

**CODE OF PRACTICE FOR THE
REPROCESSING OF CLOSED HEAD STEEL DRUMS IN THE
NOMINAL CAPACITY RANGE OF 200-220 LITRES**

(November 1992)

(DRUM REPROCESSING CODE)

Prepared by the Advisory Committee on the Transport of Dangerous Goods
Competent Authorities Sub-committee

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PREFACE

This is a Code of Practice to be adhered to by those persons reprocessing closed head steel drums in the nominal capacity range of between 200 and 220 litres, for second and subsequent use of these drums in the transport of dangerous goods of Packaging Groups II and III.

Adherence to this Code of Practice is necessary in order to prevent those drums which show unsatisfactory performance characteristics from being used in the transport of dangerous goods.

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1. SCOPE

This Code of Practice is made pursuant to the Australian Code for the Transport of Dangerous Goods by Road and Rail, (ADG Code) 5th edition 1992.

It recognises the long standing practice of the use of reprocessed drums for the transport of dangerous goods in Australia. The purpose of this Code of Practice is to afford a mechanism to control the quality of drums prior to subsequent use and to that end it sets out:

- (a) selection criteria for drums intended for second or subsequent use in transporting dangerous goods; and
- (b) reprocessing procedures to which such drums shall be subjected.

2. LEGISLATION

Commonwealth and State Ministers of the Australian Transport Advisory Council and the Ministerial Council on Road Transport, have endorsed the ADG Code and the States and Territories have legislated for its introduction into their jurisdictions.

One aspect of the ADG Code is to allow reprocessed drums to be used for transporting dangerous goods of Packaging Groups II and III. Reprocessed drums shall not be used for dangerous goods of Packaging Group I.

This Code of Practice has been prepared under the direction of the Competent Authorities Sub-Committee of the Advisory Committee on the Transport of Dangerous Goods to enable those who reprocess drums to work to uniform standards.

Notwithstanding drums being reprocessed to the requirements of this Code of Practice, the responsibility for the selection and suitability of the drums for a particular purpose remains with the packer.

This Code of Practice is to be read in conjunction with the ADG Code and in particular Section 5. This Code of Practice is adopted by all States and Territories and the Competent Authority in each jurisdiction is responsible for its implementation.

3. DEFINITIONS AND PROHIBITED PRACTICES

Drum: A drum for the purposes of this Code of Practice is a flat-ended cylindrical container made of metal with filling apertures in the body and/or in the top head, with or without rolling hoops or corrugations and with ends permanently fixed to the body by means such as seaming or welding and has a nominal capacity of 200 to 220 litres and commonly known as a closed head steel drum.

In House: In house describes the circumstances where a packer of dangerous goods reuses or launders drums on the packer's premises for the packer's own use but does not make such drums available to others as packagings for dangerous goods.

- Launder:** Launder means the action of washing the exterior and interior of drums and where necessary, repainting the exterior of the drums to obliterate all previous package markings (other than packaging approval markings), with or without chaining or descaling the interior prior to filling.
- Packer:** Packer means a person who fills, or causes to be filled, the drum.
- Recondition:** Recondition means the actions of both mechanical repair and laundering of drums involving processes which require reformation to original shape of any component by mechanical means, and repairs of holes by welding, but excludes the process of remaking.
- Remake:** Remake means the action of replacing one or both ends of a drum.
- Reuse:** Reuse means the action of in-house refilling of drums with goods of a type chemically similar to the goods initially packed. Reuse does not include laundering, but rinsing and painting, if needed, are permitted.
- Reprocess:** Reprocess means the actions of either laundering or reconditioning drums.
- Rinsing:** Rinsing means the action of washing a drum with fluids whose residues need not be removed, other than by drying, before the drum is refilled.
- Weld:** Weld means the action of repairing a hole by welding. Welding does not include the placing of a patch.

Welding is not permitted on the bottom of a drum or within 50mm of a body seam, chime or flange.

Welding of holes longer than 15mm or those caused by corrosion or fatigue is not permitted.

Note: Additional definitions may be found in the ADG Code. For the purposes of this Code of Practice, the above definitions of 'Launder' and 'Recondition' shall apply instead of the definitions for these terms in the ADG Code.

4. SELECTION OF DRUMS

A drum may be re-used or reprocessed for use with dangerous goods provided that:

- (a) the drum is selected for re-use, laundering or reconditioning, or rejection, in accordance with the criteria specified in the selection table referenced in Section 10 of this Code of Practice; and
- (b) the drum selected for reprocessing does not exhibit damage to a degree equivalent to those illustrations designated as 'Not Acceptable' in the pictorial guide referenced in Section 11 of this Code of Practice.

5. EQUIPMENT

Reprocessors shall possess both leak testing equipment and a set of scales, with the following optional equipment:

- washing machine
- spray painting equipment
- chaining or descaling equipment
- dedenter
- chime straightener.

Reprocessors who possess either a dedenter or a chime straightener (or both) shall be deemed to be reconditioners.

6. TESTING OF DRUMS

Except for drums which are only being re-used, every drum shall be subjected to the following tests before being utilised for the transport of dangerous goods:

(a) **Leakproofness Test**

Description of test:

A pressure of 20kPa shall be applied using a test method approved by the Competent Authority.

Criteria for passing the test successfully:

There shall be no leakage.

Note: Leakproofness testing equipment shall be adequately protected to minimise the risk of injury to equipment operators.

(b) **Tare Weight Test**

Description of test:

The clean empty reprocessed drum shall be weighted to an accuracy of +/- 0.1 kg.

Criteria for passing the test successfully:

The mass of the drum shall be not less than 15.5kg.

7. MARKING OF DRUMS

Drums reprocessed in accordance with this Code of Practice shall be marked with the following information:

- (a) 'AUS' - to indicate the drum was reprocessed in Australia
- (b) The mark to identify the reprocessor determined at Section 8, Part (a), clause (iv) of this Code of Practice
- (c) The last two digits of the year of reprocessing
- (d) 'R' - to indicate the drum has been reprocessed; and
- (e) 'L' - to indicate the drum has been leakproofness tested in accordance with Section 6, Part (a) of this Code of Practice.

An example of an appropriate format is:

'AUS/COY
86/RL'

For drums originally marked in accordance with sub-section 5.5.1 of the ADG Code, the above markings shall be applied in accordance with sub-section 5.5.5 of the ADG Code.

Markings shall be durable and to a method approved by the Competent Authority.

8. APPROVAL OF REPROCESSORS

Each reprocessing facility shall be approved as a laundering or reconditioning facility by the Competent Authority in whose jurisdiction the facility is located.

The following steps shall be undertaken to obtain approval:

- (a) The reprocessor shall make an application for approval to the Competent Authority. The application shall be in writing and will:
 - (i) Nominate responsible persons in charge of the reprocessing operation
 - (ii) List the reprocessing equipment in the facility. Essential and optional equipment for reprocessors is listed at Section 5 of this Code of Practice
 - (iii) State that the reprocessor is to have all drums passing through those processes in Section 5 of this Code of Practice which are necessary
 - (iv) Nominate an identifying mark for use under Section 7, Part (b) of this Code of Practice
- (b) Following receipt of an application completed in accordance with Part (a), the Competent Authority shall inspect the reprocessor's premises and witness all the equipment listed under Part (a), clause (ii) in operation. (The level of equipment will depend on whether a reconditioner or launderer is being inspected). Leak testing equipment is to be set up and the gauge accurate.

- (c) If satisfied with the site inspection under part (b) the Competent Authority shall grant written approval to the reprocessor. The approval shall include a confirmation of the identifying mark nominated in Part (a), clause (iv) and advice of approval as a 'reconditioner' or a 'launderer'.
- (d) The Competent Authority shall fully re-inspect the reprocessor's premises at least biennially.

9. TRAINING

It is a requirement of this Code of Practice that reprocessor's staff involved in the reprocessing of drums for use in the transport of dangerous goods are trained in the drum selection procedures and the procedures for reprocessing and testing contained in this Code of Practice.

10. SELECTION TABLE

A table to be applied to drum selection is shown in Appendix I. This is to be used for segregating drums into those to be reused and those which are candidates for reprocessing or rejection. The table is to be used in conjunction with the Pictorial Guide (see Appendix II).

11. PICTORIAL GUIDE

This section of the Code of Practice provides illustrations of drums in Appendix II which have been used for the transport of dangerous goods and have suffered varying degrees of damage. It is incumbent on the reprocessor to examine each drum received to determine the extent of its damage and the type of reprocessing to be undertaken in order to render it suitable to be used in the transport of dangerous goods.

APPENDIX I - SELECTION TABLE

| Criteria for Selection and Categories of Damage | Degree of Damage | Reuse | PROCESS OPTION | | |
|--|------------------|-------|----------------|-------------|--------|
| | | | Launder | Recondition | Reject |
| <u>Criteria based on original (as new) status</u> | | | | | |
| Approved drums ¹ | | 2 | 2 | 2 | 2 |
| Unapproved drums: | | | | | |
| (a) manufactured in Australia: | | | | | |
| - prior to 1985 | | 2 | 2 | 2 | 2 |
| - from 1985 onwards | | - | - | - | 4 |
| (b) manufactured outside Australia: | | | | | |
| - prior to 1990 | | 3 | 3 | 3 | 2 |
| - from 1990 onwards | | - | - | - | 4 |
| <u>Weight Criterion</u> | | | | | |
| Minimum Tare Weight: | | | | | |
| Nominal >15.5kg | | 2 | 2 | 2 | 2 |
| <15.5kg | | - | - | - | 4 |

1. 'Approved' means the drum has been originally approved to the requirements of sub-section 5.4 of the ADG Code and is marked accordingly.
2. Denotes an acceptable option.
3. Denotes an acceptable option where the dangerous goods to be packed into the reprocessed drums are:
 - (a) of Packaging Group III; or
 - (b) manufactured products of Packaging Group II which meet those requirements of the UN Recommendations referred to in clause 2.4.2.2.2 of the ADG Code which would permit allocation to Packaging Group III in small packagings.

Such reprocessed drums shall be marked with the alphanumeric Approval Number 'ACA85-6' before such use. The marking may be applied by stencil, rubber stamp or other means which ensures ready visibility.

4. Denotes mandatory action.

Note: Any drum, irrespective of the extent of damage, may be rejected.

| <i>Criteria for Selection and Categories of Damage</i> | <i>Degree of Damage</i> | <i>Reuse</i> | <i>PROCESS OPTION</i> | | |
|--|-----------------------------|--------------|-----------------------|--------------------|---------------|
| | | | <i>Launder</i> | <i>Recondition</i> | <i>Reject</i> |
| <u>Damage Criteria</u> | | | | | |
| Ullage Reduction: | Minor | 2 | 2 | 2 | 2 |
| | Major | - | - | - | 4 |
| Apparent Leaks: | Minor | - | - | 2 | 2 |
| | Major | - | - | - | 4 |
| Flanges: | Rust Pitted | - | - | - | 4 |
| | Loose in Head | - | - | - | 4 |
| | Out of Round | - | - | - | 4 |
| | Thread Damage | - | - | 2 | 2 |
| Bungs | Rust Pitted | - | - | - | 4 |
| | Thread or Mechanical Damage | - | - | - | 4 |
| Blown Ends: | Minor | - | - | 2 | 2 |
| | Major | - | - | - | 4 |
| General End Damage: | Minor | 2 | 2 | 2 | 2 |
| | Major | - | - | - | 4 |
| Out of Rounds: | | - | - | 2 | 2 |
| Dents: | | | | | |
| Body - Within Bands | Shallow and Rounded | 2 | 2 | 2 | 2 |
| | Deep | - | - | - | 4 |
| | Creased | - | - | - | 4 |
| Body - Adjacent to Chime | | - | - | 2 | 2 |
| Swedge | Shallow and Rounded | 2 | 2 | 2 | 2 |
| | Creased | - | - | - | 4 |
| Seam | Shallow and Rounded | 2 | 2 | 2 | 2 |
| | Creased | - | - | - | 4 |
| Chime - Folded | Minor | 2 | 2 | 2 | 2 |
| | Major | - | - | - | 4 |
| Chime - Flattened | | - | - | 2 | 2 |

| <i>Criteria for Selection and Categories of Damage</i> | <i>Degree of Damage</i> | <i>Reuse</i> | <i>PROCESS OPTION</i> | | |
|--|-------------------------|--------------|-----------------------|--------------------|---------------|
| | | | <i>Launder</i> | <i>Recondition</i> | <i>Reject</i> |
| Corrosion - External | Minor | 2 | 2 | 2 | 2 |
| | Major | - | - | - | 4 |
| Corrosion - Internal | Minor | - | 2 | 2 | 2 |
| | Major | - | - | - | 4 |
| Modification Criteria | | | | | |
| Modifications to Body or Ends | | - | - | - | 4 |

APPENDIX II - PICTORIAL GUIDE

The illustrations in this appendix are designed to provide guidance to reprocessors in the selection of drums based on the condition of the drum. Drums suffering damage to a degree equivalent to those illustrations designated as 'Not Acceptable' shall not be reprocessed for use with dangerous goods. The illustrations have been reproduced, with permission, from the Shell publication 'Guidelines for the Selection of Used Drums'.

This appendix is to be used in conjunction with Appendix I.

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DENTS

CHIME AND HEAD DAMAGE

CHIME AND HEAD DAMAGE

CHIME ROLLING EFFICIENCY

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APPENDIX III - NAME AND ADDRESS OF LAUNDERER/REPROCESSOR

| <i>Name & address of Lauderer/Reprocessor</i> | <i>Approval Type Lauderers Only</i> | <i>Approval Type Reprocessor</i> | <i>Company Identification Mark</i> |
|--|---|--------------------------------------|--|
| NSW | | | |
| Crossroad Drum Co 34 Harp Street CAMPSIE NSW 2194 | | * | AUS/CDC |
| Drum Reconditioners (NSW) Pty Ltd 30 Powers Road SEVEN HILLS NSW 2147 | | * | AUS/DR NSW |
| E & T Drum Surgeons Pty Ltd 25 The Promenade YENNORA NSW 2161 | | * | AUS/ET |
| Grant Drums Pty Ltd 12 Abbott Road SEVEN HILLS NSW 2147 | | * | AUS/GD |
| H & K Scott Holdings 1/5 Ilma Street BANKSTOWN NSW 2200 | | * | AUS/KS |
| Jack Thomas Drum Services 25 Victoria Street SMITHFIELD NSW 2164 | | * | AUS/JT |
| Liningen & Riddle Drums Pty Ltd 12 Wellington Street RIVERSTONE NSW 2765 | | * | AUS/L&R |
| Tidyburn Incinerators Pty Ltd 15 Campbell Street ST PETERS NSW 2044 | | * | AUS/ATB |
| VIC | | | |
| Alltipe Drums 148 McIntyre Road SUNSHINE VIC 3020 | | * | AUS/TIPE |
| Aussie Drum Reconditioners Pty Ltd 618 Willsmore Street WILLIAMSTOWN VIC 3074 | | * | AUS/ADR |

| <i>Name & address of Lauderer/Reprocessor</i> | <i>Approval Type Lauderers Only</i> | <i>Approval Type Reprocessor</i> | <i>Company Identification Mark</i> |
|--|---|--------------------------------------|--|
| A T Butler Pty Ltd 53 Parsons Street KENSINGTON VIC 3031 | | * | AUS/ATB |
| Drum Reconditioners (Victoria) Pty Ltd Little Boundary Road LAVERTON NORTH VIC 3026 | | * | AUS/DR.REC |
| Laverton Drum Recyclers Pty Ltd 60 Dohertys Road BROOKLYN VIC 3026 | | * | AUS/LDR |
| Quality Drum Services Factory 1 Lot 2 Miller Street EPPING VIC 3076 | | * | AUS/QDS |
| Rheem Australia Ltd Container Division 521 Geelong Road BROOKLEA VIC 3012 | | * | AUS/RHEEM |
| Southern Drum Recyclers 76 Ordish Road SOUTH DANDENONG VIC 3175 | | * | AUS/SDR |
| J R & D L Sydenham 70 New Street SPOTSWOOD VIC 3015 | | * | AUS/SYD |
| QLD | | | |
| C J Kelly Drum Reconditioning Lavarack Avenue EAGLE FARM QLD 4007 | | * | AUS/CJK |
| K & C Little 40 Norbury Street COOPERS PLAINS QLD 4108 | | * | AUS/K&C LITTLE |
| Stuart Drum Co 15 Holt Street EAGLE FARM QLD 4007 | | * | AUS/STUART DRUM |

| <i>Name & address of Lauderer/Reprocessor</i> | <i>Approval Type Lauderers Only</i> | <i>Approval Type Reprocessor</i> | <i>Company Identification Mark</i> |
|--|---|--------------------------------------|--|
| WA | | | |
| Coogee Drum Pty Ltd PO Box 199 SOUTH FREMANTLE WA 6162 | | * | AUS/CD |
| Drum Services (WA) Pty Ltd 152-156 Cockburn Road SOUTH FREMANTLE WA 6162 | | * | AUS-DSWA |
| Keith Muir (WA) 80 Collingwood Street OSBORNE PARK WA 6017 | | * | AUS-KMWA |
| SA | | | |
| Mr C Cox Drum Services SA Pty Ltd PO Box 83 SEMAPHORE SA 5019 | | * | AUS/DS-SA |
| Mr G Hood Inco Drum Recycling 2 Eighth Street BOWDEN SA 5007 | | * | AUS/IDR |
