Apparatus

4.1 Cells and covers (see Figure 1).

The cell consists of:

- a plastics disc, e.g. polyvinylchloride, thickness $(3,0 \pm 0,1)$ mm, diameter (32 ± 1) mm, with a centred drilled hole, diameter $(6,3 \pm 0,1)$ mm;
- a copper disc, thickness approximately 1 mm, diameter (19 ± 1) mm, which forms the cell base.

The plastics disc is fixed to the copper disc by means of a bead of adhesive around the outer edge.

The cover consists of a copper disc, thickness approximately 0,1 mm, diameter (16 ± 1) mm which is fixed to the upper part of the plastics disc by means of a double-sided adhesive tape.

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- Looking for additional Standards? Visit Intertek Inform Infostore
 - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-