# EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

# DRAFT prEN 13763-17

April 2021

ICS 71.100.30

Will supersede EN 13763-17:2003

**English Version** 

## Explosives for civil uses - Detonators and detonating cord relays - Part 17: Determination of no-fire current of electric detonators

Explosifs à usage civil - Détonateurs et relais pour cordeau détonant - Partie 17: Détermination du courant maximal de non-amorçage des détonateurs électriques Explosivstoffe für zivile Zwecke - Zünder und Sprengschnurverbinder - Teil 17: Bestimmung der Nichtansprechstromstärke elektrischer Zünder

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 321.

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.

This draft European Standard was established by CEN 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

**Warning** : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

## Contents

European foreword	
Introduction	
1 9	Scope
2	Normative references
3	Terms and definitions
<b>4</b>	Principle
5	Apparatus
<b>6</b>	Preparation and handling of test samples and test pieces7
7   7.1 ( 7.2   7.3 7	Procedure
8	Expression of results
9	Test report
Annex A (normative) Estimation of the normal standard deviation <i>s</i> from the range and sample size	
Annex ZA (informative) Relationship between this European Standard and the essential safety requirements of Directive 2014/28/EU relating to the making available on the market and supervision of explosives for civil uses aimed to be covered10	
Bibliography11	

#### **European foreword**

This document (prEN 13763-17:2021) has been prepared by Technical Committee CEN/TC 321 "Explosives for civil uses", the secretariat of which is held by UNE.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 13763-17:2003.

In comparison with the previous edition, the following technical modifications have been made:

- a) Clause 1, *Scope*, specifies that this document applies to explosives for civil uses;
- b) Clause 4, Principle, has been added;
- c) Clause 7, *Procedure*, has been updated and in 7.2 the duration of the square pulse has been identified for each class of detonators;
- d) Annex A, *Range of applicability of the test method*, has been removed;
- e) a new Annex A, *Estimation of the normal standard deviation s from the range and sample size*, has been added to adjust the statistical procedure;
- f) Annex ZA has been updated.

This document has been prepared under a Standardization Request (M/562) annexed to the Commission Implementing Decision C(2019)6634 final as regards Explosives for civil uses given to CEN by the European Commission and the European Free Trade Association, and supports Essential Safety requirements of Directive 2014/28/EU.

For relationship with Directive 2014/28/EU, see informative Annex ZA, which is an integral part of this document.

EN 13763, *Explosives for civil uses* — *Detonators and detonating cord relays*, is currently composed with the following parts:

- Part 1: Requirements
- Part 2: Verification of thermal stability
- Part 3: Determination of sensitiveness to impact
- Part 4: Determination of resistance to abrasion of leading wires and shock tubes
- Part 5: Determination of resistance to cutting damage of leading wires and shock tubes
- Part 6: Determination of resistance to cracking in low temperatures of leading wires
- Part 7: Determination of the mechanical strength of leading wires, shock tubes, connections, crimps and closures
- Part 8: Determination of resistance to vibration
- Part 9: Determination of resistance to bending of detonators

- Part 11: Determination of drop resistance of detonators and relays
- Part 12: Determination of resistance to hydrostatic pressure
- Part 13: Determination of resistance of electric detonator to electrostatic discharge
- Part 15: Determination of equivalent initiating capability
- Part 16: Determination of delay accuracy
- Part 17: Determination of no-fire current of electric detonators
- Part 18: Determination of series firing current of electric detonators
- Part 19: Determination of firing pulse of electric detonators
- Part 20: Determination of total resistance of electric detonators
- Part 21: Determination of flash-over voltage of electric detonators
- Part 22: Determination of capacitance, insulation resistance and insulation breakdown of leading wires
- Part 23: Determination of the shock-wave velocity of shock tube
- Part 24: Determination of the non-conductivity of shock tube
- Part 25: Determination of transfer capacity of relay and coupling accessories
- Part 26: Definitions, methods and requirements for devices and accessories for reliable and safe function of detonators and relays
- Part 27: Definitions, methods and requirements for electronic initiation system

#### Introduction

This is a test of electric detonators where statistical methods are used to characterize the sensitivity. The test consists of two parts, one preliminary test to obtain an estimate of the 50 % initiation and one to calculate the no-fire current. The purpose of the test is to prevent untimely or inadvertent initiation or ignition of the detonators.