SLOVENSKI STANDARD
SIST EN ISO 19353:2016/oprA1:2018

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Varnost strojev - Požarna varnost - Dopolnilo 1 (ISO 19353:2016/DAmd 1:2017)

Safety of machinery - Fire prevention and fire protection - Amendment 1 (ISO 19353:2016/DAmd 1:2017)

Sicherheit von Maschinen - Vorbeugender und abwehrender Brandschutz - Änderung 1 (ISO 19353:2016/DAmd 1:2017)

Sécurité des machines - Prévention et protection contre l'incendie - Amendement 1 (ISO 19353:2016/DAmd 1:2017)

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ICS:

13.110	Varnost strojev	Safety of machinery
13.220.01	Varstvo pred požarom na splošno	Protection against fire in general

SIST EN ISO 19353:2016/oprA1:2018 **en,fr,de**

DRAFT AMENDMENT
ISO 19353:2015/DAM 1

ISO/TC **199** Secretariat: **DIN**

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Safety of machinery — Fire prevention and fire protection

AMENDMENT 1

Sécurité des machines — Prévention et protection contre l'incendie

AMENDEMENT 1

ICS: 13.110

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Foreword

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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).

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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 World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

Amendment 1 to ISO 19353:2015 has been prepared by Technical Committee ISO/TC 199, and by Technical Committee CEN/TC 114, *Safety of machinery* in collaboration.

Safety of machinery — Fire prevention and fire protection — (ISO 19353:2015/DAMD 1:2017)

The main aim of this Amendment 1 to ISO 19353:2015 is to add as new Annex B an example of a methodology for selecting and qualifying a fire detection and fire suppression system and to delete the current Annex E on fire risk reduction measures completely.

As consequence of introducing a new Annex B the order and alphabetical numbering of all Annexes, apart from Annex C, is changed. However, the technical content of the Annexes A, D and E of this Amendment 1 is the same as in ISO 19353:2015, Annexes B, A and D before.

AMENDMENT 1

1 Modification to Contents

Replace

Annex A (informative) **Examples of ignition sources**

Annex B (informative) **Examples of machines and their typical fire-related hazards**

Annex C (informative) **Example for the design of a fire suppression system integrated in machinery**

Annex D (informative) **Example for the risk assessment and risk reduction of a machining centre for the machining of metallic materials**

Annex E (informative) **Fire risk reduction measures**

Bibliography

by

Annex A (informative) **Examples of machines and their typical fire-related hazards**

Annex B (informative) **Example of a methodology for selecting and qualifying a fire detection and fire suppression system**

Annex C (informative) **Example for the design of a fire suppression system integrated in machinery**

Annex D (informative) **Examples of ignition sources**

Annex E (informative) **Example for the risk assessment and risk reduction of a machining centre for the machining of metallic materials**

Bibliography

and update the page numbering accordingly.

2 Modification to Introduction

1st paragraph, 2nd line

Delete "., as shown in Annex E, …".

2nd paragraph, first sentence

Delete "Annex E provides an overview on fire risk reduction measures.".

3 Modification to 4.4

Note

Replace as follows:

NOTE See Annex A for examples of machines and their typical fire related hazards and Annex D for examples of ignition sources.

4 Modification to 5.1

Add a new Note above Figure 3 as follows:

NOTE See Annex E for an example for the risk assessment and risk reduction of a machining centre for the machining of metallic materials.

5 Modification to 5.6.4.2

last paragraph, fourth line

Replace "fire suppression agent" by "fire-extinguishing agent".

Last but one paragraph, last sentence

Delete "See Annex D for list of safety functions.".

Note 2

Rewrite as follows:

NOTE 2 An exemplary list of safety functions for machining centres for the machining of metallic materials is given in Table E.2.

6 Modification to 5.6.3

List item c)

Rewrite as follows:

c) installation of measures against flame ejection and hot gases through openings of the machine (e.g. labyrinths, door gaps, opening for workpiece loading, see E.3.8.1.2).

7 Modification to 6.1.3

Add a new (second) paragraph below the given one as follows:

Annex B gives an example of a methodology for selecting and qualifying a fire detection and fire suppression system.

8 Modification to Annex A

Replace with the given text of ISO 19353:2015, Annex B, as follows:

Annex A
(informative)

Examples of machines and their typical fire-related hazards

See Table A.1.

Table A.1 — Examples of machines and their typical fire-related hazards

Type of machine	Typical fire-related hazards
Machining centre	Tool breakage, shortage of metalworking fluid supply, short circuit
Drier	Hot surface
Conveying belt	Hot bearings, slip between belt and drive
Extruder	High temperature of fluid, high pressure
Paint booth	Generation of aerosols, electrostatic hazards
Mill	Friction, foreign material, overload
Pelletizer	Friction, overheating due to improper starting/stopping procedures, overloading
Wood-working machine	Friction, foreign material, overloading, tool breakage, inappropriate feed rate, overheating
Printing machine	Friction
Blasting unit	Sparks by foreign material, self-ignition
Textile machine	Friction, material build-up, overheating
Shredder	Friction, foreign material, overloading

9 Modification to Annex B

Replace with the following new Annex:

Annex B
(informative)

Example of a methodology for selecting and qualifying a fire detection and fire suppression system

B.1 General

The selection and qualifying of a fire detection and fire suppression system is a complex procedure. Several considerations are needed to ensure a safe and reliable solution. A comprehensive understanding of the fire event as well as sufficient knowledge about ignition behavior, fire detection and fire suppression possibilities is required. The primary goal is to ensure a safe working condition for the operator in the event of a fire incident.

This Annex provides a methodology comprising a typical, but non-exclusive set of basic questions. These questions take into account the major aspects given in Figure B.1 which are normally considered when a fire detection and fire suppression system is selected and qualified.

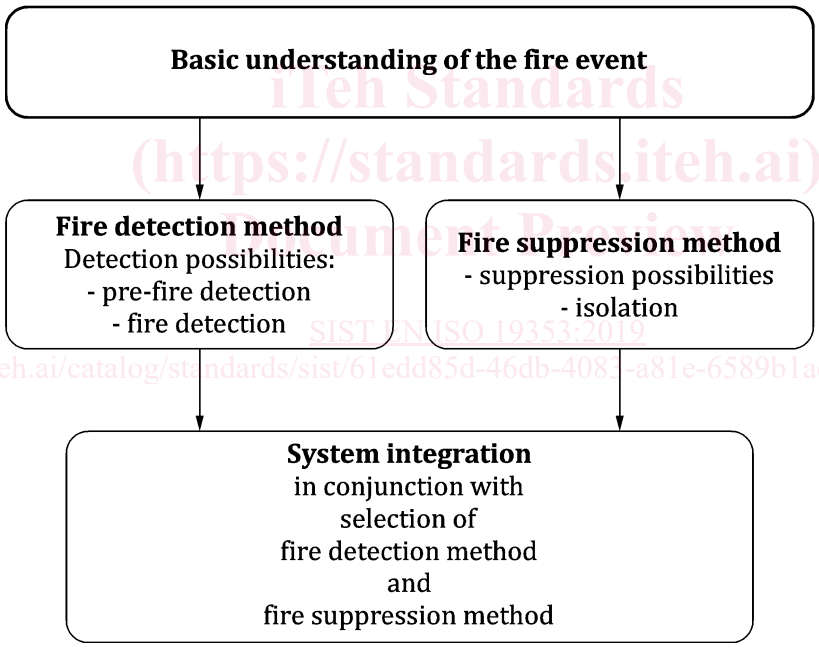

Figure B.1 — Example for fire detection and fire suppression methodology

Three machinery examples are presented to illustrate the application of the given methodology. See Table B.1.

B.2 Basic understanding of the fire event

For each particular machinery under consideration the following basic questions are asked at the beginning of the process for selecting and qualifying both, a fire detection method and a fire suppression method:

a) What can burn?

b) What can cause the ignition?

c) Where can the fire spread?

d) How will the fire behave?

B.3 Fire detection method

B.3.1 Pre-fire detection possibilities

For each particular machinery under consideration the following questions are asked during the process with regard to pre-fire detection:

a) Which are the possible ignition criteria?

b) How and where can the criteria be detected?

c) At which stage/time can reliable and predictable pre-fire detection be made?

d) What environmental conditions is the detection equipment exposed to?

e) Are there any disturbance sources that can cause false detections?

B.3.2 Fire detection possibilities

For each particular machinery under consideration the following questions are asked during the process with regard to fire detection:

a) What are the fire criteria?

b) How can the fire criteria be detected?

c) Where and at which stage/time can reliable and predictable fire detection be made?

d) Is re-ignition possible and if so can the detection equipment reactivate?

e) What environmental conditions is the detection equipment exposed to?

f) Are there any disturbance sources that can cause false detections?

B.4 Fire suppression method

B.4.1 Suppression possibilities

For each particular machinery under consideration the following questions are asked during the process with regard to suppression possibilities:

a) What is the preferred fire suppression agent?

b) Can the suppression media be brought to all the places where it is needed?