



ISO 7726

Ergonomics of the thermal environment — Instruments for measuring and monitoring physical quantities

Ergonomie des ambiances thermiques — Appareils et méthodes de mesure et de surveillance des grandeurs physiques

**Third edition
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This document was prepared by Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 5, *Ergonomics of the physical environment*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 122, *Ergonomics*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 7726:1998), which has been technically revised.

The main changes are as follows:

- the physical quantities characterizing heat exchanges between a system and its environment have been divided into basic and derived. The basic quantities (like air temperature, irradiation and plane radiant temperature) are measured directly, while the derived quantities (like mean radiant temperature, operative temperature, humidity ratio, etc.) are measured indirectly (see [6.1](#) and [6.2](#));
- the concept of measurement uncertainty has been introduced (see [Clause 11](#)).

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This document is one of a group of International Standards on the ergonomics of the thermal environment intended for use in the study of thermal environments.

This group of International Standards covers:

- definitions for the terms to be used in the methods of measurement, testing or interpretation, taking into account standards already in existence or in the process of being drafted;
- the laying down of specifications relating to the methods for measuring the physical quantities which characterize thermal environments;
- the selection of one or more methods for interpreting the parameters;
- the specification of recommended values or limits of exposure for the thermal environments coming within the comfort range and for extreme environments (both hot and cold);
- the specification of methods for measuring the efficiency of devices or processes for personal or collective protection from heat or cold.

The aim of this group of standards is simply to standardize the process of recording information leading to the determination of values of physical quantities. Other International Standards give details of the methods that make use of the information obtained in accordance with this standard.

This document can be used as a reference when establishing:

- a) specifications for manufacturers and users of instruments for measuring the physical quantities of the environment;
- b) a written contract between two parties for the measurement of these quantities.

It applies to the influence of hot, moderate, comfortable or cold environments on people. This document is applied in cases wherein comfort or human strain are the main concern.

Any measuring instrument which achieves the accuracy indicated in this document may be used. The description or listing of certain instruments in the annexes only signifies that they are "recommended", since characteristics of these instruments can vary according to the measuring principle, their construction and the way in which they are used. It is up to users to compare the quality of the instruments available on the market at any given moment and to check that they conform to the specifications contained in this document.