

<b>STN</b>	<b>Ochranné odevy</b> <b>Ochrana proti teplu a ohňu</b> <b>Skúšobná metóda: Hodnotenie materiálov a kombinácií materiálov vystavených účinkom sálavého tepla (ISO 6942: 2022)</b>	<b>STN</b> <b>EN ISO 6942</b>  83 2746
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Protective clothing - Protection against heat and fire - Method of test: Evaluation of materials and material assemblies when exposed to a source of radiant heat (ISO 6942:2022)

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 11/22

Obsahuje: EN ISO 6942:2022, ISO 6942:2022

Oznámením tejto normy sa ruší  
STN EN ISO 6942 (83 2746) z júla 2003

**135864**

EUROPEAN STANDARD

EN ISO 6942

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2022

ICS 13.340.10

Supersedes EN ISO 6942:2002

English Version

Protective clothing - Protection against heat and fire -  
Method of test: Evaluation of materials and material  
assemblies when exposed to a source of radiant heat (ISO  
6942:2022)

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 (ISO 6942:2022)

Schutzkleidung - Schutz gegen Hitze und Feuer -  
Prüfverfahren: Beurteilung von Materialien und  
Materialkombinationen, die einer Hitze  
Strahlungsquelle ausgesetzt sind (ISO 6942:2022)

This European Standard was approved by CEN on 17 June 2022.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
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EUROPÄISCHES KOMITEE FÜR NORMUNG

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**EN ISO 6942:2022 (E)**

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## **European foreword**

This document (EN ISO 6942:2022) has been prepared by Technical Committee ISO/TC 94 "Personal safety -- Personal protective equipment" in collaboration with Technical Committee CEN/TC 162 "Protective clothing including hand and arm protection and lifejackets" the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by March 2023, and conflicting national standards shall be withdrawn at the latest by March 2023.

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

This document supersedes EN ISO 6942:2002.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

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## **Endorsement notice**

The text of ISO 6942:2022 has been approved by CEN as EN ISO 6942:2022 without any modification.

# INTERNATIONAL STANDARD

# ISO 6942

Fourth edition  
2022-08

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## **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)

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Published in Switzerland

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## ISO 6942:2022(E)

### 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](http://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](http://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](http://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](http://www.iso.org/members.html).



## 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](#).



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

## 1 Scope

This document specifies two complementary methods (method A and method B) for determining the behaviour of materials for heat protective clothing subjected to heat radiation.

These tests are carried out on representative single or multi-layer textiles or other materials intended for clothing for protection against heat. They are also applicable to assemblies, which correspond to the overall build up of a heat protective clothing assembly with or without underclothing,

Method A serves for visual assessment of any changes in the material after the action of heat radiation. With method B the protective effect of the materials is determined. The materials may be tested either by both methods or only by one of them.

The tests according to these two methods serve to classify materials; however, to be able to make a statement or prediction as to the suitability of a material for protective clothing additional criteria must be taken into account.

Since the tests are carried out at room temperature the results do not necessarily correspond to the behaviour of the materials at higher ambient temperatures and therefore are only to a limited extent suitable for predicting the performance of the protective clothing made from the materials under test.

## 2 Normative reference

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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/TR 11610, *Protective clothing — Vocabulary*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**