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BSI Standards Publication

## Small craft - Fire-resistant fuel hoses

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## National foreword

This British Standard is the UK implementation of EN ISO 7840:2018. It is identical to ISO 7840:2013. It supersedes BS EN ISO 7840:2013, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee GME/33, Small craft.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2018  
Published by BSI Standards Limited 2018

ISBN 978 0 580 51594 1

ICS 47.080

**Compliance with a British Standard cannot confer immunity from legal obligations.**

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 October 2018.

### Amendments/corrigenda issued since publication

Date	Text affected
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EUROPÄISCHE NORM

October 2018

ICS 47.080

Supersedes EN ISO 7840:2013

English Version

## Small craft - Fire-resistant fuel hoses (ISO 7840:2013)

Petits navires - Tuyaux souples pour carburant  
résistants au feu (ISO 7840:2013)

Kleine Wasserfahrzeuge - Feuerwiderstandsfähige  
Kraftstoffschläuche (ISO 7840:2013)

This European Standard was approved by CEN on 16 April 2018.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

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## European foreword

The text of ISO 7840:2013 has been prepared by Technical Committee ISO/TC 188 "Small craft" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 7840:2018.

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 2019, and conflicting national standards shall be withdrawn at the latest by April 2019.

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

This document supersedes EN ISO 7840:2013.

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 2013/53/EU.

For relationship with EU Directive 2013/53/EU, see informative [Annex ZA](#), which is an integral part of this document.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### Endorsement notice

The text of ISO 7840:2013 has been approved by CEN as EN ISO 7840:2018 without any modification.

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## Annex ZA (informative)

### Relationship between this European Standard and the Essential Requirements of Directive 2013/53/EU aimed to be covered

This European standard has been prepared under a Commission's standardization request M/542 C(2015) 8736 final to provide one voluntary means of conforming to Essential Requirements of Directive 2013/53/EU.

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in [Table ZA.1](#) confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding Essential Requirements of that Directive and associated EFTA regulations.

**Table ZA.1 — Correspondence between this European Standard and Annex I and Annex II of Directive 2013/53/EU**

Essential Requirements of Directive 2013/53/EU	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
Annex I, Part A, 5.1.1 - Inboard Engine Annex I, Part A, 5.2.1 - Fuel system, General Annex I, Part A, 5.6.1 - Fire protection, General	All Clauses	This standard is relevant in respect of fire resistant fuel hoses that are installed both inside and outside the engine compartment and where they may be exposed to significant sources of heat.  EN ISO 10088 specifies the requirements for permanently installed diesel and petrol fuel systems as installed, from the fuel fill opening to the point of connection with the propulsion or auxiliary engine.  This standard is not intended for fuel hoses installed entirely within the splash well at the stern of a craft connected directly to an outboard engine.
Annex II – Components of watercraft (4) - Fuel tanks intended for fixed installations and fuel hoses	All Clauses	This standard is applicable for fire resistant fuel hoses that are supplied as components of watercraft within the scope of Directive 2013/53/EU.

**WARNING 1** Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

**WARNING 2** Other Union legislation may be applicable to the product(s) falling within the scope of this standard.

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2. [www.iso.org/directives](http://www.iso.org/directives)

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received. [www.iso.org/patents](http://www.iso.org/patents)

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

The committee responsible for this document is ISO/TC 188, *Small craft*.

This fourth edition cancels and replaces the third edition (ISO 7840:2004), which has been technically revised, mainly concerning test liquids in [5.2](#) to cover hoses' long-term resistance to petrol fuel mixed with ethanol as well as diesel fuel mixed with Fatty Acid Methyl Esters (FAME).

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# Small craft - Fire-resistant fuel hoses

## 1 Scope

This International Standard specifies general requirements and physical tests for fire-resistant hoses for conveying petrol or petrol blended with ethanol and diesel fuel or diesel fuel blended with FAME, designed for a working pressure not exceeding 0,34 MPa for hoses with nominal bore up to and including 10 mm and 0,25 MPa for hoses up to 63 mm inner diameter in craft of hull length up to 24 m.

It applies to hoses for small craft with permanently installed fuel systems. It does not apply to hoses entirely within the splash well at the stern of the craft connected directly to an outboard engine.

Specifications for non-fire-resistant fuel hoses are given in ISO 8469<sup>[1]</sup>. Specifications for permanently installed fuel systems are given in ISO 10088.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3:1973, *Preferred numbers — Series of preferred numbers*

ISO 1307, *Rubber and plastics hoses — Hose sizes, minimum and maximum inside diameters, and tolerances on cut-to-length hoses*

ISO 1402, *Rubber and plastics hoses and hose assemblies — Hydrostatic testing*

ISO 1817:2011, *Rubber, vulcanized or thermoplastic — Determination of the effect of liquids*

ISO 7233:2006, *Rubber and plastics hoses and hose assemblies — Determination of resistance to vacuum*

ISO 7326:2006, *Rubber and plastics hoses — Assessment of ozone resistance under static conditions*

ISO 10088:<sup>-1)</sup>, *Small craft — Permanently installed fuel systems*

EN 14214:2008+Amd.1:2009, *Automotive fuels — Fatty acid methyl esters (FAME) for diesel engines — Requirements and test methods*

## 3 General requirements

Hoses complying with this International Standard shall present a non-porous, smooth inner surface, free from defects and chemical contaminants.

Hoses shall demonstrate suitability for marine use by complying with the requirements of the tests in [Clause 5](#). They shall be marked according to [Clause 6](#).

## 4 Nominal bore

[Table 1](#) gives some of the inner diameters based on series R 10 of ISO 3:1973. Tolerances shall conform to ISO 1307 or the values given in [Table 1](#).

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1) To be published.