INTERNATIONAL STANDARD

ISO 7076-6

First edition
2016-06-01

Fire protection — Foam fire extinguishing systems —

Part 6: Vehicle mounted compressed air foam systems

Protection contre l'incendie — Systèmes d'extinction d'in cendie à mousse —

Partie 6: Équipement pour mousse physique à air comprimé monté sur vehicules

Reference number
ISO 7076-6:2016(E)

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

Contents

Page

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 on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 21, *Equipment for fire protection and fire fighting*, Subcommittee SC 6, *Foam and powder media and firefighting systems using foam and powder*.

ISO 7076 consists of the following parts, under the general title *Fire protection — Foam fire extinguishing systems*:

— *Part 1: Foam proportioning equipment*

— *Part 2: Low expansion foam equipment*

— *Part 3: Medium expansion foam equipment*

— *Part 4: High expansion foam equipment*

— *Part 5: Fixed compressed air foam equipment*

— *Part 6: Vehicle mounted compressed air foam systems*

Introduction

Compressed air foam systems (CAFS) complying with this part of ISO 7076 are installed in or used in conjunction with fire-fighting vehicles to improve the efficiency of fire-extinguishing processes. Compressed air foam systems improve the adhesion, penetration and retention time of the fire-extinguishing agent on the burning material, thereby transferring more energy, and improving the cooling effect of the applied foam. This is achieved by adding foam concentrates and compressed air, to be delivered into water under pressure by the fire-fighting pump, to the fire.

Compressed air foam systems generate homogeneous foam that increases the effective contact area of the foam on the burning material, and improves the adhesion and penetration of the foam to non-horizontal surfaces of the burning material, thereby increasing the period in which heat is effectively transferred.

It is assumed that systems defined in this part of ISO 7076 will only be operated by properly trained personnel.

For CAFS to be used at a temperature outside this temperature range, the particular temperature range should be specified by the user and the manufacturer should determine by a risk assessment any need for additional precautions.

Fire protection — Foam fire extinguishing systems —

Part 6: Vehicle mounted compressed air foam systems

1 Scope

This part of ISO 7076 specifies requirements for compressed air foam systems (CAFS) in which foam concentrate and compressed air are continuously added to the water being discharged from the fire-fighting pump. This part of ISO 7076 is applicable to CAFS that can be permanently installed in fire-fighting vehicles, transportable, or mobile.

This part of ISO 7076 specifies requirements for CAFS which are used at ambient temperatures ranging from –10 °C to +40 °C.

This part of ISO 7076 does not apply to stationary CAFS.

This part of ISO 7076 does not apply to requirements for hazards related to handling foam concentrates, noise generated by CAFS, drives, auxiliary equipment, power sources, or pumps connected to the CAFS.

This part of ISO 7076 does not specify requirements for special hazards arising from particular conditions under which CAFS are used, for example:

— immunity against electromagnetic fields and electrostatic discharge;

— operation without supervision;

— events specific to the location where the CAFS is set up (e.g. on public roads);

— handling of any equipment, devices, etc., which have to be connected to the CAFS or are joined to it (e.g. branch pipes, nozzles and pressure hoses);

— decommissioning and disposal.

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 and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

ISO 7000, *Graphical symbols for use on equipment — Registered symbols*

ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction*

ISO 13854, *Safety of machinery — Minimum gaps to avoid crushing of parts of the human body*

ISO 13857, *Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs*

ISO 14120, *Safety of machinery — Guards — General requirements for the design and construction of fixed and movable guards*

ISO 15383, *Protective gloves for firefighters — Laboratory test methods and performance requirements*

IEC 60068-1, *Environmental testing — Part 1: General and guidance*

IEC 60204-1, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements*

IEC 61310-2, *Safety of machinery — Indication, marking and actuation — Part 2: Requirements for marking*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 8421-4, ISO 13943 and the following apply.

3.1
air delivery rate
volume of air, in ambient conditions, that is fed into the CAFS per unit of time

Note 1 to entry: The measurement units are L/min.

3.2
compressed air foam
mixture of water, foam concentrate and compressed air

3.3
compressed air foam delivery pressure
pressure of compressed air foam at the delivery outlet of the CAFS

Note 1 to entry: The measurement units are MPa.

3.4
compressed air foam delivery rate
volume of compressed air foam at the delivery outlet of the CAFS, converted at atmospheric pressure, per unit of time

Note 1 to entry: The measurement units are L/min.

3.5
compressed air foam system
CAFS
system in which a foam concentrate and air are continuously added under pressure to the water being discharged from a fire-fighting pump

3.6
dry foam
operation defined by a nominal foam solution/air volume ratio greater than 1:10, being mixed in the CAFS

3.7
flushing procedure
process to ensure that foam proportioning system associated pipework, to the discharge connection, is adequately cleaned of foam concentrate and solution to avoid any damage

EXAMPLE Procedure to avoid damage by corrosion.

3.8
foam concentrate delivery rate
volume of foam concentrate fed into CAFS per unit of time

Note 1 to entry: The measurement units are L/min.

