
Osebna varovalna oprema - Obutev za zaščito pred tveganji v livarnah in pri varjenju - 1. del: Zahteve in preskusne metode za zaščito pred tveganji v livarnah - Dopolnilo A1 (ISO 20349-1:2017/DAM 1:2020)

Personal protective equipment - Footwear protecting against risk in foundries and welding - Part 1: Requirements and test methods for protection against risk in foundries - Amendment 1 (ISO 20349-1:2017/DAM 1:2020)

Persönliche Schutzausrüstung - Schuhe zum Schutz gegen Risiken in Gießereien und beim Schweißen - Teil 1: Anforderungen und Prüfverfahren zum Schutz gegen Risiken in Gießereien - ÄNDERUNG 1 (ISO 20349-1:2017/DAM 1:2020)

Équipement de protection individuelle - Chaussures de protection contre les risques dans les fonderies et lors d'opérations de soudage - Partie 1: Exigences et méthode de essai pour la protection contre les risques dans les fonderies - Amendement 1 (ISO 20349-1:2017/DAM 1:2020)

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DRAFT AMENDMENT

ISO 20349-1:2017/DAM 1

ISO/TC 94/SC 3

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Personal protective equipment — Footwear protecting against risks in foundries and welding —

Part 1:

Requirements and test methods for protection against risks in foundries

AMENDMENT 1

Équipement de protection individuelle — Chaussures de protection contre les risques dans les fonderies et lors d'opérations de soudage —

Partie 1: Exigences et méthode d'essai pour la protection contre les risques dans les fonderies

AMENDEMENT 1

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This document was prepared by Technical Committee ISO/TC 94, Personal safety – Personal protective equipment, Subcommittee SC 3 Footwear protection.

A list of all parts in the ISO 20349 series can be found on the ISO website.

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Personal protective equipment — Footwear protecting against risks in foundries and welding —

Part 1: Requirements and test methods for protection against risks in foundries

AMENDMENT 1

1 New annex B

Insert the following new annex B.

Annex B (informative)

Heat and flame protection

B.1 Introduction

PPE designed to protect all or a part of the body against the effects of heat and/or fire must possess thermal insulation capacity and mechanical strength appropriate to the foreseeable conditions of use.

This informative annex provides the reader with information on heat and flame resistance in relation to footwear for foundries. When specifying and selecting footwear, heat and flame resistance should be given a high priority.

In this context heat and flame resistance are specific terms referring to the real work condition in foundries to prevent such risks like of spontaneous ignition and heat flux in contact with hot surfaces or molten metal.

Even though the number of accidents in foundries caused by contact with hot surfaces or molten metal is negligible, the personal costs of these accidents, the resultant injuries may bring about great financial costs and have life-threatening consequences for humans.

Footwear for foundries alone cannot protect against all risks as found in foundries. It should be worn always in conjunction with heat and flame resistant PPE (clothing, gloves, hoods, aprons, gaiters) according to the risk assessment of the work place.

Foundry boots do not provide protection against defective equipment or incorrect use of equipment. They are not suitable in cases where safety footwear must be worn in accordance with EN 50321 "Live working - Footwear for electrical protection".

It is important that heat- and flame-resistant footwear for foundries is in use at all times when there is a potential risk of heat or flame; comfortable and specific designed footwear will encourage this.

B.2 Explanation of heat and flame resistant properties

B.2.1 General

The standard EN ISO 20349-1 test conditions and performance requirements are considered basic requirements for footwear for foundries. Footwear for foundries are used for short-term in environments with high temperatures or molten metal. Often it is found that footwear for foundries in combination with other suitable PPE can achieve a higher protection or longer remain time in hazardous environments.

ISO 20349-1:2017/DAM 1:2020(E)**B.2.2 Resistance to effects of molten metal**

Slag can flow out in melting and casting operations. If they get into the shoes, severe foot burns can occur. When handling fire-liquid masses, foundry footwear with high upper and either trousers falling over them and made of flame-retardant material, aprons or at least gaiters must be worn.

The footwear alone is resistant against molten iron and/or aluminium, if it is marked with the following symbols:

Symbol Fe indicates the footwear complies using iron as test metal

Symbol Al indicates the footwear complies using aluminium as test metal

In case of an injury caused by splashes of hot metal, it is necessary to remove the shoes as quickly as possible, even with gloves with a worst dexterity. The maximum removal time required by the standard is 5 seconds per shoe.

B.2.3 Resistance of upper and outsole to hot environment

Safety footwear for foundries is flame resistant. It does not burn or glow longer than 2 s after a contact time of 10 s with a specified test flame.

The pain threshold for the human skin is at 42 °C. The heat resistance of this footwear allows the wearer to stand for at least 10 min on a floor at 250°C before reaching 42°C. The outsole of this footwear resist damage for 40 minutes on a floor of 250°C.

The outsole material does not collapse after a contact time of 1 min at 300°C. The upper remains dimensionally stable up to 5 min heat influence at a temperature of 180°C. It is heat resistant for a short time of at least 6 s at 500°C.

B.3 Additional protection

In addition to high temperatures or molten metal, foundries also have mechanical hazards that require additional protection.

These may be among others e.g.:

- Perforation resistance (Symbol P)
- Energy absorption of seat region (Symbol E)
- Metatarsal protection (Symbol M)
- Cut resistance (Symbol CR)

2 Annex ZA

Delete the existing [annex ZA](#) and substitute the following.

Annex ZA (informative)

Relationship between this European Standard and the essential requirements of Regulation (EU) 2016/425 of the European Parliament and of the Council of 9 March 2016 on personal protective equipment aimed to be covered

This European Standard has been prepared under a Commission's standardization request to provide one voluntary means of conforming to essential requirements of Regulation (EU) 2016/425 of the European Parliament and of the Council of 9 March 2016 on personal protective equipment.

Once this standard is cited in the Official Journal of the European Union under that Regulation, 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 Regulation, and associated EFTA-regulations.

Table ZA.1 — Correspondence between this European Standard and Annex II of Regulation (EU) 2016/425

Essential Requirements of Regulation (EU) 2016/425	Clause(s)/sub-clause(s) of EN ISO 20349-1:2017	Remarks/Notes
1.1.1 Ergonomics	6, 7.1, 7.2	By reference to EN ISO 20345:2011
1.2.1.1 Innocuousness of PPE	6, 7.9	By reference to EN ISO 20345:2011
1.3.2 Lightness and strength	6, 7.3, 7.4, 7.5, 7.6, 7.7	By reference to EN ISO 20345:2011
1.4 Information supplied by the manufacturer	9, Annex A of EN ISO 20349-1: 2017	
2.4. PPE subject to ageing	9	
2.7 PPE intended for rapid intervention or to be put or removed rapidly	7.8	
2.12 PPE bearing one or more identification or recognition marks directly or indirectly relating to health and safety	8	
3.1.2.1 Prevention of falls due to slipping	6	By reference to EN ISO 20345:2011
3.2 Protection against static compression of a part of the body	6	By reference to EN ISO 20345:2011
3.3 Protection against mechanical injuries	6	By reference to EN ISO 20345:2011
3.6 Protection against heat and/or fire	7.3, 7.4, 7.5, 7.6	
3.6.1. PPE constituent materials and other components	7.3, 7.4, 7.5	No protection is foreseen for thermal effect of electrical arc
3.6.2. Complete PPE ready for use	7.4, 7.6, 9	Including information given in Annex A of EN ISO 20349-1:2017

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