

GROOVING OF RUNWAYS

INTRODUCTION

1. The purpose of this document is to set out the requirements for grooving of aircraft runway pavements.

BACKGROUND

2. Both ICAO (Annex 14) and CASA (MOS 139) require that runways used by jet aircraft have a surface texture depth of at least 1 mm. This texture depth can be achieved by four different methods:

- a. Grooving of asphalt runways
- b. Open graded asphalt wearing course
- c. 20 mm Nominal size or greater asphalt wearing course
- d. Aggregate Seals

3. The Defence Department have in the past resisted the introduction of grooved runways when they were not operating larger jet aircraft and do not recommend aggregate seals on pavements used by fighter type aircraft such as F/A-18 A/F (Hornet / Super Hornet), F-111C/G and Hawk Mk 127s.

4. Open graded wearing courses cannot be subjected to a maintenance overlay and must be removed prior to any strengthening or wearing course replacement.

5. Larger nominal size wearing courses are subject to friction loss due to rubber build up and require more frequent rubber removal.

6. Commercial Regular Public Transport (RPT) Airports routinely groove their runways.

FRICTION MEASUREMENT

7. Measurement of friction can be undertaken by number of different methods which are described in the ICAO Airport Services Manual Part 2, Chapter 2. The methods used in the past in Australia are given below:

- a. Grease Test Method.
- b. Sand Patch Method.
- c. Continuous Measurement using a device as detailed in Table A-1 of ICAO Annex 14 Attachment A.

8. The Grease Test and Sand Patch testing have largely been superseded by Continuous Measurement.

RECOMMENDATION

9. The following criteria should be applied when runways (which are not solely used for tactical training) are subject to a maintenance overlay or new runways are constructed.
10. Grooving shall commence 80 m from each threshold or at the end of the ORP (if provided) to enable larger aircraft to make 180 degree turns at the thresholds.
11. Grooved asphalt runway surfacing should be provided when the runway is used by:
 - a. RPT Jet Aircraft
 - b. Military Jet Aircraft