Materials Handling Safety Talks

How to Stack and Store Materials Safely

WHAT’S AT STAKE
There’s hardly a workplace that doesn’t handle or store materials. Whether your company has a large warehouse or a small storage room, whether you have loading docks and forklifts or just garages and pallet jacks, there’s material that needs to be moved around. And you need to make sure you approach this common task with safety in mind.

WHAT’S THE DANGER
Manually handling objects—that is, carrying, unpacking, stacking or storing materials by hand—has its risks. Lifting objects can cause injuries from strains and sprains. Improper storing and handling of material and equipment can result in materials striking or crushing workers.

EXAMPLE
A 26-year-old Yale student who was working on his master’s degree in technical design and production had his dreams and his life cut short while unloading materials from a truck in advance of a theater production.
The 32 sheets of particleboard should have been placed on the floor of the truck. But instead they were loaded upright and strapped to one side. When the straps were loosened, the load toppled and the student was fatally crushed. He’d been wearing a hardhat, but it was knocked off when he was struck by the wood, which weighed at least 1,000 pounds (454 kilograms).

HOW TO PROTECT YOURSELF
Here are some basics of handling materials safely.

Wear proper personal protective equipment (PPE):
- Find out what you’re moving, what the hazards are and what PPE is required. This may range from head, foot and hand protection to special PPE if hazardous chemicals are involved.

Use proper lifting and carrying methods:
- Study your load to determine its shape and size. Get help if it’s too much to handle yourself. For large or awkward loads, use a team lift or a mechanical device.
- Stand with your feet about shoulder width apart to lift the object. Bend your knees, keep your back straight, grasp the item and raise it slowly.
- Plan your route and rest stops ahead of time. Before you pick it up, know where you’ll put it down. Make sure you can see over the top of the item. To change direction, turn your feet. Do not twist your body.
- Set the load down by keeping your back straight and the load close to your body. Bend your knees and move slowly and smoothly.

Stack your materials safely:
- Start with a level, solid base for a stack.
- Observe the maximum load limits for floors, shelving, elevators and other surfaces.
• Materials should be stacked with weight, size and shape taken into consideration so they do not fall over. Heavy materials should never be stacked too high. While bags or boxes may be stacked in layers, cylindrical objects must be racked on solid supports to prevent them from shifting and rolling.

Store materials correctly:
• Pay attention to what kinds of materials and other substances are stored together. A fire might occur if flammable materials and fuels or solvents are placed close to each other. Incompatible chemicals might explode. Do not store liquid chemicals above dry ones.
• Know how to properly store chemicals and other potentially hazardous materials. Read the material safety data sheet (MSDS).
• Make sure there is adequate space in storage areas for an emergency escape route, emergency equipment and personnel.

FINAL WORD
There are many things you can do to safely stack and store materials. Use your body, your mind and equipment the right way.
Take Stock Of Storage Safety!

In an office environment we don't usually think of filing cabinets, shelving, storage lockers, bookcases and desks as being dangerous pieces of equipment. But, occasionally, these familiar helpmates can be the source of injuries ranging from minor cuts to broken bones.

For example: metal shelving that has been attached by wood screws and plastic anchors to a drywall surface can be a hazard. When the shelving is over-loaded with reference manuals, books, pamphlets or supplies, the anchors can pull out of the wall. This can cause serious injuries to the unfortunate people caught in the resulting landslide.

Another serious office equipment hazard could be your filing cabinet. Perhaps the top drawer is filled with heavy files, while the bottom drawers are either empty or contain light objects. When the top drawer is opened the over-balanced cabinet may fall on top of you.

Here are some more ideas on how to protect yourself from office accidents:
- Don't overload supply lockers or storage cabinets, especially if they are not anchored securely to the floor and walls. Stack all heavy items on the bottom shelves and lighter items on the higher ones.
- Bookcases, like shelving, should be firmly attached to the studs in the walls to prevent an overloaded unit from tipping forward.
- Place items securely on shelves. Don't haphazardly stack them on floors or leave them precariously balanced on top of cabinets as a potential danger. If you have to reach up over your head, when stacking objects on shelves, use a step ladder.

Besides the danger of falling items and toppling equipment, office injuries can occur when you trip over items, cut your hand or fingers on sharp objects or lift articles improperly. So, be aware of the following dangers:
- Keep drawers of desks and filing cabinets closed. Severe injuries have occurred when people tripped over open drawers.
- When stacking items in a storage room, be sure to leave plenty of walking room between the aisles to avoid tripping hazards and to provide an escape path in case of fire. Make sure you also keep materials well away from any fire protection devices such as smoke detectors, sprinkler systems, fire exits or fire extinguishers.
- The drawers in your desk usually become a catch-all for any small items including tacks, pins, paper clips, scissors and letter openers. As a safety precaution for hands, keep sharp or pointed objects separated from items such as elastic bands.
- Work-related materials should be stored so that you can reach them without excessive lifting, pulling or pushing. Keep your trays and supplies within easy reach of your work area.
- Avoid back injuries by practising safe lifting habits. If you have to store or retrieve large, awkward or heavy items get assistance.

There is no such thing as being too cautious when safety is at stake. Take stock of your storage safety for a safer work day.
Aisleways, Storage and Fire Control

WHAT’S AT STAKE
Improper storage or neglect of a storage area can result in a fire or explosion that may cost lives or serious injuries and reduce your job to ashes.

WHAT’S THE DANGER
Fire extinguishers, circuit breakers and exits disappear when aisles are blocked by boxes, ladders and tables. Sprinklers and smoke detectors are useless when boxes are stored too close to them. If warehoused goods are improperly stacked, workers can be injured or killed by falling or collapsing materials.

EXAMPLE
What if there was a fire in a disorganized warehouse or storage area? You could be trapped in dead end aisles or blocked from emergency exits. Firefighters may be forced to fight the fire from outside if they cannot make their way through the tangle of equipment and jumble of boxes to the core of the fire.

HOW TO PROTECT YOURSELF
If stored materials are neat and orderly, eliminating hazards and conserving space can be achieved. The goal is free and unrestricted aisles.

When planning to store materials and equipment, always allow the required clearance for vehicles and equipment in the aisles. Three feet (one meter) for persons and a space of at least two feet (.6 meters) on either side of any vehicle is a good guideline.

Never allow materials or equipment to protrude into the aisles as this may not allow enough clearance for firefighting equipment to pass.

Ensure that all extinguishers, hoses and circuit breaker boxes are easily seen and easy to get to.

Keep all stored material at least 18 inches (.4 meters) from all sprinkler heads, smoke detectors and electrical sources.

Never allow exits to be blocked, either from the inside with boxes or from the outside with trash and snow.

Ensure that drums filled with flammable liquids are stored in a separate, cool, protected area. Heat from any source can cause liquids to expand and the resulting build-up of pressure could cause leaks which will lead to fire or explosion.

Have a rule ensuring that empty drums are removed promptly, as trapped vapors can still present an explosion hazard.

Enforce the use of safe procedures until they are a habit. In the event of even a small emergency there will be less chance of injuries from being struck by or caught between materials or moving equipment.

FINAL WORD
If your storage area is cluttered and materials are not properly stacked, you are looking at a recipe for disaster. Keep your storage areas neat and organized to help prevent tragic incidents.

Driving a Forklift Takes Special Training

The ability to drive a car or truck does not qualify you to operate a forklift. Don't give in to the temptation to climb aboard a forklift in the plant unless you have been properly trained and are authorized to do so.

Unsafe operation of a forklift can result in bystanders being struck by the machine, the forks or the load. Mishandling a forklift can also cause it to tip over or for the load to collapse.

A forklift operates differently from other motor vehicles. It doesn't stop as quickly, it can tip over more easily and its turning radius is different.

Here are some reminders about safe operation of forklifts—for those who are trained and authorized to do so:

- Use your checklist before operating the forklift to determine if it is in good working order and safe to operate. If it is not, it must be removed from service until it can be repaired.
- To lift the load, put the forks all the way in. After slowly lifting the load, tilt it back so it will remain on the forks.
- Keep the forks low so you can see where you are going and to prevent tipping accidents.
- Observe the speed limits, slowing down for corners, rough or sloping surfaces and large loads. Honk the horn at intersections.
- Some of the worst accidents occur when a forklift falls off a loading dock. Use extreme caution around the edges of loading docks. The bridge plate must be secure before driving onto the truck you are loading or unloading.
- One aspect of operating a forklift which differs from other vehicles is the need to drive with the load uphill. With a load, go forward up a slope, but back down the slope. When the forklift is empty, the forks should be pointed downhill.
- Stay inside the operator's cage. This means keeping your head, arms and legs inside and never reaching through the mast. Seatbelts should also be worn. Statistics show that chances of survival in a forklift accident are greater if the driver remains belted inside the forklift. Some drivers who tried to jump from a falling forklift suffered fatal injuries when the forklift ended up falling on them.
- Don't pick up passengers because they can easily fall and be crushed by the forklift.

Pedestrians also have a safety responsibility around forklifts:

- Watch for forklifts and do not expect the operator to see you. Listen for, but do not rely on, horns and backup alarms.
- Do not step in front of a forklift and do not walk beside it.
- Do not walk under the elevated forks or loads of a forklift.

Whether you are the operator of a forklift, or a pedestrian in the area, you both need to watch out for each other to prevent collisions and crushing accidents.
Materials On The Move

Transporting loads of materials is an important job in many workplaces - and a sometimes dangerous job.

Whether you are moving goods with a motor vehicle, or lifting them manually in the warehouse, you need to take care to prevent accidents and injuries.

Follow these tips to transport and handle materials safely:

- Be sure that you are trained and authorized to operate any vehicles which you use, such as hand trucks, forklifts or trucks.

- Check vehicles daily, and repair defects right away.

- Load vehicles where they will not block traffic.

- Make sure all lifting equipment is in safe working order and is subject to regular safety inspections. Do not rely on makeshift repairs.

- Never exceed the load capacity of lifting equipment. Do not lift a load if you are unsure of its weight or the capacity of the lifting equipment.

- When stacking and storing materials, make sure they are secure and cannot fall or roll. Chock or otherwise contain them.

- Inspect pallets regularly to make sure they are not damaged.

- Don't exceed the safe load weights for floors or racks.

- When lifting loads yourself, do it right to prevent injury. If you don't think you can lift something safely, get help.

- To pick up a load, squat down near the load. Lift by using the strength in your legs, not your back. Hold onto the load with the palms of your hands, not your fingertips.

- Make sure you can see over a load while carrying it. To set it down, bend your legs, not your back.

- Know the materials which you are handling. Be aware of those which are harmful. Obtain this information from the label and Material Safety Data Sheet (MSDS) which may accompany the material. Wrong handling could result in a fire, explosion, poisoning or environmental damage, among other things.

- Wear the appropriate Personal Protective Equipment (PPE) to guard against injury. This may include safety-toed footwear, gloves and a hard hat, as well as special gear to protect you from dangerous substances.

Transporting and handling materials is a universal activity in the workplace. Make sure you do it safely.
Steer Clear of Heavy Lifting

Look for ways to avoid lifting. This doesn't mean you should hide in the storeroom when something needs to be lifted. It means you should try to come up with strategies for getting your work done without heavy lifting.

How do you do that? One way is to examine your work routines to see how to do things differently. For instance, instead of picking up items from a pallet at floor level, could the items be stored at waist height? Could supplies be purchased in bulk form and moved by conveyor instead of manually handled bags?

Lifting equipment is available for countless applications. Operated by electricity, springs, hydraulics, air pressure and other energy sources, lifting equipment takes the weight and requires the operator only to control and direct the work. A hydraulic gate on a truck, a chain hoist, an inflatable lift bag, a spring-loaded platform and a workbench that can be raised or lowered with electric controls are examples of such lifting equipment. Could your tasks be done more safely with such equipment? Talk to your supervisor if you have ideas for improvements.

Even in an office setting, lifting can cause severe back injuries. You should use a handcart to move furniture and cartons of stationery. Find a spot at waist level for the box of paper usually kept on the floor next to the printer or copier.

Caregivers, whether employed in a healthcare facility or helping a family member, are at risk for back injury from lifting and positioning patients. Lift devices are seeing increased use in both occupational and home settings.

If you have lifting equipment available, use it. Take the time to grab a handcart or a pallet jack instead of moving something manually. Use the portable or stationary patient lift devices every time.

Back injuries are the leading cause of lost days from work. These injuries occur both on the job and off. Some serious back injuries happen all at once, but many seem to be the result of accumulated small injuries caused by lifting too much weight and lifting from awkward postures.

The correct way to lift manually is to crouch down close to the item, get a firm grip, and lift using the strength in your legs—not your back.

Better yet, get some help. Have another person assist you, or use a lifting device.

It's also important to maintain your general health to help prevent back injuries.
Keeping a healthy weight, getting enough sleep, rest and exercise, and managing stress help keep your back strong and flexible. Maintain good posture when you stand or sit, and avoid straining your back whatever you are doing.

Use your head to save your back by devising strategies to avoid heavy and awkward lifting.