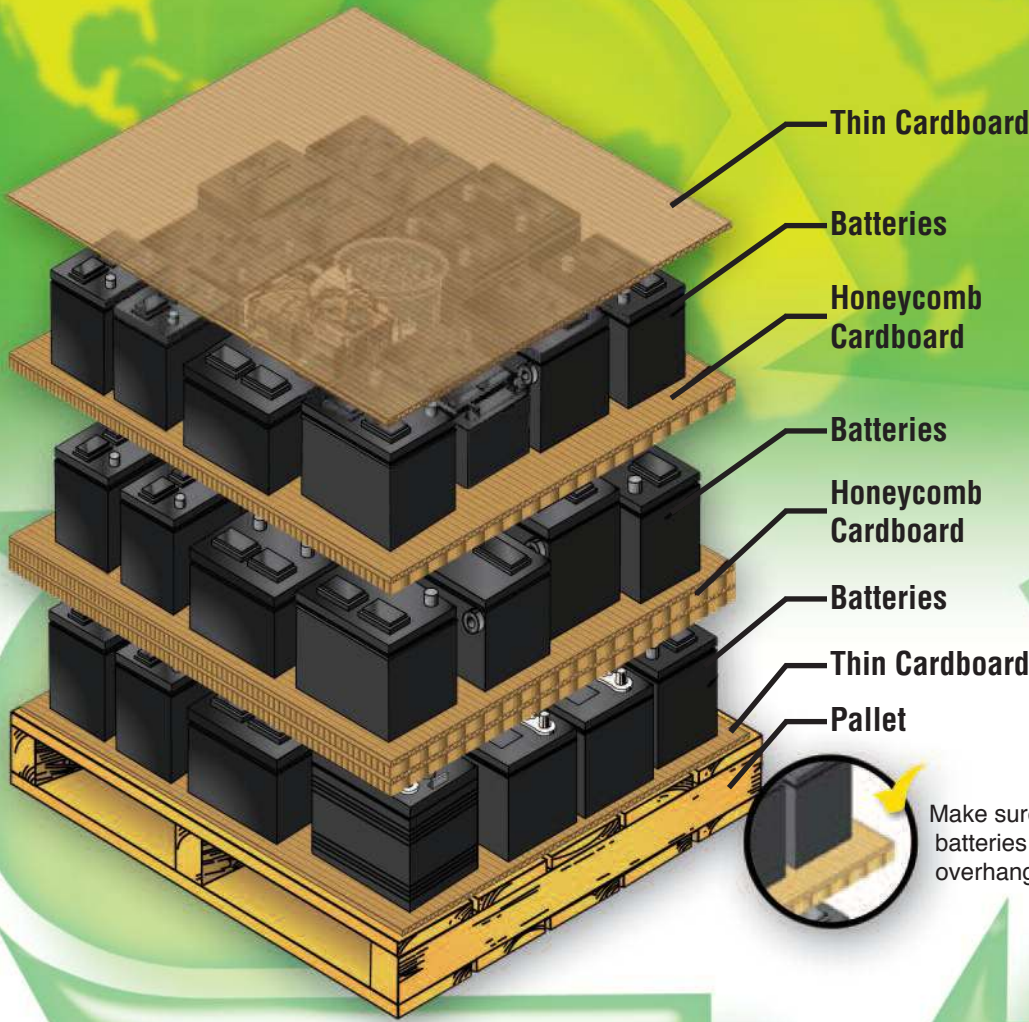


HOW TO PROPERLY STACK USED BATTERIES ON PALLETS



Cover wheel weight buckets with stretch wrap and place on top layer in the middle of the pallet.

Batteries that could foreseeably leak electrolyte should be placed in strong poly bags and properly sealed.



INCORRECT

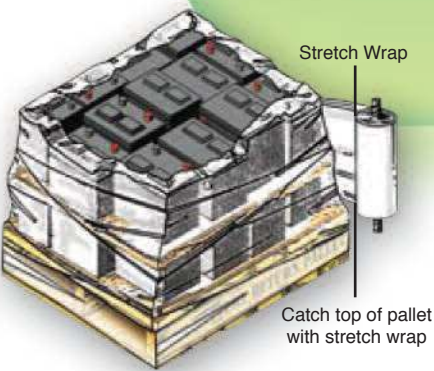


CORRECT WARNING:

Arrange batteries so terminals **DO NOT** touch. Terminals touching may cause a short and/or fire!

STEP 1

- Load batteries 2 layers high, then stretch wrap.
- Wrap tightly 5 times around, making sure to catch top of pallet to help anchor load.



STEP 1

- Load third layer, place cardboard on top, then stretch-wrap entire load.
- Wrap tightly 5 times around overlapping bottom layers.



Safe Handling of Lead Acid Batteries

There are four general safety issues involved with handling lead acid batteries:

Sulfuric Acid **Hydrogen Gas** **Electrical Short (Shock)** **Battery Weight**

Sulfuric acid

- Flooded lead batteries contain diluted sulfuric acid (~37% with pH <2).
- Corrosive Liquid – Attacks metals and organic materials (cotton and nylon fabrics are particularly susceptible, polyester fabrics are resistant).
- Burns to skin – flush immediately with clean water
- Burns to eyes – flush immediately with clean water or use approved eye wash station.
- Never open the battery caps with your face directly over the battery.
- If electrolyte is taken internally, drink large quantities of water or milk. DO NOT induce vomiting. Call a physician immediately.
- Neutralize with baking soda any electrolyte that spills on a vehicle or in the work area. After neutralizing, rinse contaminated area clean with water.

Hydrogen Gas

- A by-product of the battery charging process but can be present at all times.
- Explosive in mixtures with air at 4 – 74% by volume.
- Lighter than air – can easily dissipate with proper ventilation.
- Do not smoke in battery charging areas.
- Prevent open flames, sparks or electric arcs in battery charging areas.
- Do not strike the sides of the battery with any spark producing item.
- Have an ABC dry chemical fire extinguisher in charging areas or readily available.

Electrical Short (Shock)

- Never touch both battery terminals with your bare hands at the same time.
- Exposed terminals can be short circuited with metal tools and other conductors.
- Remove rings, watches and dangling jewelry when working with or near batteries. The metal in the jewelry can cause a shock or burn if they contact the battery terminals.
- Use only insulated or non-conducting tools when working with batteries. Never lay tools or other metal parts on top of a battery.
- Ensure charger is turned off before connecting or disconnecting a battery to prevent arcing.

Weight of the Battery

- Lead acid batteries are heavy and bulky - wear proper safety shoes when working with batteries
- Never lift batteries by terminals or posts - use proper lifting equipment when handling batteries.
- Assure vent caps are properly installed when lifting or moving batteries.

Personal Protective Equipment (PPE) Requirements:

- Safety Glasses/Goggles
- Rubber Gloves
- Face Shield
- Chemical Resistant Clothing
- Steel Toe Shoes or Boots

Even though lead and lead compounds are toxic, they are completely contained in an undamaged lead acid battery and do not usually present a toxicity hazard. However, if a lead acid battery is damaged or the container is broken or breached in any manner, seal all battery components in a plastic drum or other acid resistant container. Used lead batteries and battery components are considered hazardous materials and must be handled properly. Contact an authorized lead battery recycler for proper disposal of batteries and battery components.