

## საქართველოს ეროვნული სტანდარტი

უპრავი ხანძარსანინააღმდეგო სისტემები. გაგის ჩაქრობის სისტემების კომპონენტები. ნაწილი 1: მოთხოვნები და ტესტ მეთოდები ელექტრული ავტომატური კონტროლისა და შეკავების მოწყობილობისთვის

საქართველოს სტანდარტების, ტექნიკური რეგლამენტების  
და მეტროლოგიის ეროვნული სააგენტო  
თბილისი

## საინჟორმაციო მონაცემები

1 შემუშავებულია საქართველოს სტანდარტების, ტექნიკური რეგლამენტების და მეტროლოგიის ეროვნული სააგენტოს სტანდარტებისა და ტექნიკური რეგლამენტების დეპარტამენტის მიერ

2 დამტკიცებულია და შემოღებულია სამოქმედოდ საქართველოს სტანდარტების, ტექნიკური რეგლამენტების და მეტროლოგიის ეროვნული სააგენტოს 2009 წლის 10 სექტემბრის №35 “ს” განკარგულებით

3 მიღებულია გარეკანის მეთოდით სტანდარტიზაციის საერთაშორისო ორგანიზაციის სტანდარტი ქსრ ქ6 12094-1 : 2003 „უძრავი ხანძარსაწინააღმდეგო სისტემები. გაზის ჩაქრობის სისტემების კომპონენტები. ნაწილი 1: მოთხოვნები და ტესტ მეთოდები ელექტრული ავტომატური კონტროლისა და შეკავების მოწყობილობისთვის”

### 4 პირველად

5 რეგისტრირებულია საქართველოს სტანდარტების, ტექნიკური რეგლამენტების და მეტროლოგიის ეროვნული სააგენტოს რეესტრში: 2009 წლის 4 სექტემბერი №268-1.3-3015

წინამდებარე სტანდარტის სრული ან ნაწილობრივი აღწარმოება, ტირაჟირება და გავრცელება საქართველოს სტანდარტების, ტექნიკური რეგლამენტების და მეტროლოგიის ეროვნული სააგენტოს ნებართვის გარეშე არ დაიშვება

EUROPEAN STANDARD

EN 12094-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2003

ICS 13.220.20

English version

Fixed firefighting systems - Components for gas extinguishing systems - Part 1: Requirements and test methods for electrical automatic control and delay devices

Installations fixes de lutte contre l'incendie - Eléments constitutifs pour installations d'extinction à gaz - Partie 1: Exigences et méthodes d'essais applicables aux dispositifs électriques automatiques de commande et de temporisation

Ortsfeste Brandbekämpfungsanlagen - Bauteile für Löschanlagen mit gasförmigen Löschmitteln - Teil 1: Anforderungen und Prüfverfahren für automatische elektrische Steuer- und Verzögerungseinrichtungen

This European Standard was approved by CEN on 9 January 2003.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, 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
<b>Foreword</b> .....	4
<b>Introduction</b> .....	6
<b>1 Scope</b> .....	7
<b>2 Normative references</b> .....	7
<b>3 Terms, definitions and abbreviations</b> .....	7
<b>3.1 Terms and definitions</b> .....	7
<b>3.2 Abbreviations</b> .....	9
<b>4 Functional requirements</b> .....	10
<b>4.1 General</b> .....	10
<b>4.2 Environmental class</b> .....	10
<b>4.3 Signal processing and indication</b> .....	10
<b>4.4 Reception and processing of input triggering signals</b> .....	13
<b>4.5 Transmission of extinguishing signal</b> .....	14
<b>4.6 Activation of alarm devices</b> .....	14
<b>4.7 Indication of the supply with power</b> .....	14
<b>4.8 Activated condition</b> .....	14
<b>4.9 Indication of activated condition</b> .....	14
<b>4.10 Released condition</b> .....	15
<b>4.11 Indication of Released condition</b> .....	15
<b>4.12 Resetting of the Activated condition and the Released condition</b> .....	15
<b>4.13 Fault warning condition</b> .....	15
<b>4.14 Indication of Fault warning condition</b> .....	16
<b>4.15 Disabled condition</b> .....	17
<b>4.16 Indication of Disabled condition</b> .....	18
<b>4.17 Delay of extinguishing signal (Option with requirements)</b> .....	18
<b>4.18 Signal representing the flow of extinguishing agent (Option with requirements)</b> .....	18
<b>4.19 Monitoring of the status of components (Option with requirements)</b> .....	18
<b>4.20 Emergency hold device (Option with requirements)</b> .....	19
<b>4.21 Control of flooding time (Option with requirements)</b> .....	19
<b>4.22 Initiation of secondary flooding (Option with requirements)</b> .....	20
<b>4.23 Manual only mode (Option with requirements)</b> .....	20
<b>4.24 Triggering signals to equipment within the system (Option with requirements)</b> .....	20
<b>4.25 Extinguishing signals to spare cylinders (Option with requirements)</b> .....	21
<b>4.26 Triggering of equipment outside the system (Option with requirements)</b> .....	21
<b>4.27 Emergency abort device (Option with requirements)</b> .....	21
<b>4.28 Control of extended discharge (Option with requirements)</b> .....	21
<b>4.29 Release of the extinguishing media for selected flooding zones (Option with requirements)</b> .....	22
<b>4.30 Activation of alarm devices with different signals (Option with requirements)</b> .....	22
<b>5 Design requirements</b> .....	22
<b>5.1 General</b> .....	22
<b>5.2 Mechanical design</b> .....	23
<b>5.3 Manual controls</b> .....	23
<b>5.4 Visible indicators</b> .....	23
<b>5.5 Audible indicators</b> .....	24
<b>5.6 Electrical design of components</b> .....	24
<b>5.7 Circuit design</b> .....	24
<b>6 Additional design requirements for software controlled e.c.d.s.</b> .....	25
<b>6.1 General</b> .....	25
<b>6.2 Software design</b> .....	25
<b>6.3 Program monitoring</b> .....	25

<b>6.4</b>	<b>Storage of program and data .....</b>	<b>25</b>	
<b>6.5</b>	<b>Monitoring of memory contents .....</b>	<b>26</b>	
<b>6.6</b>	<b>Software documentation .....</b>	<b>26</b>	
<b>6.7</b>	<b>Operation of the e.c.d. in the event of a system fault .....</b>	<b>27</b>	
<b>7</b>	<b>Marking .....</b>	<b>27</b>	
<b>8</b>	<b>Documentation .....</b>	<b>27</b>	
<b>9</b>	<b>Tests .....</b>	<b>28</b>	
<b>9.1</b>	<b>General test requirements .....</b>	<b>28</b>	
<b>9.2</b>	<b>Functional tests .....</b>	<b>29</b>	
<b>9.3</b>	<b>Environmental tests .....</b>	<b>31</b>	
<b>9.4</b>	<b>Damp heat, cyclic (Operational) .....</b>	<b>31</b>	
<b>9.5</b>	<b>Sulphur dioxide (<math>\text{SO}_2</math>) corrosion (endurance) .....</b>	<b>32</b>	
<b>10</b>	<b>Evaluation of conformity .....</b>	<b>33</b>	
<b>10.1</b>	<b>General .....</b>	<b>33</b>	
<b>10.2</b>	<b>Initial type testing .....</b>	<b>33</b>	
<b>10.3</b>	<b>Factory production control (FPC) .....</b>	<b>34</b>	
<b>Annex A (normative) Summary of indications .....</b>		<b>38</b>	
<b>Annex B (informative) Design requirements for software controlled e.c.d. ....</b>		<b>39</b>	
<b>Annex ZA (informative) Clauses of this European Standard addressing the provisions of the EU Construction Products Directive .....</b>			<b>40</b>
<b>ZA.0</b>	<b>Scope of this annex .....</b>	<b>40</b>	
<b>ZA.1</b>	<b>Relationship between EU Directive and this European Standard .....</b>	<b>40</b>	
<b>ZA.2</b>	<b>Procedure for the attestation of conformity of e.c.d.s .....</b>	<b>40</b>	
<b>ZA.3</b>	<b>CE marking .....</b>	<b>41</b>	
<b>ZA.4</b>	<b>EC certificate and declaration of conformity .....</b>	<b>42</b>	
<b>Bibliography .....</b>		<b>44</b>	

## Foreword

This document (EN 12094-1:2003) has been prepared by Technical Committee CEN /TC 191, "Fixed firefighting systems", the secretariat of which is held by BSI.

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 October 2003, and conflicting national standards shall be withdrawn at the latest by April 2006.

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 part of a series concerned with gas extinguishing system components.

The following European Standards are planned to cover:

- gas extinguishing systems (EN 12094)
- sprinkler systems (EN 12259 and EN 12845)
- powder systems (EN 12416)
- explosion protection systems (EN 26184)
- foam systems (EN 13565)
- hose systems (EN 671)
- smoke and heat control systems (EN 12101)
- water spray systems<sup>1)</sup>

This European Standard has the general title "Fixed firefighting systems – Components for gas extinguishing systems" and will consist of the following parts:

- Part 1: Requirements and test methods for electrical automatic control and delay devices
- Part 2: Requirements and test methods for non-electrical automatic control and delay devices
- Part 3: Requirements and test methods for manual triggering and stop devices
- Part 4: Requirements and test methods for container valve assemblies and their actuators
- Part 5: Requirements and test methods for high and low pressure selector valves and their actuators for CO<sub>2</sub> systems
- Part 6: Requirements and test methods for non electrical disable devices for CO<sub>2</sub> systems
- Part 7: Requirements and test methods for nozzles for CO<sub>2</sub> systems

---

1) under preparation

- Part 8: Requirements and test methods for flexible connectors for CO<sub>2</sub> systems
- Part 9: Requirements and test methods for special fire detectors
- Part 10: Requirements and test methods for pressure gauges and pressure switches
- Part 11: Requirements and test methods for mechanical weighing devices
- Part 12: Requirements and test methods for pneumatic alarm devices
- Part 13: Requirements and test methods for check valves and non-return valves
- Part 16: Requirements and test methods for odorizing devices for CO<sub>2</sub> low pressure systems
- Part 17: Pipe hangers
- Part 20: Requirements and test methods for compatibility of components

Annex A is normative. Annex B is informative.

This document includes a Bibliography.

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

## Introduction

It has been assumed in the preparation of this standard that the execution of its provisions is entrusted to appropriately qualified and experienced people.

All pressure data in this European Standard are given as gauge pressures in bar, unless otherwise stated.

NOTE       $1 \text{ bar} = 10^5 \text{ N m}^{-2} = 100 \text{ kPa}$ .

საინფორმაციო ნაშროვი. სრული ტექსტი გვხვდეთ სანახავის გელსტიდი.