

FACTSHEET – CHANGES TO PAVEMENT STRENGTH CLASSIFICATION SYSTEM (ACN/PCN TO ACR/PCR)

AIM

This Factsheet aims to provide guidance to Military Air Operators (MAO), Military Type Certificate Holders (MTCH), Aerodrome Operators (AD OPR) and other Defence stakeholders, on the new aerodrome pavement classification system.

INTRODUCTION

On the 28 November 2024 International Civil Aviation Organization (ICAO) introduced a new system for measuring and reporting pavement strength values – Aircraft Classification Rating (ACR) and Pavement Classification Rating (PCR)¹. This system replaces the Aircraft Classification Number (ACN)/Pavement Classification Number (PCN) values.

ACR/PCR is a newer standardised aircraft and pavement classification system. For pavements, it offers a more accurate evaluation of the strength of airport pavements, providing a better understanding of pavement life, and optimising pavement usage. For aircraft, the rating synthesises the relative effects of an aircraft on a pavement for a specified standard subgrade strength.

The ACR/PCR system will replace the outdated ACN/PCN system, which is inconsistent with modern airport pavement design methods. In order to align to global conventions, CASA has directed²³ civilian aircraft operators and aerodrome operators to transition to the new system by 26 November 2025.

As Defence Aviation is harmonised with recognised good practices and interoperability with non-Defence aviation activities⁴, the Defence Aviation community has adopted the ACR/PCR Pavement Strength Classification System.

ACR/PCR SYSTEM

The ACR/PCR pavement strength classification system requires aircraft's manufacturers to determine the ACR of the aircraft and Aerodrome Operators to determine the PCR of their runways.

Once ACR/PCR are known, aircraft operators can compare the rating of their aircraft (ACR) against the aerodrome's published pavement rating (PCR) to identify any discrepancy and possible limitations to their operations. If the ACR is equal to, or less than, the PCR for the runway, taxiways, and apron areas, there are no operational restrictions pertaining to pavement strength. If the ACR exceeds the runway, taxiway, or apron area PCR, coordination with the aerodrome operator and the Directorate of Estate Engineering Policy (DEEP) will be required to assess whether the aerodrome operator will accept the aircraft type, whether the aircraft type will be subject to any restrictions, or if pavement concessions are to be used.

ROLE OF DEPARTMENT OF DEFENCE SECURITY AND ESTATE GROUP

Security and Estate Group (SEG), through the Directorate of Estate Engineering Policy (DEEP), is responsible for the management of Defence's pavement management system including the approval of aircraft pavement concessions when aircraft overload operations are requested.

Historically, DEEP has provided guidance on ACN/PCN via the Aircraft Pavement Strength Evaluation Manual (APSEM). The announcement of the adoption of the new ACR/PCR rating system prompted the transition of the APSEM to the ACR/PCR rating system. These values are published and managed in the APSEM, with the latest version (released in October 2024) including the introduction of ACR/PCR. Future changes to ACR/PCR values can be consulted with DEEP⁵.

¹ Contained within Annex 14 Volume 1 on 28 November 2024

² [Aeronautical Information Circular H38/24](#)

³ [Civil Aviation Safety Authority – Pavement strength rating system: ACR/PCR](#)

⁴ DASR RoA.05

⁵ [Aerodrome Policy | Security and Estate Group](#) for current Aerodrome Policy published by DEEP



ROLE OF MILITARY AERODROME OPERATOR

The AD OPR determines the PCR for their aerodrome movement areas. This must be done based on technical advice from SEG/DEEP. The AD OPR then initiates the amendments to the Aeronautical Information Publication (AIP) En Route Supplement Australia (ERSA) through AIS-AF^{6,7}, and update the Aerodrome Manual.

ROLE OF MILITARY TYPE CERTIFICATE HOLDER

The responsibility for transition from ACN to ACR falls to the aircraft manufacturer and the operator. The aircraft original equipment manufacturer (OEM) access to technical data allows them to calculate the ACR value⁸. Computation of the ACR requires detailed information on the operational characteristics of the aircraft, such as maximum aft centre of gravity, maximum ramp weight, wheel spacing, and tyre pressure.

In the context of the ADF, the MTCH Organisation is responsible as the Type Certificate Holder, through their arrangements with the aircraft OEM, to publish the ACR values applicable to their type⁹.

ROLE OF MILITARY AIR OPERATOR

As per DASR ORO.05 the MAO is responsible for assessing which aerodromes are suitable for the operation of their aircraft. Therefore, MAOs should review ACR data, compare values against published PCR, and assess if operations to those aerodromes are permissible, or liaise with the AD OPR and DEEP if restrictions or concessions have to be in place to support their operations.

IMPACTS TO AERODROME CERTIFICATION PROCESS

The DASDRM Section 6 Chapter 2 refers to CASA Part 139 (Aerodromes) Manual of Standards (MOS 139) September 2019 as the baseline design standards for land-based aerodromes. The latest MOS 139 set requirements for bearing strength, where the movement areas must be capable of bearing the weights and aircraft movement frequencies of the types of aeroplanes which the movement areas are nominated to serve, refers to ACN/PCN as means of compliance.

DASDRM Section 6 Chapter 2 will be updated to reflect the ACR/PCR requirements in due course. From the transition end date – 28 November 2025 – ACR/PCR requirements from the Jun 2025 version of MOS 139 is the defence standard to be used in all design aspects.

WHAT HAPPENS IF NOT IMPLEMENTED

Omission of pavement strength rating (PCR) will indicate that the Runway is 'unrated'. An 'unrated' runway status will indicate that the bearing strength has not been determined/published. MAOs intending to operate at 'unrated' runways shall assess that the runway conditions and limitations are sufficient to support their intended operations¹⁰. Unavailability of aircraft ratings (ACRs) will prevent compatibility assessments for aerodrome operations.

USEFUL INFORMATION

- Defence Aviation Safety Regulations, [DASR 139 \(Aerodromes\)](#)
- Defence Aviation Safety Regulations, [DASR 21 \(Aircraft Design, Production and Certification\)](#)
- Defence Aviation Safety Regulations, [Flight Operations](#)
- [SEG Aircraft Pavement Strength Evaluation Manual \(ACR-PCR\), October 2024](#)
- [CASA Part 139 \(Aerodromes\) Manual of Standards 2019 \(12 June 2025\)](#)
- DASA AC 008/2020 – [Aircraft Flight Manuals](#)

⁶ IAW [AC SI\(OPS\) 01-20](#) – *Aeronautical Information Management*, AIS-AF is responsible for the submission of PERM NOTAMs to Airservices Australia as the Defence AISP

⁷ Refer to [AIS-AF for 2025 AIRAC Cycles](#) production cut off dates

⁸ Refer to Section 1.1.3 of ICAO Aerodrome Design Manual Doc 9157, Part 3 – Pavements (Third Edition, 2022)

⁹ DEEP has provided an interim set of values in APSEM (Oct 24). MTCHO must verify and approve those values or have them updated if corrections are applied.

¹⁰ ORO.05(a)6

- Volume 3 – DASP Guidance, Chapter 7 (Initial and Continued Airworthiness)
- Defence Aviation Safety Design Requirements Manual (DASDRM), Section 6 DASDRM
- Volume 3 – DASP Guidance, Chapter 11.2 (Aerodromes Certification)
- Defence Aviation Safety Authority Factsheets (Aerodromes)
 - Factsheet – DASR.139 Aerodrome Certification Process
 - Factsheet – Aerodrome Design Requirements and Certification Basis