Third edition
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Ergonomics of the thermal environment — Assessment of heat stress using the WBGT (wet bulb globe temperature) index

Ambiances chaudes — Estimation de la contrainte thermique de l'homme au travail, basée sur l'indice WBGT (température humide et de globe noir)

Reference number
ISO 7243:2017(E)

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Foreword

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This document was prepared by Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 5, *Ergonomics of the physical environment*.

This third edition cancels and replaces the second edition (ISO 7243:1989), which has been technically revised and contains the following changes:

— in Annex A, for information, additional exposure limits are represented in Figure A.1, together with reference equations;

— the assessment of heat stress now includes the effects of clothing;

— the potential errors and adjustments for non-standard globe temperature sensors are described;

— a method for predicting the natural wet bulb temperature is provided.

Introduction

This International Standard provides a method for the assessment of heat stress. It is one of a series of standards intended for use in the assessment of thermal environments. These include standards for the assessment of hot, moderate and cold environments involving both the principles of assessment and their practical application.

The wet bulb globe temperature (WBGT) is a heat stress index and its value represents the thermal environment to which an individual is exposed. This index is easy to determine in most environments. It should be regarded as a screening method to establish the presence or absence of heat stress.

A method of estimating the thermal stress, based on an analysis of the heat exchange between a person and the environment, allows a more accurate estimation of stress and an analysis of the methods of protection (see ISO 7933). Such a method should be used either directly when it is desired to carry out an intensive analysis of working conditions in heat, or in addition to the method presented in this standard, which is based upon the WBGT index, when the WBGT values obtained exceed the reference values shown.