



Institut luxembourgeois de la normalisation
de l'accréditation, de la sécurité et qualité
des produits et services

ILNAS-EN 14058:2004

**Protective clothing - Garments for
protection against cool environments**

Schutzkleidung - Kleidungsstücke zum
Schutz gegen kühle Umgebungen

Vêtements de protection - Articles
d'habillement de protection contre les
climats frais

06/2004



National Foreword

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Protective clothing - Garments for protection against cool environments

Vêtements de protection - Articles d'habillement de protection contre les climats frais

Schutzkleidung - Kleidungsstücke zum Schutz gegen kühle Umgebungen

This European Standard was approved by CEN on 2 January 2004.

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Foreword

This document EN 14058:2004 has been prepared by 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of an identical text or by endorsement, at the latest by December 2004, and conflicting national standards shall be withdrawn at the latest by December 2004.

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 89/686/EEC.

For relationship with EU Directives, see informative Annex ZA, which is an integral part of this document.

Annex A and annex C are normative. Annex B and annex D are informative.

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Introduction

In many cases single garments are placed on the market to protect against local body cooling (for ensembles see EN 342). These garments can be e. g. waistcoats, jackets, coats or trousers and/or separable thermal linings (see Annex D). They can provide a certain degree of protection to cool environment for a certain length of time, depending e. g. on the personal constitution and activity, the accompanying clothing and the environmental features (wind speed, temperature, humidity). The more dangerous the situation (e. g. low effective temperature, long exposure duration, no help nearby) the more important it is to assess the cold protection properties of the garment (see annex B) especially if the user cannot safely identify the risk at low temperature in an appropriate time.

At moderate low temperatures garments against local body cooling are not only used for outdoor activities e. g. in construction industry but can be used for indoor activities e. g. in food processing industry. In these cases garments often do not need to be made of watertight or air impermeable materials. Therefore, in this European Standard, these requirements are optional.

Requirements for thermal insulation of the whole human body in a specific environment can be assessed on the basis of ISO/TR 11079. By this method the resultant effective thermal insulation value I_{cler} can be determined and used to define temperature ranges (see Tables B.1 and B.2). Therefore the protective value of a clothing ensemble is evaluated by comparing its measured insulation value and the calculated required insulation value (IREQ). This comparison is the basis of Tables B.1 and B.2.

1 Scope

This European Standard specifies requirements and test methods for the performance of single garments for protection against cooling of the body in cool environment.

It does not include specific requirements for headwear or footwear or gloves to prevent local cooling.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 340, *Protective clothing – General requirements*.

EN 20811, *Textiles – Determination of resistance to water penetration – Hydrostatic pressure test*.

EN 23758, *Textiles – Care labelling code using symbols (ISO 3758:1991)*.

EN 31092, *Textiles – Determination of physiological effects – Measurement of thermal and water-vapour resistance under steady-state conditions (sweating guarded-hotplate test) (ISO 11092 : 1993)*.

EN ISO 15831:2004, *Clothing – Physiological effects – Measurement of thermal insulation by means of a thermal manikin (ISO/DIS 15831:2004)*.

EN ISO 9237, *Textiles – Determination of permeability of fabrics to air*.

ISO 5085-1, *Textiles – Determination of thermal resistance – Part 1: Low thermal resistance*.

ISO 7000, *Graphical symbols for use on equipment - Index and synopsis*.