
Fire extinguishing media — Foam concentrates —

**Part 2:
Specification for medium- and high-
expansion foam concentrates for top
application to water-immiscible liquids**

Agents extincteurs — Émulseurs —

*Partie 2: Spécifications pour les émulseurs moyen et haut
foisonnements destinés à une application par le haut sur les liquides
non miscibles à l'eau*

ISO 7203-2:2019

<https://standards.iteh.ai/catalog/standards/iso/32b28059-f3b3-49ec-b9a8-c65e3ef23e36/iso-7203-2-2019>



iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

ISO 7203-2:2019

<https://standards.iteh.ai/catalog/standards/iso/32b28059-f3b3-49ec-b9a8-c65e3ef23e36/iso-7203-2-2019>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2019

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Classification and uses of foam concentrates	4
4.1 Classification	4
4.2 Use with sea water	4
5 Tolerance of the foam concentrate to freezing and thawing	4
6 Sediment in the foam concentrate	4
6.1 Sediment before ageing	4
6.2 Sediment after ageing	4
7 Determination of viscosity	4
7.1 Newtonian foam concentrates	4
7.2 Pseudo-plastic foam concentrates	4
8 pH of the foam concentrate	5
8.1 pH limits	5
8.2 Sensitivity to temperature	5
9 Surface tension of the foam solution	5
9.1 Before temperature conditioning	5
9.2 Temperature sensitivity	5
10 Interfacial tension between the foam solution and cyclohexane	5
10.1 General	5
10.2 Before temperature conditioning	5
10.3 Temperature sensitivity	5
11 Spreading coefficient of the foam solution on cyclohexane	5
12 Expansion	6
12.1 Medium-expansion foam concentrates — Limits	6
12.2 High-expansion foam concentrate — Limits	6
13 Test fire performance	6
14 Marking, packaging and specification sheet	6
14.1 Marking	6
14.2 Packaging	7
14.3 Specification sheet	7
Annex A (normative) Preliminary sampling and conditioning of the foam concentrate	8
Annex B (normative) Determination of tolerance to freezing and thawing	9
Annex C (normative) Determination of volume percentage of sediment	11
Annex D (normative) Determination of viscosity for pseudo-plastic foam concentrates	12
Annex E (normative) Determination of surface tension, interfacial tension and spreading coefficient	14
Annex F (normative) Determination of expansion and drainage time for medium-expansion foam concentrates	15
Annex G (normative) Determination of expansion and drainage time for high-expansion foam concentrates	20

Annex H (normative) Determination of test fire performance for medium-expansion foam concentrates	26
Annex I (normative) Determination of test fire performance for high-expansion foam concentrates	31
Annex J (informative) Determination of radiation measurement method	36
Annex K (informative) Compatibility	40
Bibliography	41

iTeh Standards
(<https://standards.itih.ai>)
Document Preview

[ISO 7203-2:2019](https://standards.itih.ai/catalog/standards/iso/32b28059-f3b3-49ec-b9a8-c65e3ef23e36/iso-7203-2-2019)

<https://standards.itih.ai/catalog/standards/iso/32b28059-f3b3-49ec-b9a8-c65e3ef23e36/iso-7203-2-2019>

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 (see 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 (see 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.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 21, *Equipment for fire protection and fire fighting*, Subcommittee SC 6, *Foam and powder media and firefighting systems using foam and powder*.

This third edition cancels and replaces the second edition (ISO 7203-2:2011), which has been technically revised.

The main changes compared to the previous edition are:

- addition of [Clause 4](#) containing specifications for Class A foam concentrates;
- extension of [Clause 2](#);
- modification of [Clause 12](#) to run two tests instead of one and take the average of both values instead having just one datum;
- correction of several figures;
- the extension of [Annex H](#) by a scheme of a decision tree and the modification of the acceptable temperature range for testing fire performance;
- removal of Annex “Typical anticipated performance for various types of foam concentrate”.

A list of all parts in the ISO 7203 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Firefighting foams are widely used to control and extinguish fires of Class B (flammable liquids) and/or Class A fuels (solid materials, usually of an organic nature) and for inhibiting reignition.

Foams can be used in combination with other extinguishing media, in particular halons, carbon dioxide and powders, which are the subject of other International Standards, including, ISO 6183, ISO 7201-1, ISO 7201-2 and ISO 7202. A specification for foam systems can be found in ISO 7076.

Attention is drawn to [Annex K](#), which deals with the compatibility of foam concentrates, and the compatibility of foams and powders.

iTeh Standards
(<https://standards.itih.ai>)
Document Preview

ISO 7203-2:2019

<https://standards.itih.ai/catalog/standards/iso/32b28059-f3b3-49ec-b9a8-c65e3ef23e36/iso-7203-2-2019>