

Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals

Sub-Committee of Experts on the Transport of Dangerous Goods

21 June 2022

Sixtieth session

Geneva, 27 June-6 July 2022

Item 4 (c) of the provisional agenda

Electric storage systems: transport provisions

Proposed Amendments to Packing Instruction LP903

Transmitted by the expert from China

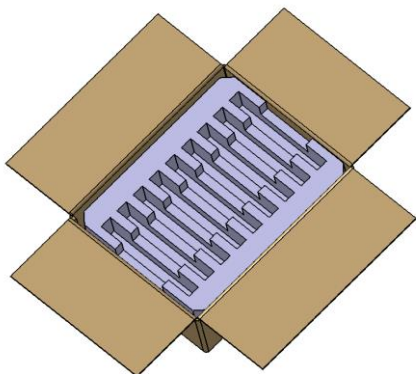
Introduction

1. With the development of electric vehicles and lithium battery energy storage industries in recent years, the transport volume of large lithium cells and large lithium batteries has increased rapidly. How to optimize the technical requirements of lithium battery transport packagings, especially large packagings, on the premise of ensuring safety in transport, is very important for improving transport efficiency and effectively supporting the development of relevant industries. In the past two years, several proposals have been discussed by the TDG Sub-Committee, about revising Packing Instruction LP903 concerning the use of large packagings to allow the transport of more than one cells or batteries in a single large packaging. PRBA and RECHARGE have submitted document ST/SG/AC.10/C.3/2022/37 to the sixtieth session of the Sub-Committee, proposing to revise the text in LP903. Experts from China generally agree with the intention of ST/SG/AC.10/C.3/2022/37 and would like to thank to PRBA and RECHARGE for their efforts.

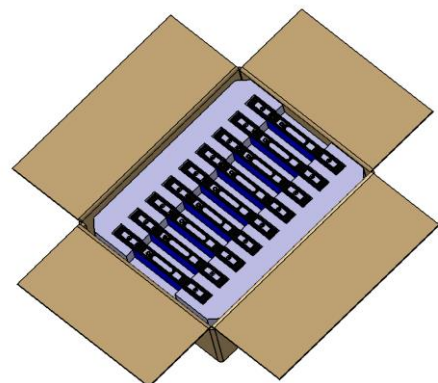
2. However, experts from China do have some small comments. We suggest to further clarify the fixation and separation measures required for cells and batteries to prevent potential danger caused by the movement or contact with each other during transport.

3. According to our experience, common ways to fix and separate multiple batteries including the application of trays, dividers, positioning blocks, locating clamps, bolts and so on. Examples are shown as follows:

(1) Tray - suitable for Large Cells

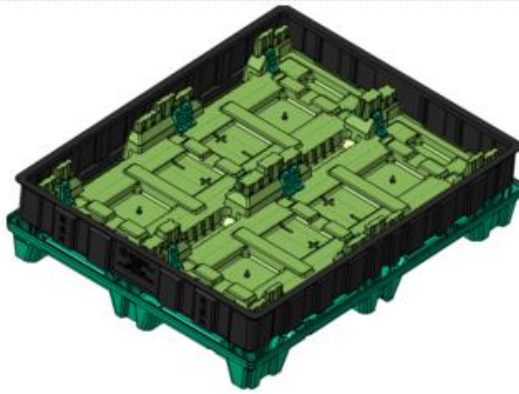


An unoccupied tray

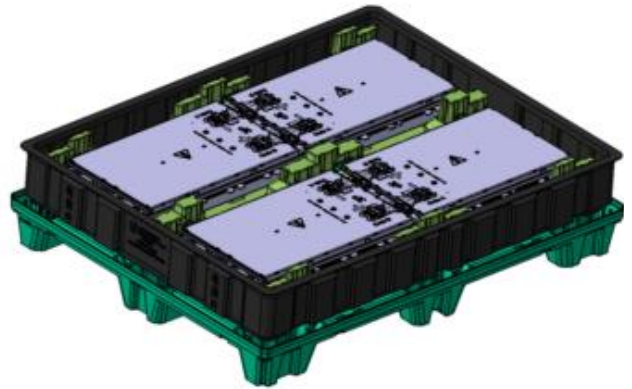


A tray loading with cells

(2) Tray - suitable for Large batteries

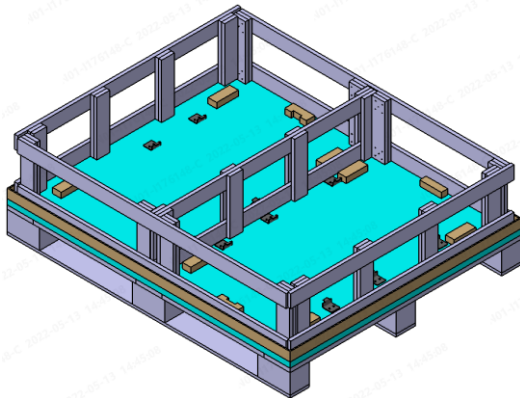


An unoccupied tray

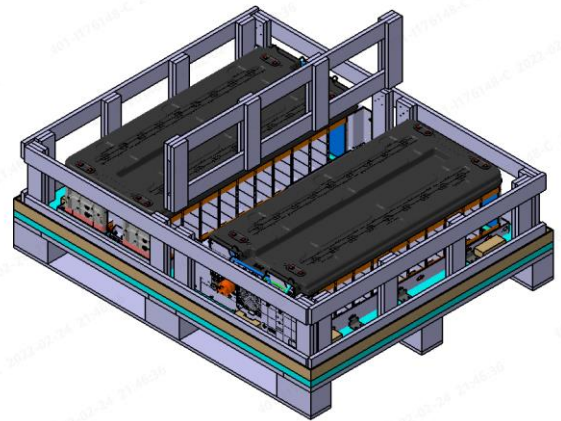


A tray loading with batteries

(3) Divider

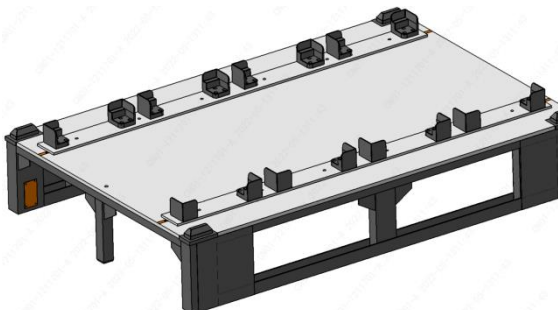


An unoccupied divider

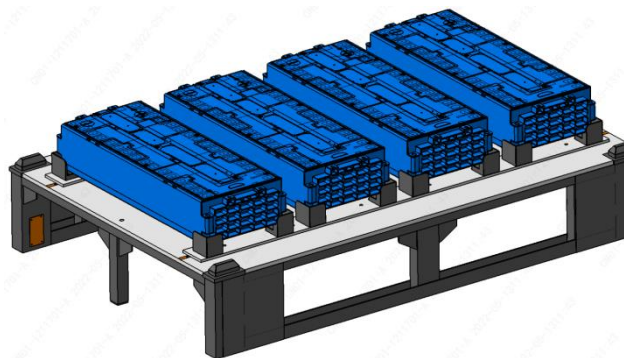


A divider separating and fixing batteries

(4) Positioning block

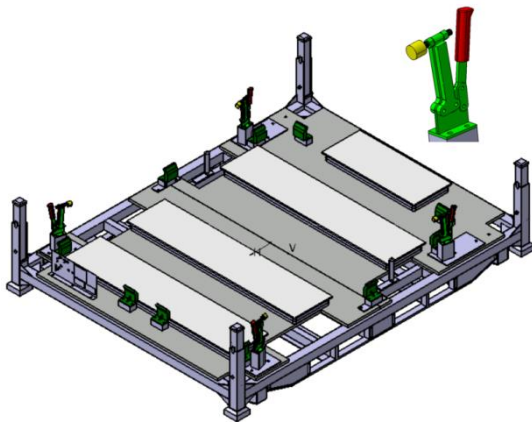


Unoccupied positioning blocks

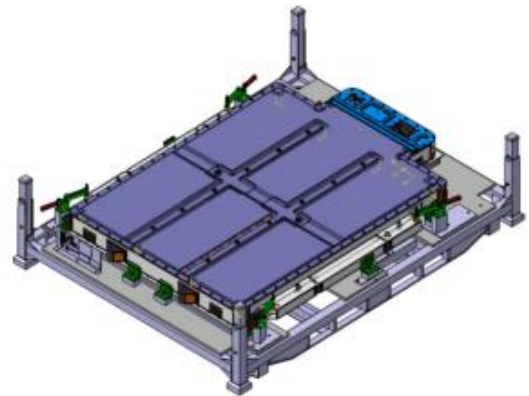


Positioning blocks separating and fixing batteries

(5) Locating clamp

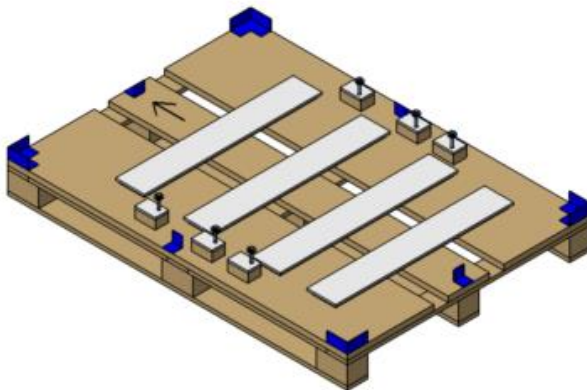


Unoccupied locating clamps

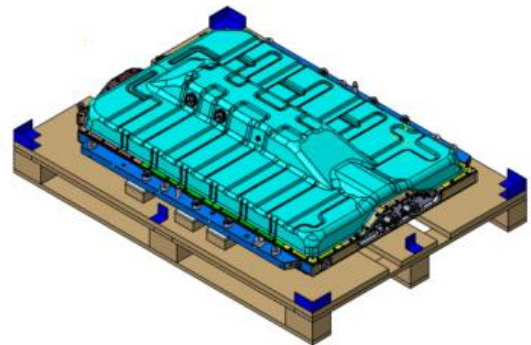


Locating clamps fixing a battery

(6) Bolt



Unoccupied bolts



Bolts fixing a battery

4. Experts from China believe the required measures should be able to protect cells, batteries and equipment from damage that may be caused under normal conditions of transport by all three following factors:

- (a) movement or placement within the large packaging;
- (b) contact with other cells, batteries or equipment within the large packaging; and
- (c) from any loads arising from the superimposed weight of cells, batteries, equipment and packaging components above the cell, battery or equipment within the large packaging.

Thus, we suggest to replace in document ST/SG/AC.10/C.3/2022/37 the word “or” in the proposed indent (2) of LP903 with the word “and”.

5. In conclusion, we invite the Sub-Committee to consider the following amendments to LP903.

Proposal

6. Experts from China propose to amend LP903 as follows (new text is underlined, deleted text in ~~strikethrough~~):

LP903	PACKING INSTRUCTION	LP903
This instruction applies to UN Nos. 3090, 3091, 3480 and 3481		
The following large packagings are authorized for <u>cells, a single batteryies</u> and for <u>a single item of</u> equipment containing batteries, provided that the general provisions of 4.1.1 and 4.1.3 are met:		
Rigid large packagings conforming to the packing group II performance level, made of:		
<ul style="list-style-type: none"> steel (50A); aluminium (50B); metal other than steel or aluminium (50N); rigid plastics (50H); natural wood (50C); plywood (50D); reconstituted wood (50F); rigid fibreboard (50G). 		
<p>The Cells, batteryies or the equipment shall be placed in inner packagings, or separated by suitable means (e.g., trays, dividers, clamps, positioning blocks, bolts) to ensure packed so that the battery or the equipment is protectedion against damage that may be caused under normal conditions of transport by:</p>		
<ul style="list-style-type: none"> (1) its movement or placement within the large packaging; (2) <u>contact with other cells, batteries or equipment within the large packaging: or and</u> (3) <u>from any loads arising from the superimposed weight of cells, batteries, equipment and packaging components above the cell, battery or equipment within the large packaging.</u> 		
<p><u>When cells, or multiple batteries or items of equipment, are packed in the large packaging, plastics bags alone shall not be used to satisfy these requirements.</u></p>		
Additional requirements:		
<p><u>Cells and batteries shall be protected against short circuit.</u></p>		
<p><u>Only large cells and batteries, as defined in 38.3.2.3 of the <i>Manual of Tests and Criteria</i> shall be transported under this packing instruction.</u></p>		