CIVIL AVIATION AUTHORITY
OF NEW ZEALAND

Advisory Circular
AC 92-3

Revision 2

Dangerous Goods Packaging Approval

27 April 2007

General

Civil Aviation Authority Advisory Circulars contain information about standards, practices, and procedures that the Director has found to be an **Acceptable Means of Compliance (AMC)** with the associated rule.

An AMC is not intended to be the only means of compliance with a rule, and consideration will be given to other methods of compliance that may be presented to the Director. When new standards, practices, or procedures are found to be acceptable they will be added to the appropriate Advisory Circular.

This Advisory Circular also includes **guidance material (GM)** to facilitate compliance with the rule requirements. Guidance material must not be regarded as an acceptable means of compliance.

Purpose

The Advisory Circular provides methods acceptable to the Authority for showing compliance with the approval of dangerous goods packaging required by Part 92.

Related Rules

This Advisory Circular relates specifically to Civil Aviation Rule Part 92, Rule 92.53.

Change Notice

Revision 2 re-formats and re-numbers this advisory circular from AC 92-3A to AC 92-3 as part of a project to standardise the numbering of all ACs.

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Dangerous Goods Packaging Approval

1. Introduction

1.1 This Advisory Circular is intended for dangerous goods packaging manufacturers and regular shippers of dangerous goods.

1.2 It describes those packages that are required to be approved by the CAA, and the steps that must be taken to achieve approval.

2. Packaging approval

2.1 Dangerous goods packaging requiring approval from the Civil Aviation Authority are those that are –

(a) required to be tested in accordance with the Technical Instructions; and

(b) manufactured in New Zealand.

3. Approval Authorities

3.1 For dangerous goods packaging that is required to be approved the appropriate national authority is:

(a) The National Radiation Laboratory of the Ministry of Health for Class 7 dangerous goods packaging.

(b) The Civil Aviation Authority for packaging other than Class 7 dangerous goods.

4. Request for Approval of Packaging

4.1 Each request for approval of packaging for Class 7 dangerous goods shall be submitted to –

National Radiation Laboratory
PO Box 25099
Christchurch

Phone: 03 366 5059
Fax: 03 366 1156

4.2 Each request for approval of packaging for other than Class 7 dangerous goods shall be submitted to –

Aeronautical Service Approvals
Civil Aviation Authority of New Zealand
PO Box 31441
Lower Hutt 6315

Phone: 04 560 9400
Fax: 04 569 2024

5. Approval Requirements

5.1 The application shall be accompanied by a test report containing the information specified in Paragraph 8.

6. Packaging Types

6.1 Packaging is the receptacles and any other components or materials necessary for the receptacle to perform its containment function. For combination packaging it includes any cushioning or absorbent material, inner packagings and fixing materials.

6.2 **Combination packaging** consists of one or more inner packagings secured in an outer packaging used and assembled only for the transport of a dangerous goods article or substance.

6.3 **Composite packages** are packages consisting of an outer packaging and an inner receptacle so constructed that the inner receptacle and the outer packaging form an integral packaging. Once assembled it remains, thereafter, an integrated single unit and is filled, stored, transported, and emptied as a unit.

6.4 **Single packaging** is a packaging not requiring any other packaging and is filled, stored, transported, and emptied as such.

7. Packaging Performance Tests

7.1 Packaging that is required to be tested shall be tested to the requirements specified in Part 7 of the ICAO Technical Instructions.

7.2 Tests must be carried out on packagings prepared as for transport including, with respect to combination packagings, the inner packagings used.

7.3 When submitting a packaging to a testing laboratory for testing, it is important that the testing laboratory knows that the packaging is intended for carriage of dangerous goods by air. The packaging must be tested to the requirements of the ICAO Technical Instructions.

7.4 For combination packaging intended to be used for the carriage of liquids, a test report shall also be submitted that shows the inner packaging meets the pressure requirements of Part 3 Chapter 1.1.6.1 of the ICAO Technical Instructions.

7.5 For Class 1 dangerous goods, the test re-port shall be accompanied by a classification certificate from the Department of Labour.

7.6 The tests shall be conducted by a testing laboratory accredited by Telarc New Zealand for testing.

8. Test Report

8.1 Each request for approval of packaging shall be accompanied by a test report containing the following information—

(a) name and address of the test facility;

(b) name and address of the applicant (where appropriate);

(c) a unique test report identification;

(d) date of the test report;

(e) manufacturer of the packaging;

(f) description of the packaging type (for example dimensions, materials, closures, thickness and the like);

(g) method of manufacture (for example blow moulding); drawings or photographs, or both may be included;

(h) maximum capacity;

(i) characteristics of the test contents (for example the viscosity and relative density for liquids and the particle size for solids);

(j) full test description and results;

(k) a signature and name and status of the signatory;

(l) a statement—

(i) that the packagings prepared as for transport were tested in accordance with the appropriate provisions of the ICAO Technical Instructions or the equivalent provisions of Chapter 9 of the United Nations *Recommendations on the Transport of Dangerous Goods*; and

(ii) about the subsequent use of the packaging in terms of articles and substances that may be packaged, the method of packing, and size and type of any inner packagings.

9. Approval Period

9.1 If the test report shows that the packaging meets the performance test requirements, the CAA or the National Radiation Laboratory will approve each packaging design type for up to five years.

9.2 The approval granted will apply only to the packaging design type as it was tested. If there is subsequently a change to the packaging specification or the packaging is manufactured by a different method, or both, then the package will need to be re-tested. A separate approval application will have to be made.

9.3 Following the approval period, a further 5 year approval will be granted provided evidence is supplied to the appropriate authority to show that:

(a) there has been no change to the packaging specification and the packaging is manufactured by the same method as when originally tested; and

(b) there has been no change to the packaging performance tests required for the type of packaging.

9.4 If the above conditions are not met, the packaging is required to be re-submitted to an appropriate laboratory for re-testing and subsequent approval.

10. Specification Markings

10.1 As part of the packaging approval process, specification markings will be issued by the CAA.

10.2 Except for some packagings intended for gases of Class 2, radioactive materials of Class 7, and some packagings used for Class 9 items, all single packagings, and all outer packagings, of combination packages and of composite packages, must bear these markings. The markings are to be durable and legible. They are to be placed in a location, and be of such a size relative to the package, to be readily visible.

10.3 For packages with a gross mass exceeding 30 kg the markings, or a duplicate thereof, these markings must appear on the top or side of the package.

10.4 Letters, numbers and symbols must be at least 12 mm high, except for packages 30 L or 30 kg capacity or less, when they shall be at least 6 mm in height. For packages of 5 L or 5 kg capacity or less the letters, numbers and symbols must be of an appropriate size.

10.5 For packagings manufactured in New Zealand and approved by the Civil Aviation Authority, these markings consist of:

(a) the United Nations packaging symbol;

(b) the code designating the type of packaging;

(c) a code in two parts:

(i) a letter designating the Packing Group for which the packaging was successfully tested:

X for Packing Groups I, II and III

Y for Packing Groups II and III

Z for Packing Group III only;

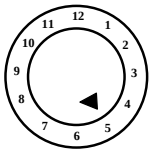
(ii) for single packagings intended to contain liquids; the relative density, rounded off to the first decimal, for which the design type has been tested; this may be omitted when the relative density does not exceed 1.2; or

for packagings intended to contain solids or inner packagings; the maximum gross mass, in kilograms, at which the packaging has been tested;

(d) for single packagings intended to contain liquids; the hydraulic test pressure which the packaging was shown to withstand, in kPa rounded down to the nearest 10 kPa; or

for packagings intended to contain solids or inner packagings; the letter ‘S’;

(e) the last two digits of the year during which the packaging was manufactured. Packagings of types 1H1, 1H2, 3H1 and 3H2 must be appropriately marked with the month of manufacturer; this may be marked on the packaging in a different place from the remainder of the marking. An appropriate method is:



(f) the letters NZ indicating New Zealand as authorising the allocation of the mark, and

(g) an approval code indicating the name of the packaging manufacturer.

Packaging manufacturer approval codes are allocated according to Para 11. Examples are shown in Appendix 1.

10.6 The markings for a packaging approved for the carriage of infectious substances will consist of:

(a) The United Nations packaging symbol;

(b) The code designating the type of packaging;

(c) the text “Class 6.2”;

(d) the last two digits of the year of manufacturer of the packaging;

(e) the letters NZ indicating New Zealand as authorising the allocation of the mark; and

(f) an approval code indicating the name of the packaging manufacturer.

Packaging manufacturer approval codes are allocated according to Para 11. Examples are shown in Appendix 1.

10.7 **For packaging approved by the National Radiation Laboratory**, these markings consist of—

(a) **TYPE A** on each package that conforms to a Type A packaging design; or

(b) for each package that conforms to a Type B packaging design—

(i) **TYPE B(U)** or **TYPE B(M)** as appropriate; and

(ii) the identification mark allocated to the design by the National Radiation Laboratory; and

(iii) a serial number to uniquely identify each packaging that conforms to that design; and

(iv) a trefoil symbol, which shall be plainly marked by embossing, stamping or other means resistant to the effects of fire and water, on the outermost receptacle, which shall also be resistant to the effects of fire and water.

11. Approval Code

11.1 The approval code will be made up of:

(a) for packagings that do not have an approval code issued by Department of Labour or Ministry of Health, the letters CAA plus an approval number allocated by the Civil Aviation Authority as shown in Appendix 1 (a); or

(b) for packagings that do have an approval code issued by Department of Labour or Ministry of Health, the letters CAA added to the appropriate department’s approval code as shown in Appendix 1 (b).

Appendix 1

Examples of Specification Markings

The markings illustrated below show how a Civil Aviation Authority approval may be shown on the package. The markings may be applied in either single or multiple lines.

(a) Combination Package approved by Civil Aviation Authority only.

4G/Y50/S/95/NZ/CAA 12345/1

(b) Combination Package approved by Department of Labour and Civil Aviation Authority

4G/Y50/S/95/NZ/LAB 100 CAA