



# Fatal Facts – Hazards of Stored Materials

In early 2014 a self-storage employee in Hawaii died in a completely avoidable tragedy when he attempted to move several large and heavy wood panels without any assistance. Several panels were stacked on edge in a storage container with the center panels supporting the panels against the wall. After the panels closest to the middle of the container were removed, the panels closer to the wall were left free standing on edge. The free standing panels (estimated to be between 950 and 1425 pounds) fell and struck the employee in the chest. They were too heavy for the employee to escape or breathe after being pinned by the fallen panels.

## What Caused the Accident?

The death could have been avoided. Root-cause analysis of this case revealed five factors that contributed to this worker's death.

- No support/support removed for vertically stacked panels causing them to fall.
- Employee attempted to move large/heavy objects without help or a spotter.
- Mechanical means of lifting was not used (panels measured 10 feet x 5 feet and weighed 190-285 pounds each).
- There were no specific safety policies.
- Training, including that of how to safely move large and/or heavy objects, was not provided.

## Common Hazards Found at Storage Facilities

Just like any other warehouse, employees of self-storage facilities face many workplace hazards like slips and falls, ergonomic/lifting injuries, and improperly stored materials. Unlike other storage businesses, self-storage facilities must account for tenants who often store whatever they want however they want.

*The most common hazards encountered at Self-Storage facilities include:*

- **Heavy/Bulky Materials**
- **Unstable Storage**
- **Hazardous/Harmful Materials**
- **Slips, Trips and Falls**
- **Moving Parts**

Serious hazards could be lurking behind the door of every unit you open. It is important that you prepare yourself and your employees to prevent, identify, and minimize hazards.

This photo may look typical or benign to you. However, the panels on the right fell on and crushed the employee who was trying to move the material out of the shipping container. This could happen in



any narrow space where there is no place to move away from falling objects.

## How Can You Protect Your Business and Your Employees?

**Effective Continuous Training** - There is no "Silver-Bullet" to eliminate hazards at any workplace, especially when work conditions can change in an instant without prior knowledge. Even if your business is not required to have written programs in place, making sure that your employees are trained and that the training is effective is still your responsibility. Writing down safety policies ensures employees have access to safety information. Record when employees are trained, who provide

the training and what was covered in the training. Have a progressive discipline policy in place and enforce it. When employees break the rules or don't seem to understand certain procedures, retrain them to help close information gaps. Here are some simple methods to prevent workplace hazards and injuries.

**Unstable Storage** - Items may be stored in a manner that does not prevent rolling, tipping or falling. Items may be stored such that removal of retaining devices (such as bands, bungee cords, zip-ties, or other implements) may result in the unexpected movement of retained materials.

**Rolling Objects** - Look for round objects such as barrels, compressed gas cylinders, balls, or objects with wheels and ensure that they are blocked in or otherwise secured to prevent rolling.

**Tipping/Falling Hazard** - Look for large panels such as plywood, stone, glass or drywall stacked on edge. It takes less than 50 pounds of force to topple a stack of 24 standard sheets of drywall (totaling about 1,700 pounds). For this reason, flat panel materials stacked on edge are a recognized safety hazard by several professional associations and national standards organizations including: The Gypsum Association (a professional drywall association), The ASTM (American Society for Testing and Materials), and The Engineered Wood Association (formerly the American Plywood Association).

**Falling (Overhead) Hazard** - Be aware of objects stored above eye level. Make sure that such items are stable from falling if jarred or if objects below are removed.

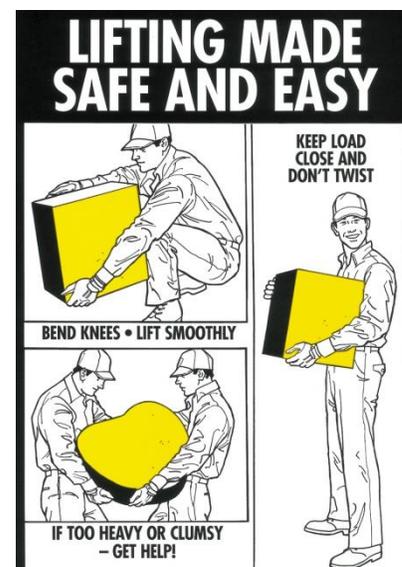
**Hazardous Materials** - Tenants may store dangerous materials and/or materials that pose a direct health risk to employees. When tenants are moving things into the unit offer assistance, pay attention to how items are being stored, and keep an eye out for suspicious or dangerous materials. Getting to know your tenants and the contents of their lockers can help you identify potential hazards. Pay attention to smells, many harmful chemicals have strong odors associated with them. If you see pools of liquids or wet boxes pay attention to the source of the liquid and protect

yourself with gloves and goggles. If there are bags/piles of unidentified solids or powders you can wear a dust mask to protect yourself from breathing harmful dust. If your skin or eyes begin to itch or burn or you notice any other abnormal health effects such as nausea, dizziness or labored breathing remove yourself to fresh air immediately and report the issue as soon as possible.

**Slips, Trips, and Falls** - Just like any workplace, walking working surfaces must be kept free of hazards that may result in unsafe conditions. Mark floor hazards with warning cones or other signs as soon as they are identified. Clean up or repair floors/areas that have been identified as unsafe as soon as feasible to prevent unnecessary injuries. Include problem areas in regular safety inspections.

**Moving Parts** - Moving parts such as chain drives on mechanical access gates, and pulleys on sectional overhead doors (garage type roller doors) can pose a hazard to the user and unaware by-standers. Make sure moving parts and "nip-points" are protected from coming into contact with people while in motion.

**Ergonomics/Lifting** - Employees should be trained to use proper lifting technique. When available, workers should attach handles or holders to loads.



Hand trucks or carts should be used when moving loads over large distances. To prevent injury from oversize loads workers should not be allowed to lift or move heavy or bulky items without a spotter present.