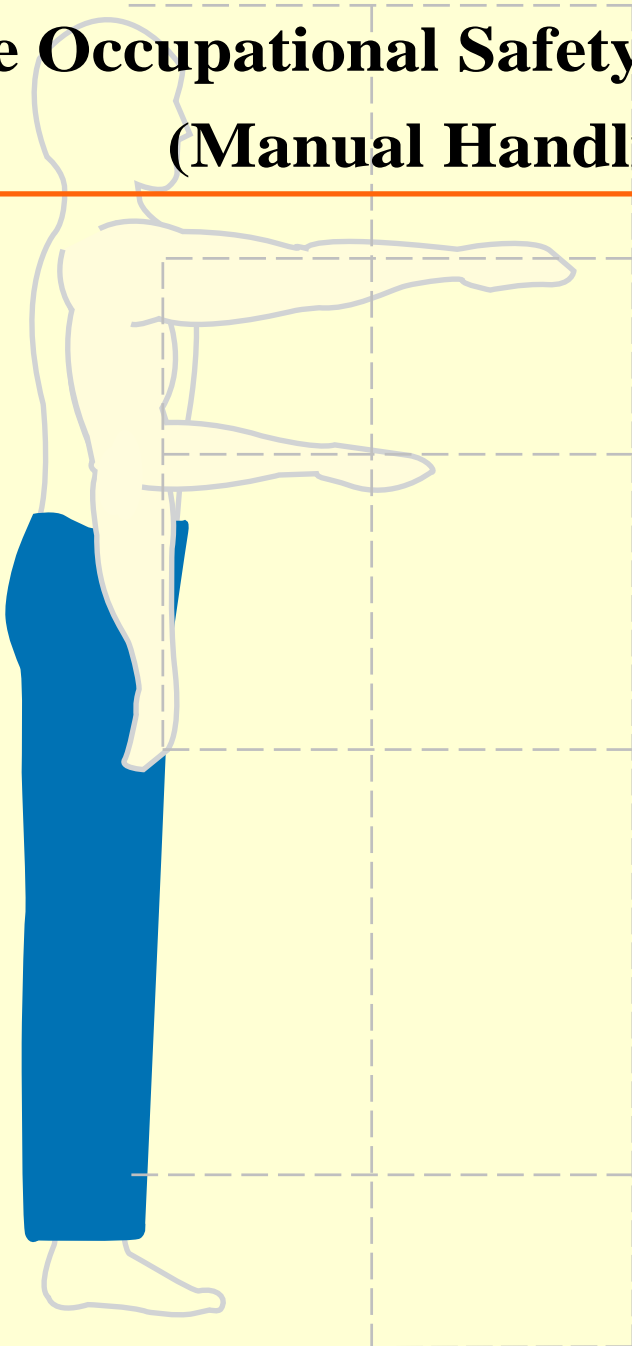


A Guide to Part VII of the Occupational Safety and Health Regulation (Manual Handling Operations)



Occupational Safety and Health Branch
Labour Department



OCCUPATIONAL SAFETY & HEALTH COUNCIL

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**A Guide to Part VII of
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(Manual Handling Operations)**

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Preface

Part VII of the Occupational Safety and Health Regulation (the Regulation) governing manual handling operations has become effective on 1 July 1998. It serves to protect the safety and health of employees undertaking manual handling operations at workplaces.

This guide is intended to assist employers, employees and occupiers of premises in discharging their duties under the Regulation. It adopts a multifactorial approach in risk identification, assessment and control of manual handling of loads in a workplace. It provides information, explanation and advice on employers' responsibilities in respect of risk assessment, record keeping, preventive and protective measures, information and training for employees, and appointment of competent persons. It also advises on the responsibilities of employees in co-operating with their employers in implementing safety and health measures at work.

In conjunction with this compliance guide, the Labour Department has published a series of guides on manual handling in general, and specific guides for individual trades such as supermarkets, distribution trades and health care services. These guides may be obtained from:

*Occupational Health Service
Occupational Safety and Health Branch
Labour Department
15/F Harbour Building
38 Pier Road
Central
Hong Kong
Tel: 2852 4041
Fax: 2581 2049*



If you need further advice, please telephone:

Safety and Health Advisory Telephone Service

Labour Department

Tel: 2559 2297 (auto-recording after office hours)

Fax: 2915 1410

E-mail: enquiry@labour.gov.hk

Home page: <http://www.labour.gov.hk>

Complaints

If you have any complaints about unsafe workplaces and practices, please call the *Labour Department's occupational safety and health complaint hotline at 2542 2172*.

Occupational Safety and Health Branch

Labour Department

Information on the services offered by the Occupational Safety and Health Council can be obtained through hotline 2739 9000.

1. Risk assessment

1.1 Under Section 23 of the Occupational Safety and Health Regulation (the Regulation), the person responsible for a workplace (employer or occupier of the workplace as the case may be) is required to make a preliminary risk assessment of a manual handling operation before it is first undertaken at that workplace. If the preliminary assessment reveals that the operation may create safety and health risks, the responsible person should, as far as reasonably practicable, avoid the need for employees to perform that operation (Section 24). If the risks are avoided, then no further action is required.

1.2 The responsible person is required to perform a further risk assessment (Section 25) of a manual handling operation if (a) the preliminary assessment reveals that it may create safety and health risks and (b) where the operation is unavoidable. In the further assessment, the responsible person should ensure that the following matters are adequately addressed (Part A of Appendix II — Schedule 3 of the Regulation) :

- (1) nature of the tasks;
- (2) characteristics of the loads;
- (3) conditions of the working environment;
- (4) individual capability of employees; and
- (5) other related matters e.g. whether the personal protective equipment or clothing hinders the employee's movement or posture.

1.3 Sample assessment forms for preliminary and further assessments are at Appendix I and II respectively. Based on these samples, responsible persons may develop their own assessment forms, taking into account the characteristics of their workplaces and work processes. Reference could also be made to Schedule 3 of the Regulation which sets out the basic matters and questions to be considered in a further assessment, as well as to trade-specific guidances and references as listed on the back page of this guide. Hints on assessing the weight of loads of manual handling operations are at Appendix III.



Persons to make assessments

1.4 It is the duty of the person responsible for a workplace to conduct preliminary or further assessments. In most cases, the responsible person would delegate other persons such as the manager or supervisor who has a thorough understanding of the task and its associated risks to perform the assessments. Nevertheless, these persons should have undergone relevant training. When the responsible person considers the process too complicated and beyond his staff's capacity to conduct a full assessment, he may seek assistance or advice from a consultant, such as a health and safety specialist or an ergonomist. However, the employer still has to oversee and take full responsibility of the assessment to ensure that it is done properly.

Review of assessments

1.5 A review of the preliminary or further assessments should be made whenever the assessments are no longer valid or the circumstances involved have significantly changed (Sections 23(3) and 25(2)) e.g. when the manual handling operation is carried out in a totally different working environment, practised in a significantly different manner or involves much heavier loads. Modification to the assessments should be made as soon as reasonably practicable when the review indicates the need to do so (Sections 23(4) and 25(3)).

2. Record keeping

2.1 In general, both preliminary and further assessments have to take into consideration all factors pertinent to the health and safety risks associated with the manual handling operations.

2.2 Under Section 26 of the Regulation, a responsible person is required to keep records of preliminary and further assessments and their respective reviews if 10 or more employees are normally employed to carry out hazardous manual handling operations both within or outside the employers' premises. For example, a large removal operation which involves more than 10 labourers transporting heavy and bulky furniture or other loads. The records should include the particulars of any group of employees concerned, and all significant findings of the assessments e.g. the operation involved, aspects considered in the assessment, and preventive and protective measures to be taken.

2.3 For the record keeping, once the assessments have been completed, the relevant information should be kept for inspection by an Occupational Safety Officer on request. The information can be kept in any format, either a paper copy or an electronic file, but must be legible and can be produced. The assessment records should be kept in a safe place at the responsible person's principal place of business in Hong Kong, but preferably on site for easy access by employees, for a period of not less than three years.



3. Preventive and protective measures

3.1 For protecting the safety and health of employees, preventive and protective measures should be taken to reduce the risks of manual handling operations to the lowest level that is reasonably practicable. Based on the further assessment, the required appropriate measures can be identified.

3.2 Under Section 27 of the Regulation, a responsible person should take appropriate steps to reduce the risks identified, as well as to provide employees concerned with information on the weight of each load, mechanical aids and protective equipment in order to ensure the employees' health and safety during the operations. Team lifting of loads should also be adopted in any manual handling operation whenever it is reasonably practicable. In addition, the responsible person should put in place an effective management programme for the planning, organisation, implementation, control, monitoring and review of the preventive and protective measures.

4. Appointment of competent persons

4.1 A responsible person is required to appoint competent persons to assist in the implementation of preventive and protective measures if 10 or more employees are normally employed to carry out hazardous manual handling operations on the premises (Section 28).

4.2 As a general guide, only one competent person is normally required. Nevertheless, in determining the number of competent persons required, the following factors should be considered:

- (a) the number of employees involved in the operation;
- (b) the size of the workplace;
- (c) the risks to which those employees are exposed; and
- (d) the distribution of those risks within the workplace.

The responsible person may also seek the expert opinion of a competent person whether more than one such person is required to carry out the job.

4.3 If more than one competent person is appointed, the responsible person should ensure that adequate arrangements are made for securing co-operation among those competent persons, and adequate time and resources are provided to them for performing their duties in the implementation of preventive and protective measures for the hazardous manual handling operation.

4.4 Competency is generally acquired through proper training and experience. The training should include identification of hazards associated with manual handling operations, human and environmental risk factors and their health impact, preventive and protective measures, and the legal requirements. In addition, an understanding and working knowledge of the operations and the proper use of mechanical devices/aids are essential. For fulfilling the job requirements, dedication and a high level of awareness of health and safety are necessary.



5. Information and training

5.1 A responsible person is required to provide employees concerned with relevant information before hazardous manual handling operations are undertaken (Section 29). The employees should be informed of the safety and health risks of the operations, and the preventive and protective measures that have been taken in relation to those operations. Effective training and education is essential in reducing the risks of manual handling operations. An employer is required to provide employees with adequate training (Section 31). Such training should cover the following aspects :

- * safe work practices
- * optimum use of bodily effort
- * proper use of mechanical aids and protective devices
- * accident reporting procedures

5.2 For new employees, they should be provided with relevant safety and health training in addition to job training. Whenever a new plant is installed, new technology introduced, or a new system of work or work practice is adopted, appropriate training should also be provided. Refresher training should be provided when necessary, especially for "occasional workers". Task-specific training is helpful for reducing hazards in high risk operations. All such training should be provided during the employees' normal working hours.

6. Allocation of work tasks

6.1 In the allocation of work tasks, an employer should assess the capabilities of individual employees to perform the manual handling operations without causing safety and health risks to themselves and other persons. The tasks should be assigned only to employees who have been assessed to be capable of performing the jobs (Section 30).

6.2 In assessing an employee's capability, the employer should take into consideration any report or concern raised by that employee about his health which may not fit for manual handling operations on the day of work, such as:

- * physical injuries
- * symptoms of musculoskeletal disorders, e.g. aches and pains in the back, shoulders, arms, wrists or hands
- * pregnancy or health problems e.g. hernia, record of major injury or surgical operations



7. Employees' responsibility

7.1 When carrying out hazardous manual handling operations, employees should follow the safe system of work and work practices, and use any mechanical aid or device and protective equipment provided to them. They should also take reasonable care for the safety and health of other persons at the workplaces when such operations are being undertaken (Section 32).

PRELIMINARY ASSESSMENT CHECKLIST for MANUAL HANDLING OPERATIONS (SAMPLE 1)

(Please put a "√" in appropriate box.)

Work locations / Department of the organisation : _____

Job / Activity / Operation : _____

Date of assessment : _____

Part A: Assessment

| | Yes | No | Uncertain | Notes |
|---|--------------------------|--------------------------|--------------------------|--|
| 1. Does the manual handling operation involve repeated awkward postures? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Twisting, kneeling, stooping, bending or twisting the wrist & extending the arm above the shoulder, etc. |
| 2. Does the employee require strenuous effort or have difficulties in manipulating the load? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strenuous effort is usually required to handle load greater than 16 kg without mechanical aids such as trolleys or other simple lifting equipment. |
| 3. Is there any information indicating that this manual handling operation involves a significant risk of injury? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | A risky operation in the trades & industries, confirmed complaint of hazardous operation & known case of injuries or death. |
| 4. Are there any conditions in the working environment that may create additional risks to the manual handling operators? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Risks include space constraints, slippery, uneven or unstable floors, & variations in the level of floors or work surfaces. |
| 5. Is the employee unsuitable to perform or physically incapable of performing this manual handling operation? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Temporary or permanent physical injuries, musculoskeletal disorders, health problems or pregnancy, etc. |

Part B: Findings (Diagrams can be used to indicate the positions & postures of employees at work.)

Number of employees performing this hazardous manual handling operation : _____

The position(s) of the employees at work : _____

Other significant findings : _____

Part C: Conclusions and Follow-up

1. Stop the hazardous manual handling operation immediately. (Note: If this operation can be avoided.)
2. Make a further assessment. (Note: Part or all of the answers in Part A are "Yes" or "Uncertain".)
3. Need **NO** further assessment. (Note: All the answers in "Part A" are "No".)
4. Others : _____

Assessor : _____

Signature : _____

PRELIMINARY ASSESSMENT CHECKLIST for MANUAL HANDLING OPERATIONS (SAMPLE 2)

(Please put a "√" in appropriate box.)

Work locations / Department of the organisation : _____

Job / Activity / Operation : _____

Date of assessment : _____

Part A: Assessment

1. Is there any information indicating that this manual handling operation involves a significant risk of injury?

Yes Please go to Q.2

No The assessment need not go any further

2. Can the manual handling operation be avoided/mechanised/automated at a reasonable cost?

Yes Please proceed and check the result is satisfactory

No Please go to Q.3

3. Is the employee unsuitable to perform or physically incapable of performing this manual handling operation?

Yes Please complete "Further Assessment Checklist for Manual Handling Operations"

No Please choose No.4 of Part C

Part B: Findings (Diagrams can be used to indicate the positions & postures of employees at work.)

Number of employees performing this hazardous manual handling operation : _____

The position(s) of the employees at work : _____

Other significant findings : _____

Part C: Conclusions and Follow-up

1. This manual handling operation can be avoided or mechanised/automated at a reasonable cost.

2. Make a further assessment.

3. Need **NO** further assessment.

4. Reduce the risk of this manual handling operation to the lowest level as far as reasonably practicable.

5. Others : _____

Assessor : _____

Signature : _____

FURTHER ASSESSMENT CHECKLIST for MANUAL HANDLING OPERATIONS

(Please put a "√" in appropriate box.)

Work locations / Department of the organisation : _____

Job / Activity / Operation : _____

Date of assessment : _____

Part A: Assessment

| | Yes | No | Comments |
|--|--------------------------|--------------------------|----------|
| 1. Tasks | | | |
| * Do they involve holding or manipulating loads at distance from the body trunk? | <input type="checkbox"/> | <input type="checkbox"/> | |
| * Do they involve unsatisfactory bodily movement or posture especially: | | | |
| (a) <i>Twisting the body trunk?</i> | <input type="checkbox"/> | <input type="checkbox"/> | |
| (b) <i>Stooping?</i> | <input type="checkbox"/> | <input type="checkbox"/> | |
| (c) <i>Reaching upward?</i> | <input type="checkbox"/> | <input type="checkbox"/> | |
| * Do they involve excessive movement of loads, especially: | | | |
| (a) <i>Excessive lifting or lowering distances?</i> | <input type="checkbox"/> | <input type="checkbox"/> | |
| (b) <i>Excessive carrying distances?</i> | <input type="checkbox"/> | <input type="checkbox"/> | |
| * Do they involve: | | | |
| (a) <i>Excessive pushing or pulling of loads?</i> | <input type="checkbox"/> | <input type="checkbox"/> | |
| (b) <i>A risk of sudden movement of loads?</i> | <input type="checkbox"/> | <input type="checkbox"/> | |
| (c) <i>Frequent or prolonged physical effort?</i> | <input type="checkbox"/> | <input type="checkbox"/> | |
| (d) <i>Insufficient rest or recovery periods?</i> | <input type="checkbox"/> | <input type="checkbox"/> | |
| (e) <i>A rate of work imposed by a process?</i> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. The loads | | | |
| * Are they: | | | |
| (a) <i>Heavy?</i> | <input type="checkbox"/> | <input type="checkbox"/> | |
| (b) <i>Bulky or unwieldy?</i> | <input type="checkbox"/> | <input type="checkbox"/> | |
| (c) <i>Difficult to grasp?</i> | <input type="checkbox"/> | <input type="checkbox"/> | |
| (d) <i>Unstable, or with contents likely to shift?</i> | <input type="checkbox"/> | <input type="checkbox"/> | |
| (e) <i>Sharp, hot or otherwise potentially harmful?</i> | <input type="checkbox"/> | <input type="checkbox"/> | |

| | Yes | No | Comments |
|---|--------------------------|--------------------------|----------|
| 3. The working environment | | | |
| *Are there space constraints that prevent good posture? | <input type="checkbox"/> | <input type="checkbox"/> | |
| *Are there uneven, slippery or unstable floors? | <input type="checkbox"/> | <input type="checkbox"/> | |
| *Are there variations in the level of floors or work surfaces? | <input type="checkbox"/> | <input type="checkbox"/> | |
| *Are there extremes of temperature or humidity? | <input type="checkbox"/> | <input type="checkbox"/> | |
| *Are there conditions causing ventilation problems or gusts of wind? | <input type="checkbox"/> | <input type="checkbox"/> | |
| *Are the lighting conditions poor? | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4. Individual capability | | | |
| *Does the operation: | | | |
| <i>(a) Require unusual strength or height, or other special physical characteristics?</i> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <i>(b) Create a hazard to persons with a health problem or to pregnant women?</i> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <i>(c) Require special information or training for its safe performance?</i> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5. Other matters | | | |
| *Is movement or posture hindered by personal protective equipment or by clothing? | <input type="checkbox"/> | <input type="checkbox"/> | |

Part B: Findings (*Diagrams can be used to indicate the positions & postures of employees at work.*)

Number of employees performing this hazardous manual handling operation: _____

The position(s) of the employees at work: _____

Other significant findings: _____

Part C: Conclusions and Follow-up

1. Discussion: _____

2. Preventive and protective measures for this process (in order of completion date):

| Preventive and Protective Measures | Date for Completion | Date for Follow-up |
|------------------------------------|---------------------|--------------------|
| | | |
| | | |
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| | | |
| | | |
| | | |

3. Others: _____

Assessor : _____

Signature : _____

Hints on Assessing the Weight of Loads of Manual Handling Operations

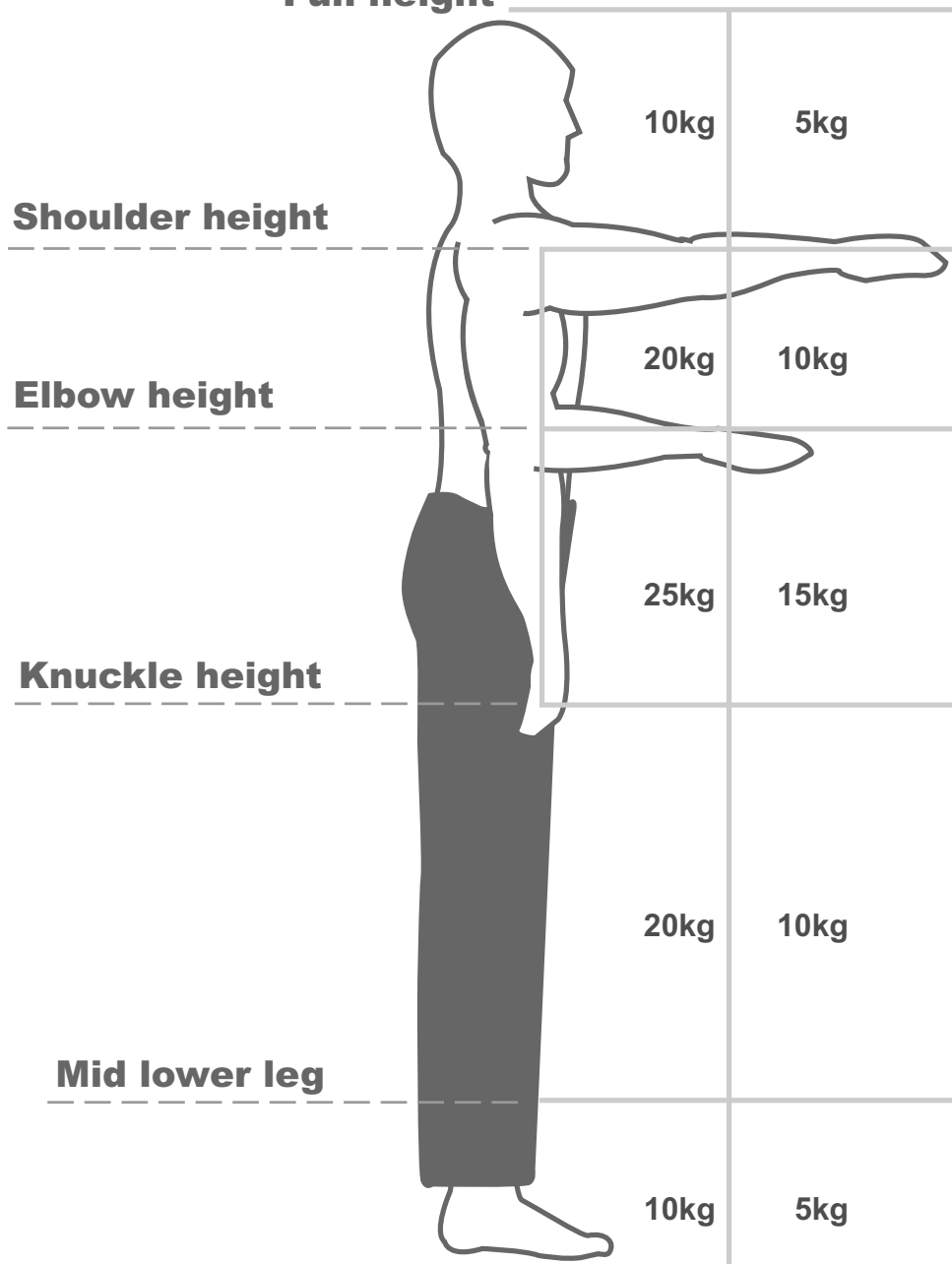
Manual handling operations often involve complex movements. The following diagram describes the recommended weights on simple lifting or lowering for an adult male operator who works under optimum conditions. The optimum conditions mean that an operator does not involve twisting, bending or other awkward postures and the operator's hands are at vertical and horizontal position when moving a load. This guideline assumes that the load is readily grasped with both hands and the operation takes place under reasonable working conditions with the operator at a stable body position.

If the hands enter more than one of the box zones during the operation, the smallest weight figure should be used. An intermediate figure may be chosen where the hands are close to a boundary. Where lifting or lowering with hands beyond the box zones is unavoidable, a further assessment should be made. It should be noted that the given figures are not weight limits. For female operators, as a rough guide, these figures should be reduced by one third.

The above diagram aims at assisting the responsible person to identify which manual handling operations require further assessments. If the weight is over the recommended figures, a further assessment should be performed and controls for reducing the risk of injury should also be adopted. "Absolutely safe" manual handling operations DO NOT exist. What we can do is to make the operations safer.

When manual handling operations involve frequent or repeated movements, the responsible person should conduct a further assessment. The adoption of mechanical aids or other measures should be considered. Even when the operation is performed under optimum conditions, a further assessment is needed if the weight of the load approaches 16 kg.

Full height



Reference

1. Lightening the Load (Chinese only)
2. Guide to Employer —— Manual Handling (Chinese only)
3. Guide to Employee —— Manual Handling (Chinese only)
4. An Employer's Guide to Work involving Repetitive Force or Awkward Postures (Chinese only)
5. An Employee's Guide to Work involving Repetitive Force or Awkward Postures (Chinese only)
6. Guidance Notes on Manual Handling Operations
7. Manual Handling Operations in the Food Distribution Trade
8. Occupational Safety & Health Guide for Health Care Services —— Manual Handling of Patients
9. Manual Handling in Health Care Services —— A Guide to the Handling of People
10. A Simple Guide to Health Risk Assessment (Office Environment Series) —— Manual Handling
11. Safety in Manual Handling Operations —— Supermarkets
12. Manual Handling in the Hotel Industry (Chinese Only)
13. A Guide for the Workers in the Home, Office and Factory Removal Industry (Chinese only)