This is a free page sample. Access the full version online.

NSAI Standards

Irish Standard
I.S. EN ISO 20349:2010

Personal protective equipment - Footwear protecting against thermal risks and molten metal splashes as found in foundries and welding - Requirements and test method (ISO 20349:2010)

© NSAI 2010 No copying without NSAI permission except as permitted by copyright law.

This is a free page sample. Access the full version online.

I.S. EN ISO 20349:2010

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces:

This document is based on:
EN ISO 20349:2010

Published:
20 December, 2010

This document was published under the authority of the NSAI and comes into effect on:
20 December, 2010

ICS number:
13.340.50

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie

W **NSAI.ie**

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

This is a free page sample. Access the full version online.

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 20349

December 2010

ICS 13.340.50

English Version

Personal protective equipment - Footwear protecting against thermal risks and molten metal splashes as found in foundries and welding - Requirements and test method (ISO 20349:2010)

Équipement de protection individuelle - Chaussures de protection contre les risques thermiques et les projections de métal fondu comme rencontrés dans les fonderies et lors d'opérations de soudage - Exigences et méthode d'essai (ISO 20349:2010)

Persönliche Schutzausrüstung - Schuhe zum Schutz gegen thermische Risiken und Spritzer geschmolzenen Metalls - Anforderungen und Prüfverfahren (ISO 20349:2010)

This European Standard was approved by CEN on 30 October 2010.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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

Management Centre: Avenue Marnix 17, B-1000 Brussels

© 2010 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

This is a free page sample. Access the full version online.

Contents

Page

Foreword.....3

Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 89/686/EEC Personal protective equipment.....4

This is a free page sample. Access the full version online.

Foreword

This document (EN ISO 20349:2010) has been prepared by Technical Committee CEN/TC 161 "Foot and leg protectors", the secretariat of which is held by BSI, in collaboration with Technical Committee ISO/TC 94 "Personal safety - Protective clothing and equipment".

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 June 2011, and conflicting national standards shall be withdrawn at the latest by June 2011.

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

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.

For relationship with EU Directive, 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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of ISO 20349:2010 has been approved by CEN as a EN ISO 20349:2010 without any modification.

This is a free page sample. Access the full version online.

Annex ZA
(informative)

Relationship between this European Standard and the Essential Requirements of EU Directive 89/686/EEC Personal protective equipment

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide a means of conforming to Essential Requirements of the New Approach Directive 89/686/EEC Personal protective equipment.

Once this standard is cited in the Official Journal of the European Union under that Directive and has been implemented as a national standard in at least one Member State, compliance with the clauses of this standard given in table ZA 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 Directive 89/686/EEC Personal protective equipment

Clause(s)/sub-clause(s) of this EN	Essential Requirements (ERs) of Directive 89/686/EEC	Qualifying remarks/Notes
5.2	1.1.1 Ergonomics	
5.2	1.1.2.1 Highest level of protection possible	
5.1	1.2.1 Absence of risks and other inherent nuisance factors	
5.2	1.2.1.2 Satisfactory surface condition of all PPE parts in contact with the user	
5.2	1.2.1.3 Maximum user impediment	
7	1.4 Information supplied by the manufacturer	
6	2.12 PPE bearing one or more identification or recognition marks directly or indirectly relating to health and safety	
5.3, 5.4, 5.5, 5.6 and 5.7	3.6 Protection against heat and/or fire	This ER should be considered partially verified, at least in regard to molten metal (Fe/Al) splashes. Temperature increase (related to thermal capacity) inside the footwear is not determined

WARNING — Other requirements and other EU Directives may be applicable to the product(s) falling within the scope of this standard.

This is a free page sample. Access the full version online.

I.S. EN ISO 20349:2010

INTERNATIONAL STANDARD

ISO 20349

First edition
2010-12-01

Personal protective equipment — Footwear protecting against thermal risks and molten metal splashes as found in foundries and welding — Requirements and test method

Équipement de protection individuelle — Chaussures de protection contre les risques thermiques et les projections de métal fondu comme rencontrés dans les fonderies et lors d'opérations de soudage — Exigences et méthode d'essai

Reference number
ISO 20349:2010(E)

© ISO 2010

This is a free page sample. Access the full version online.

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

COPYRIGHT PROTECTED DOCUMENT

© ISO 2010

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

This is a free page sample. Access the full version online.

Contents

Page

Foreword iv

1 Scope 1

2 Normative references 1

3 Terms and definitions 2

4 Requirements 2

5 Specific requirements 6
5.1 Footwear design 6
5.2 Ergonomic performance and compatibility 6
5.3 Resistance to the effects of molten metal 6
5.4 Small molten metal splash test 6
5.5 Resistance of upper to contact heat transmission 7
5.6 Burning behaviour of upper material 7
5.7 Heat insulation of sole complex 7
5.8 Surface shrinkage of leather 7

6 Marking 7

7 Information to be supplied by the manufacturer 8

Annex A (normative) **Test method for the resistance of footwear to the effects of large quantities of molten metal** 10

Annex B (normative) **Assessment of ergonomic performance and compatibility of footwear** 13

Annex C (normative) **Method for determination of burning behaviour of footwear upper** 15

Bibliography 16

© ISO 2010 – All rights reserved

This is a free page sample. Access the full version online.

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 20349 was prepared by the European Committee for Standardization (CEN) Technical Committee ISO/TC 161, *Foot and leg protectors in equipment*, in collaboration with ISO Technical Committee ISO/TC 94 *Personal safety — Protective clothing and equipment*, Subcommittee SC 3, *Foot protection*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

© ISO 2010 – All rights reserved

This is a free page sample. Access the full version online.

Personal protective equipment — Footwear protecting against thermal risks and molten metal splashes as found in foundries and welding — Requirements and test method

WARNING — This International Standard calls for the use of substances and/or procedures that may be injurious to health if adequate precautions are not taken. It refers only to technical suitability and does not absolve the user from legal obligations relating to health and safety at any stage.

1 Scope

This International Standard specifies requirements and test methods for footwear protecting users against thermal risks and molten iron or aluminium metal splashes such as those encountered in foundries, welding and allied process.

Footwear complying with this International Standard also offers other protection as defined in ISO 20345.

NOTE Gaiters, over boot and clothing intended to provide protection to the feet and legs against molten metal are addressed by ISO 11611 and ISO 11612.

2 Normative references

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

ISO 7000:2004, *Graphical symbols for use on equipment — Index and synopsis*

ISO 9185:2007, *Protective clothing — Assessment of resistance of materials to molten metal splash*

ISO 15025:2000, *Protective clothing — Protection against heat and flame — Method of test for limited flame spread*

ISO 17227:2002, *Leather — Physical and mechanical tests — Determination of dry heat resistance of leather*

ISO 20344:2004/Amd.1:2007, *Personal protective equipment — Test methods for footwear — Amendment 1*

ISO 20345:2004/Amd.1:2007, *Personal protective equipment — Safety footwear — Amendment 1*

EN 348, *Protective clothing — Test method: Determination of behaviour of materials on impact of small splashes of molten metal*

EN 702, *Protective clothing — Protection against heat and flame — Test method: Determination of the contact heat transmission through protective clothing or its materials*

© ISO 2010 – All rights reserved

SAI GLOBAL

This is a free preview. Purchase the entire publication at the link below:

Product Page

Looking for additional Standards? Visit Intertek Inform Infostore

Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation