

**Ergonomics of the thermal environment -
Determination and interpretation of cold
stress when using required clothing
insulation (IREQ) and local cooling effects**

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<p>Käesolev Eesti standard EVS-EN ISO 11079:2008 sisaldab Euroopa standardi EN ISO 11079:2007 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 28.01.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 12.12.2007.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 11079:2008 consists of the English text of the European standard EN ISO 11079:2007.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 28.01.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 12.12.2007.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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English Version

Ergonomics of the thermal environment - Determination and interpretation of cold stress when using required clothing insulation (IREQ) and local cooling effects (ISO 11079:2007)

Ergonomie des ambiances thermiques - Détermination et interprétation de la contrainte liée au froid en utilisant l'isolement thermique requis du vêtement (IREQ) et les effets du refroidissement local (ISO 11079:2007)

Ergonomie der thermischen Umgebung - Bestimmung und Interpretation der Kältebelastung bei Verwendung der erforderlichen Isolation der Bekleidung (IREQ) und lokalen Kühlwirkungen (ISO 11079:2007)

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Management Centre: rue de Stassart, 36 B-1050 Brussels

Foreword

This document (EN ISO 11079:2007) has been prepared by Technical Committee ISO/TC 159 "Ergonomics" in collaboration with Technical Committee CEN/TC 122 "Ergonomics" 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of an identical text or by endorsement, at the latest by June 2008, and conflicting national standards shall be withdrawn at the latest by June 2008.

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The text of ISO 11079:2007 has been approved by CEN as a EN ISO 11079:2007 without any modification.

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Introduction

Wind chill is commonly encountered in cold climates, but it is low temperatures that first of all endanger body heat balance. By proper adjustment of clothing, human beings can often control and regulate body heat loss, to balance a change in the ambient climate. The method presented here is based therefore on the evaluation of the clothing insulation required to maintain the thermal balance of the body in equilibrium. The heat balance equation used takes into account the most recent scientific findings concerning heat exchanges at the surface of the skin as well as the clothing.

Ergonomics of the thermal environment — Determination and interpretation of cold stress when using required clothing insulation (IREQ) and local cooling effects

1 Scope

This International Standard specifies methods and strategies for assessing the thermal stress associated with exposure to cold environments. These methods apply to continuous, intermittent as well as occasional exposure and type of work, indoors and outdoors. They are not applicable to specific effects associated with certain meteorological phenomena (e.g. precipitation), which are assessed by other methods.

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 7726, *Ergonomics of the thermal environment — Instruments for measuring physical quantities*

ISO 8996, *Ergonomics of the thermal environment — Determination of metabolic rate*

ISO 9237, *Textiles — Determination of permeability of fabrics to air*

ISO 9920, *Ergonomics of the thermal environment — Estimation of thermal insulation and water vapour resistance of a clothing ensemble*

ISO 13731, *Ergonomics of the thermal environment — Vocabulary and symbols*

ISO 13732-3, *Ergonomics of the thermal environment — Methods for the assessment of human responses to contact with surfaces — Part 3: Cold surfaces*

ISO 15831, *Clothing — Physiological effects — Measurement of thermal insulation by means of a thermal manikin*

EN 511, *Protective gloves against cold*