

INDUSTRY SPOTLIGHT

COMPANIES GEARING UP

KNOCK ON WOOD

Why shouldn't mine sites use wood pallets for transporting used lead acid batteries?

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THE lead acid battery is by far the most common type in use today, with more than 90 per cent of all batteries (by weight) containing lead.

However lead has a dark side; it is the world's number one toxic poison in regard to the number of humans affected.

As such, it has been designated as a Dangerous Good and Hazardous Waste, with the transportation of used lead acid batteries controlled by DG Transport and Controlled Waste Regulations.

These regulations contain "Chain of Responsibility" provisions that place a legal responsibility on ULAB Producers to ensure compliance by their supply chain.

Despite these requirements, we have witnessed systemic non compliance by the WA mining industry with how ULAB are being transported off site.

We believe these practices are indicative of what is occurring nationally, and that one of the major contributing factors to this non compliance is the use of the wood pallets.

What are the transportation requirements for ULABs?

As a Dangerous Good, the transportation of used lead acid batteries by either road or rail within Australia is controlled by the "Australian Code for the Transportation of Dangerous Goods (ADG Code)".

The Packaging Requirements for new and used lead acid batteries are contained in the ADG Code's P801 Packing Instruction.

In Australia, the wood pallet is the most common device used when transporting ULABs.

If you are using wood pallets, referred to as an overpack in the ADG Code, then your packaged ULABs should appear like the example in Figure 1.

Non-compliant ULAB transportation using wood pallets

Common examples of non-compliance when using an overpack, such as a wood pallet, include:

1. Inadequate restraints

Many batteries are being transported from WA mine sites with the batteries secured to the pallet by plastics wrapping only.

In the event of a vehicle accident this would not adequately restrain the heavy batteries. The batteries should also be secured with plastic strapping, with a horizontal band to secure each layer of batteries and 2 vertical over straps (Figure 1).

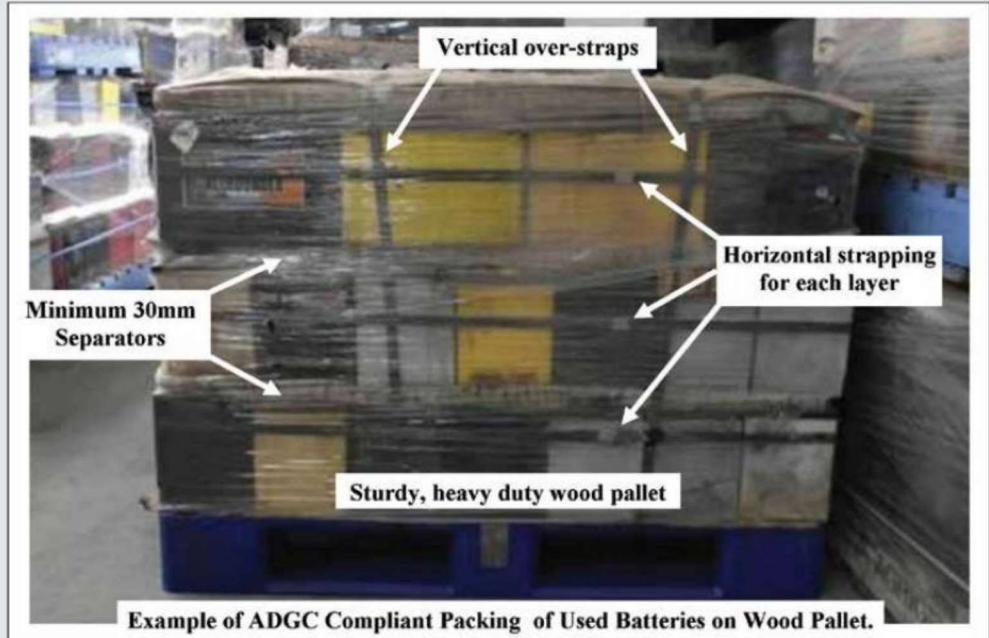


Figure 1.

2. No/ inadequate separators between battery layers

The ADG Code P801 Packing Instruction states that "battery terminals shall not support the weight of other superimposed elements" and "batteries stacked shall be adequately secured in tiers separated by a layer of non conductive material".

Many shipments of used batteries have either no separator applied or use an entirely inadequate 5mm piece of cardboard. To meet the P801 requirements the non-conductive separator should at least be 30mm to adequately protect the terminals from damaging batteries packaged on top.

3. Use of poor quality pallets

Batteries are heavy with a pallet load weight up to 1.5 tonnes.

Poor quality, light wood pallets cause issues during transport and can fail in the event of an accident.

4. No/ inadequate restraint of pallets to vehicle

We have observed several instances of ULABs being transported on wood pallets without being secured to the vehicle.

The ADG Code requires "placard loads" to be adequately restrained.

5. No Class 8 Corrosive Labels or DG documentation

Absence of Class 8 Corrosive labels on each overpack and no transport documentation detailing quantity and type of dangerous good.

Why aren't wood pallets suitable?

In Australia, the wood pallet is currently the default device used for transporting ULABs.

It has become the default standard for several reasons, including its low cost, widespread availability and because many used battery recycling facilities have a stated preference for receiving the batteries delivered on wood pallets.

The wood pallet however has several significant drawbacks when used for transporting ULABs. These include:

1. Acid leaks during storage and transportation are not contained posing several threats to human health and the environment.

The sulfuric acid electrolyte contains high lead levels and other toxic heavy metals. Lead is one of the most toxic substances to human health with the World Health Organisation currently suggesting there are no known levels of lead exposure that are considered safe. The acidic electrolyte can also result in burn injuries, damage to property and the environment.

2. Poor, inadequate and non-compliant packaging due to:

a. Variations in the worker's attitude, training & understanding of the regulations.

b. Time consuming, difficult and unsafe task.

c. Required materials & tools not available (good quality wood pallets, plastic wrap, strapping tool, 30mm card separators).

d. Use of cheap, poor quality wood pallets due to convenience and to save costs.

e. Batteries of many different sizes are difficult to stack securely on wood pallets.

Systemic non-compliance of the packaging requirement is increasing the risks to the public and environment in the event of an accident and results in load shifting and acid spills during transport. And due to the "Chain of Responsibility" provisions it is increasing the legal risk to mining companies.

What are the alternatives?

With the increased availability of plastic boxes of suitable strength and capable of retaining any acid leaks, Battery Rescue believe it is time the industry moved away from the use of wood pallets to store and transport used lead acid batteries.

We believe the Australian Government should provide regulatory support to eliminate the use of wood pallets.