

## საქართველოს სტანდარტი

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English Version

## Explosion prevention and protection in underground mines - Protective systems - Part 2: Passive water trough barriers

Protection contre l'explosion dans les mines souterraines -  
Systèmes de protection - Partie 2: Arrêts-barrages passifs  
à bacs à l'eau

Explosionsschutz in untertägigen Bergwerken -  
Schutzsysteme - Teil 2: Passive Wassertrogsperrren

This European Standard was approved by CEN on 4 February 2007.

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## Foreword

This document (EN 14591-2:2007) 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 document shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2007, and conflicting national standards shall be withdrawn at the latest by September 2007.

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.

EN 14591 *Explosion prevention and protection in underground mines — Protective systems* consists of the following parts:

*Part 1: 2-bar-explosion-proof ventilation structure*

*Part 2: Water trough barriers*

*Part 4: Automatic extinguishing systems for road headers*

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, 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 the United Kingdom.

## Introduction

Water trough barriers are autonomous protective systems by reducing the effects of combustible dust and/or firedamp explosions in underground mines to a sufficient level of safety. They are used for preventing the propagation of explosions in roadways in underground coal mines. The purpose of water trough barriers is to extinguish explosion flames in roadways in underground mines and in this way to limit propagation of explosions.

Water trough barriers are designed and arranged in such a way that explosions are prevented from spreading through dangerous chain reactions and incipient explosions do not become detonations.

Water trough barriers will only be effective as a configuration of individual water troughs in accurately defined arrangements. Water troughs are the components for this protective system.

Their effectiveness in the event of explosions is based on the distribution of water acting as a fire-extinguishing medium held in individual water troughs, with the blast wave preceding an explosion destroying individual water troughs, thus evenly distributing water, the extinguishing medium, throughout the cross-section of a roadway and extinguishing the explosion flame that follows.

The water trough barriers described in this standard are the result of research and testing of many years above ground and underground. The results of these tests can be used as a basis for type examination.

საინფორმაციო ნაწილი. სრული ტექსტის სანახავად შეიძინეთ სტანდარტი.