



Environmental Health and Safety Office

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MATERIALS HANDLING GUIDE

Version	Date	Comments
2	August, 2011	Updated <i>Materials Handling Guide</i> (minor changes)

A. INTRODUCTION

The purpose of this Guide is to provide information on safely handling materials both manually and mechanically. This Guide is based upon Occupational Safety and Health Administration's Industry Guide (OSHA) 2236 entitled *Materials Handling and Storage*.

B. SCOPE

This Guide applies to all George Mason University employees and persons that may handle or store materials. It explains the proper procedures and techniques required for safely handling materials both manually and mechanically.

C. RESPONSIBILITIES

- Supervisors are responsible for ensuring employees are aware of proper lifting techniques.
- Supervisors are responsible for ensuring that hand trucks, dollies, and other lifting equipment are maintained in a safe condition.
- Supervisors are responsible for ensuring employees have available and use any equipment necessary to safely handle materials.
- Employees are responsible for following the guidelines stated in this Guide and using the appropriate equipment to handle materials.

D. GENERAL REQUIREMENTS

- Always use proper lifting techniques (See Section E).
- Always use proper techniques when using mechanical means to move materials (See Section F).
- Always wear appropriate personal protective equipment. Examples include gloves, eye protection, steel-toed safety shoes or boots, etc.
- Make sure to have a clear view of the path to be traveled.
- Slide, push, or roll materials instead of carrying them, when appropriate.
- Test the load for stability and weight before lifting.
- When possible, pack or repack containers so that the weight is balanced and the contents do not shift.
- Use extra caution when lifting loads that may be unstable.
- Seek help when any of the following conditions are met:

- Load is so bulky that employees cannot properly grasp or lift it,
- Employees cannot see around or over a load, and
- Employees cannot safely handle a load (greater than 50 lbs).
- Clear spaces to improve access to materials being handled.
- Avoid slopes and slippery floors when possible.

E. PROPER LIFTING TECHNIQUES

Lifting techniques vary depending on the size, and shape of the load, as well as the frequency of lifting that is required. Follow the procedures below when manually moving materials:

- Lift only as much as you can safely handle by yourself (no more than 50 lbs).
- When there is a choice, push instead of pull.
- Keep the materials being lifted in your power zone (i.e., above the knees, below the shoulder, and close to the body).
- Attach handles or holders to loads.
- Minimize the distance between which loads are lifted and lowered.
- Avoid manually lifting or lowering heavy loads to or from the floor.
- To lift:
 - Stand close to the object and keep a wide stance (feet turned out and heels down).
 - Squat by bending at the hips and knees. Ears, shoulders, and hips should form a nearly straight, vertical line.
 - Pull the load close to the body (this reduces pressure on the back).
 - Get a secure grip.
 - Maintain the natural curves of the spine and rise up from the squatting position using the legs to power the lift.
 - Use legs to push up and lift the load, not the upper body or back.
 - To turn, step to one side or the other. Do not twist your body.



- When carrying containers with one hand, alternate hands.
- Use two hands to carry containers when possible.
- Use devices such as hand trucks, dollies, and lifts whenever possible.

F. PROPER TECHNIQUES FOR MOVING MATERIALS MECHANICALLY

Follow the procedures below when using mechanical means to move materials:

- Avoid overloading equipment when moving materials mechanically.

- Let the weight, size, and shape of the material being moved dictate the type of equipment used.
- Choose wheeled equipment which minimizes start force and reduces rolling resistance.
- Push and pull equipment with entire body rather than just arms and shoulders.
- Make sure equipment alarms and warning devices are audible and working properly.
- Follow all manufacturers' recommendations for proper equipment use.
- Inspect and maintain equipment according to manufacturers' recommendations.
- In tight spaces, use equipment with four swivel casters or wheels for easy control.
- See the *Forklift Safety Guide* for information on using forklifts.

G. WORK ENVIRONMENT

- Sufficient safe clearances must be allowed for aisles, at loading docks, through doorways and where turns or passage must be made.
- Aisles and passageways must be kept clear and in good repair, with no obstruction that could create a hazard across or in aisles.
- Permanent aisles and passageways must be appropriately marked.
- Set barriers that prevent employees from coming close to or beneath supported or moving loads.

The information contained in this Guide is not inclusive of all OSHA regulations. Please contact Environmental Health and Safety Office at (703) 993-8448 or visit www.OSHA.gov for more information regarding workplace hazards, safety precautions, and regulations.