

Mobile shelving systems

Initiative

In 2007, the Minnesota Occupational Safety and Health Division (MNOSHA) investigated a fatal accident due to the improper use of a mobile shelving system. This hazard alert is in response to that investigation, as well as from anecdotal evidence regarding the use of this type of equipment.

These devices are often found where there is a need for a large amount of file storage, such as in hospitals, libraries and schools. The systems often consist of several large shelves that can expand and collapse to allow a large amount of storage in a smaller space than conventional storage.

The purpose of this Minnesota OSHA Safety Hazard Alert is to heighten public awareness of the proper use of this equipment and the safety devices used to prevent the units from closing unintentionally.

Description of the hazard

Factors that can lead to failure:

- overriding safety systems through the use of the battery pack;
- resetting the mobile unit while an aisle is in use;
- limited safety devices that will still allow the carriages to move even though a person is in the aisle; and
- use of the equipment by someone other than a trained/competent person.

Controlling and eliminating the hazard

One key method to preventing mobile shelving system accidents is to have the proper safety devices installed when the system is first put in. A photoelectric eye that runs the length of the aisle and will stop the equipment when interrupted is not sufficient to protect people and objects, because it may still allow the carriage to move while the aisle is occupied. The aisle needs to be protected to the point that the equipment will not operate while an obstruction is in the aisle. This can be done using the photoelectric eye that detects when a person or object is present in an open aisle and automatically locks out carriage movement. If the aisle is accessed while the carriage is closing, a photoelectric beam must also be able to detect entry and reverse movement.

A battery pack that accompanies the equipment is only to be used in cases where the power has gone out and files still need to be accessed. Proper employee training regarding the limitations of the battery pack must be instituted. Safety devices may be deactivated while the battery pack is in use; thus, special training must take place to ensure employees are familiar with its use and limitations. Employees may not enter into an aisle while the pack is being used. Also, the battery pack switch must be guarded against unintended activation. Training regarding general use of the equipment is also necessary, including procedures for when an aisle is already in use.

Be sure to consult the operator's manual before use and for additional guidance.

For more information

Employers and employees with questions or concerns can consult the federal OSHA website at www.osha.gov or contact MNOSHA Compliance at (651) 284-5050 or toll-free at 1-877-470-6742. For more information about requirements and recommendations, refer to 29 CFR 1926.212 and Minnesota Rules 5205.0710 and 5205.0880.

Acknowledgements

The principal contributor to this Minnesota OSHA Safety Hazard Alert was Dustin Privette, a senior safety investigator with the MNOSHA Mankato Area Office.