



WORKING PAPER

**DANGEROUS GOODS PANEL (DGP)
WORKING GROUP MEETING (DGP-WG/18)**

Montréal, 1 to 5 October 2018

Agenda Item 2: Managing air-specific safety risks and identifying anomalies

2.3: Develop proposals, if necessary, for amendments to the *Supplement to Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284SU)* for incorporation in the 2021-2022 Edition

ALLOWANCE IN PACKING INSTRUCTION 910 FOR THE USE OF LARGE PACKAGINGS

(Presented by D. Brennan)

SUMMARY

This working paper proposes that consideration be given to making allowance in Packing Instruction 910 for large prototype and low production run lithium batteries that have not passed the UN 38.3 tests to be shipped in large packagings.

Action by the DGP-WG: The DGP-WG is invited to consider the amendment to Packing Instruction 910 as shown in the appendix to this working paper.

1. INTRODUCTION

1.1 Special Provision A88 identifies that pre-production prototype or low production run lithium cells and batteries may be offered for transport on a cargo aircraft with the approval of the State of Origin subject to the requirements in Packing Instruction 910 in the Supplement to the Technical Instructions being met. The last paragraph of Special Provision A88 then states that lithium batteries approved under Special Provision A88 may have a net mass exceeding 35 kg.

1.2 There are many large lithium ion batteries that are shipped under the provisions of Special Provision A88 where the mass of the battery is well in excess of 35 kg, with many that exceed the allowance for being shipped in a “packaging” and where instead they must be packed in a large packaging as the net mass of the battery may exceed 400 kg. However, Packing Instruction 910 makes no allowance for the use of large packagings for lithium batteries that have not been tested in accordance with subsection 38.3 of the UN Manual of Tests and Criteria.

1.3 The UN Model Regulations, and by extension ADR and the IMDG Code, do provide for the use of large packagings for prototype and low production run lithium batteries through the assignment of LP 907 for these batteries.

1.4 The absence of an allowance for large packagings in Packing Instruction 910 has created issues for at least one shipper, where their request for an approval under Special Provision A88 using a UN 50A large packaging with an integral fire suppression blanket was refused by a national authority because Packing Instruction 910 does not allow for the use of large packagings.

2. **ACTION BY THE DGP-WG**

2.1 The DGP-WG is invited to consider a revision to Packing Instruction 910 in the Supplement to make specific allowance for large packagings as shown in the appendix to this working paper.

APPENDIX

**PROPOSED AMENDMENT TO PART S-4 OF THE SUPPLEMENT
TO THE TECHNICAL INSTRUCTIONS**

Part S-4

PACKING INSTRUCTIONS

**(ADDITIONAL INFORMATION
FOR PART 4 OF THE
TECHNICAL INSTRUCTIONS)**

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Chapter 11

CLASS 9 — MISCELLANEOUS DANGEROUS GOODS

Packing Instruction 910

Cargo aircraft only

Introduction

This instruction applies to UN Nos. 3090, 3091, 3480 and 3481 production runs consisting of not more than 100 cells or batteries and to pre-production prototypes of cells or batteries when these prototypes are transported for testing.

General requirements

Part 4, Chapter 1 requirements must be met.

ADDITIONAL PACKING REQUIREMENTS

- Packagings must meet the Packing Group I performance requirements.
- Cells and batteries must be protected against short circuit. Protection against short circuits includes, but is not limited to:
 - individual protection of the battery terminals;
 - inner packaging to prevent contact between cells and batteries;
 - batteries with recessed terminals designed to protect against short circuits; or
 - the use of an electrically non-conductive and non-combustible cushioning material to fill empty space between the cells or batteries in the packaging.

Rigid large packagings, as shown below, are permitted for a single battery and for cells or batteries contained in a single item of equipment. The large packagings must meet Packing Group [II] performance requirements.

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OUTER PACKAGINGS

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plywood (4D)
Reconstituted wood (4F)
Plastics (4H1, 4H2)
Steel (4A)

Drums

Aluminium (1B2)
Fibre (1G)
Other metal (1N2)
Plastics (1H2)
Plywood (1D)
Steel (1A2)

Jerricans

Aluminium (3B2)
Plastics (3H2)
Steel (3A2)

RIGID LARGE PACKAGINGS

Aluminium (50B)
Fibreboard (50G)
Natural wood (50C)
Other metal (50N)
Plastics (50H)
Plywood (50D)
Reconstituted wood (50F)
Steel (50A)

Aluminium (
Fibreboard (
Natural wood
Other metal
Plywood (4D
Reconstitute
Plastics (4H
Steel (4A)

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