

**SINGAPORE STANDARD**

# Code of practice for manual handling

(Formerly CP 92)



Published by

**Enterprise**  
**Singapore**

**SS 569 : 2011**  
(ICS 53.120)

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ISBN 978-981-4353-08-3

This Singapore Standard was approved by the General Engineering and Safety Standards Committee on behalf of the Standards Council of Singapore on 4 August 2011.

First published, 2002

First revision and renumbered as SS 569, 2011

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*National University of Singapore*  
*Singapore Airport Terminal Services*  
*Singapore Association of Occupational Therapists*  
*Singapore Contractors Association Limited*  
*Singapore Institution of Safety Officers*  
*Singapore Logistics Association*  
*Workplace Safety and Health Council*

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## Foreword

This Singapore Standard was prepared by the Working Group appointed by the Technical Committee on Personal Safety in Workplace under the direction of the General Engineering and Safety Standards Committee. It is a revision of CP 92 : 2002 – ‘Code of practice for manual handling’ which has been re-numbered as SS 569.

Musculoskeletal injuries and disorders are common work-related problems. There is sufficient evidence relating manual handling activities to musculoskeletal injuries and disorders, particularly those affecting the back. Factors such as the object, working posture, frequency and duration of manual handling can alone or in combination lead to a hazardous handling activity which increases the risk of musculoskeletal injuries and disorders.

The purpose of this Code is to provide information and guidance to users, employers, manufacturers and suppliers on the identification of manual handling hazards, the assessment and control of risks arising from manual handling activities in workplaces. Most of the musculoskeletal injuries and disorders associated with manual handling can be prevented through eliminating the ergonomic hazards by applying the ergonomic principles. The Code also gives guidance on the planning and implementation of an ergonomics programme for manual handling operations. It serves as a reference standard for acceptable practices for manual handling in Singapore.

This revision brings the Code of Practice up-to-date. The language used has been simplified to enable easy understanding and application. The main revisions are:

1. Terms and definitions have been up-dated.
2. Symbols and nomenclature have been standardised.
3. More pictorial illustrations have been added.
4. Ergonomic checklist for qualitative risk assessment has been made more comprehensive.
5. Quantitative risk assessment has been illustrated by an example.
6. Reference weights for different population groups have been incorporated.
7. The recommended limits for manual carrying has been up-dated to be in line with International Standards.
8. Illustrations on redesigning the workplace have been incorporated.

The figures in this Code have been reproduced by courtesy of:

1. WorkSafe, Department of Commerce, Western Australia [Figures 1, 2, 11 (use of levers), 13 and 16 and figures in Annex E].
2. Safe Work Australia (Figures 4, 5, 6, 7 and 9).
3. International Labour Organization (Figures 8, 10, 12, 14, 15, E.7 and E.8)  
Ergonomic checkpoints. Practical and easy-to-implement solutions for improving safety, health and working conditions, 2<sup>nd</sup> edition, figures: 2(i), (ii) and (iii); 5a, 5b and 5c; 11b; 12b; 13b and 13d. Copyright © 2010 International Labour Organization.
4. Centers for Disease Control and Prevention – NIOSH (Figure B.3).
5. Mr Dan MacLeod (Figure 11).

In the preparation of this Code, reference was made to the following publications:

1. ISO 11228-1 : 2003 Ergonomics – Manual handling – Part 1 : Lifting and carrying
2. ISO 11228-2 : 2007 Ergonomics – Manual handling – Part 2 : Pushing and pulling
3. ISO 11228-3 : 2007 Ergonomics – Manual handling – Part 3 : Handling of low loads at high frequency
4. Applications manual for the revised National Institute of Occupational Safety and Health (NIOSH) lifting equation (1994)
5. NIOSH Technical Report on work practices guide for manual lifting (1981)
6. Worksafe Western Australia Commission code of practice on manual handling (2000)

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## **Code of practice for manual handling**

### **0 Introduction**

Manual handling is an essential activity in most workplaces. Injuries and disorders most commonly associated with manual handling affect the musculoskeletal system, particularly the back, neck and upper limbs. In general, the injuries and disorders are caused by inflammation, wear and tear and damage to the joints, ligaments, tendons, muscles, nerves and intervertebral discs of the spine during manual handling activities. A back injury could result from sudden damage associated with a single episode such as lifting too heavy a load or slipping and falling. However, most often it is the result of cumulative mechanical stress and gradual wear and tear from repetitive or prolonged manual handling activity. Very often there is no sudden or unexpected event or accident to which the injury could be attributed. Recovery from back injuries may take a long time and further injury may occur, worsening the problem.

Musculoskeletal disorders and injuries associated with manual handling can be prevented by taking a systematic approach of identification, assessment and control of the risks associated with such activities.

### **1 Scope and purpose**

The purpose of this Code is to provide information and guidance for the identification, assessment and control of risks arising from manual handling activities in workplaces and on the planning and implementation of an ergonomics programme for manual handling operations. It is not possible to cover every manual handling situation; however, the principles given here may be adapted to apply to a variety of manual handling operations.

### **2 Normative references**

There are no normative references in this Code.