

First edition 2000-12-15

# **Ergonomics — Evaluation of static working postures**

Ergonomie — Évaluation des postures de travail statiques



Reference number ISO 11226:2000(E)

#### PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

### © ISO 2000

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.ch
Web www.iso.ch

Printed in Switzerland

Contents		Page	
1 8	Scope	1	
2	Terms and definitions	1	
<b>3</b> F	Recommendations	2	
3.1	Introduction	2	
3.2	Evaluation procedure	2	
3.3	Determination of working postures	3	
3.4	Trunk posture	3	
3.5	Head posture	3	
3.6	Upper extremity posture	8	
3.7	Lower extremity posture	9	
Anı	nexes		
Α	Determination of working postures	14	
<b>A.1</b>	Introduction	14	
<b>A.2</b>	Trunk inclination, head inclination and neck flexion/extension	14	
<b>A.3</b>	Upper arm elevation	15	
<b>A.4</b>	Extreme joint positions	16	
В	Evaluation of holding time/recovery time regimes	17	
<b>B.1</b>	Introduction	17	
<b>B.2</b>	Evaluation of holding time/recovery time regimes based on endurance data	17	
Bibli	iography	19	

## **Foreword**

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 11226 was prepared by Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 3, *Anthropometry and biomechanics*.

Annexes A and B of this International Standard are for information only.

## Introduction

Pain, fatigue and disorders of the musculoskeletal system may result from sustained inadequate working postures that may be caused by poor work situations. Musculoskeletal pain and fatigue may themselves influence posture control which can increase the risk of errors and may result in reduced quality of work or production, and in hazardous situations. Good ergonomic design is a basic requirement to avoid these adverse effects.

This International Standard contains an approach to determine the acceptability of static working postures. The content of the standard is based on current ergonomic knowledge, and is subject to changes according to future research.

It is connected with ISO 11228-1, ISO 11228-2 and ISO 11228-3 (see [1], [2] and [3] in the Bibliography).

© ISO 2000 – All rights reserved