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Ergonomics — Accessible design — A method for estimating minimum legible font size for people at any age

*Ergonomie — Conception accessible — Taille de police lisible
minimale pour les personnes de tout âge*



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Foreword

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This document was prepared by Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 4, *Ergonomics of human-system interaction*.

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.

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Introduction

Characters are widely used almost every time displays, documents, and other media for visual information are involved. Accessibility to printed or displayed text is one of the critical issues in this age of mass information, especially for older people. However, methods for designing and evaluating the legibility of characters have not been well established yet.

Most of the problems with legibility are concerned with appropriate font size to read text in various conditions. This problem is worse for older people whose visual acuity decreases with age, especially at near viewing distances. Provision of legible characters to older people at any viewing condition is becoming more important to enhance safety and comfort in their social activities.

The legibility of text has two major problems. One is concerned with legibility of single characters and the other one is for words and sentences where inter-character spacing or inter-line spacing is additionally investigated. The former one is the basic problem of legibility and can be extended to the legibility for words or sentences.

While there exist many factors that affect legibility of single characters, a limited number of critical factors can be identified as vision-related ones, which include age of the viewer, viewing distance, luminance and contrast. A method for estimating legible font size using these critical factors can be developed and generally applied to a wide range of practical cases. There can exist other critical factors concerning with physical aspects of presenting characters such as display characteristics and their environments^[1], but these effects can be evaluated once the basic method based on human vision factors is established.

The legibility for people who have pathological disorders like low vision are not addressed in this document due to a lack of scientific resources as well as due to large individual differences in visual abilities among people with different types of impairments.

This document is based on principles of accessible design from ISO/IEC Guide 71^[2] and on data from ISO/TR 22411^[3].