

This is a preview of "ISO 6942:2022". [Click here to purchase the full version from the ANSI store.](#)

Fourth edition
2022-08

Protective clothing — Protection against heat and fire — Method of test: Evaluation of materials and material assemblies when exposed to a source of radiant heat

*Vêtements de protection — Protection contre la chaleur et le feu
— Méthode d'essai: Évaluation des matériaux et assemblages des
matériaux exposés à une source de chaleur radiante*



Reference number
ISO 6942:2022(E)

© ISO 2022



COPYRIGHT PROTECTED DOCUMENT

© ISO 2022

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
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

This is a preview of "ISO 6942:2022". [Click here to purchase the full version from the ANSI store.](#)

Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative reference	1
3 Terms and definitions	1
4 Principle	2
4.1 Method A.....	2
4.2 Method B.....	2
5 Apparatus	3
5.1 General.....	3
5.2 Source of radiation.....	3
5.3 Specimen holder.....	4
5.4 Calorimeter.....	4
5.5 Temperature recorder.....	6
5.6 Apparatus location.....	6
6 Sampling	6
7 Test conditions	7
7.1 Conditioning atmosphere.....	7
7.2 Testing atmosphere.....	7
7.3 Heat flux density.....	7
8 Test method	7
8.1 Preliminary measures.....	7
8.2 Calibration of the radiant source.....	8
8.3 Procedure for method A.....	8
8.4 Evaluation A.....	9
8.5 Procedure for method B.....	9
8.6 Evaluation B.....	9
9 Test report	10
Annex A (informative) Precision of method B	11
Bibliography	13

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 94, *Personal safety — Personal protective equipment*, Subcommittee SC 13, *Protective clothing*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 162, *Protective clothing including hand and arm protection and lifejackets*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This fourth edition cancels and replaces the third edition (ISO 6942:2002), which has been technically revised.

The main changes are as follows:

- normative references have been updated (see [Clause 2](#));
- the specified relative humidity range for the conditioning atmosphere has been changed (see [7.1](#));
- an example product for the optically black paint has been provided (see [5.4](#));
- the annex on ILT has been revised ([Annex A](#)).

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.

This is a preview of "ISO 6942:2022". [Click here to purchase the full version from the ANSI store.](#)

Introduction

Protective clothing against radiant heat is worn at different occasions and accordingly the radiation intensity (characterised by the heat flux density) acting on the clothing material extends over a wide range. This document describes two test methods which can be applied to all sorts of materials, but, according to the intended use of the material, the heat flux density has to be chosen properly and the results have to be interpreted correctly,

Industrial workers or fire fighters may be exposed to a relatively low radiation intensity over a long period of time. On the other hand, industrial workers or fire fighters may be exposed to medium radiation intensities for relatively short periods of time or to high radiation intensities for very short periods of time. In the latter case, the clothing material may be changed or even destroyed.

The materials for protective clothing are usually tested at medium and high heat flux densities. The response of materials to method A and the times t_{12} and t_{24} and transmission factor measured with method B characterise the material. For information on the precision of method B, see [Annex A](#).