



**NOTICE TO AERODROME CERTIFICATE HOLDERS (NOTAC)
No. 01/2013**

Effective Date: 11 July 2013

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Status of NOTACs

Valid: 01/2009, 03/2009, 04/2009, 02/2011, 03/2011, 04/2011, 01/2012, 02/2012, 03/2012, 04/2012 and 05/2012

Cancelled: 02/2009, 01/2011
Incorporated in CAR: 02/2009

AERODROME DATA – STRENGTH OF PAVEMENTS

1. INTRODUCTION

- 1.1 This NOTAC refers to ICAO Standards and Recommended Practices (SARPS), which are currently published in ICAO Annex 14 Volume 1 (Aerodromes), Fifth Edition, July 2009. This NOTAC is based on NPA 05-2013. The GCAA received no comments against the proposed amendment included in this document.
- 1.2 The ICAO SARPS provide a framework for maintaining data related to Strength of Pavements. Whilst CAR Part IX – Aerodromes includes reference to pavement surface type and bearing strength using the ACN-PCN Method, details regarding the aerodrome data requirements and criteria for use of pavements by aircraft with an ACN higher than the PCN have not be included.
- 1.3 The below paragraphs include changes to UAE regulation which will be incorporated into the next version of CAR Part IX. These changes explicitly state the requirements for aerodrome data in relation to Strength of Pavements and criteria for overweight operations in line with ICAO SARPS.
- 1.4 It is recognised that it may not be possible for Aerodrome Certificate Holders to achieve immediate compliance with the Regulation detailed below; however, a transition period may be permitted if agreed with the GCAA on a case-by-case basis.

1.5 Pavement Strength

In order to ensure that UAE aerodromes are meeting international standards and recommended practices in relation to management of pavements, the GCAA proposed to amend CAR Part IX – Aerodromes to concisely state the requirement for management of aerodrome data related to strength of pavements as well as ensure that each aerodrome has appropriate criteria in place for managing overload operations.

2. CAR PART IX (Aerodromes) Appendix 2, Aerodrome Data

2.1 The addition to CAR Part IX will be as follows:

2.2 Appendix 2 – name changed to “Aerodrome Data” to facilitate formal inclusion of ICAO SARPS regarding Aerodrome Data within UAE.

2.3 STRENGTH OF PAVEMENTS

2.4 The bearing strength of a pavement shall be determined.

2.5 The bearing strength of a pavement intended for aircraft of apron (ramp) mass greater than 5,700 kg shall be made available using the aircraft classification number — pavement classification number (ACN-PCN) method by reporting all of the following information:

- i) the pavement classification number (PCN);
- ii) pavement type for ACN-PCN determination;
- iii) subgrade strength category;
- iv) maximum allowable tire pressure category or maximum allowable tire pressure value; and
- v) evaluation method.

Note: *If necessary, PCNs may be published to an accuracy of one-tenth of a whole number.*

2.6 The pavement classification number (PCN) reported shall indicate that an aircraft with an aircraft classification number (ACN) equal to or less than the reported PCN can operate on the pavement subject to any limitation on the tire pressure, or aircraft all-up mass for specified aircraft type(s).

Note: *Different PCNs may be reported if the strength of the pavement is subject to significant seasonal variation.*

2.7 The ACN of an aircraft shall be determined in accordance with the standard procedures associated with the ACN-PCN method.

Note: *The standard procedures for determining the ACN of an aircraft are given in the Aerodrome Design Manual (Doc 9157), Part 3. For convenience several aircraft types currently in use have been evaluated on rigid and flexible pavements founded on the four subgrade categories in 2.9 b) below and the results tabulated in that manual.*

2.8 For the purposes of determining the ACN, the behavior of a pavement shall be classified as equivalent to a rigid or flexible construction.

2.9 Information on pavement type for ACN-PCN determination, subgrade strength category, maximum allowable tire pressure category and evaluation method shall be reported using the following codes:

a) Pavement Type for ACN-PCN Determination:

	Code
Rigid pavement	R
Flexible pavement	F

Note: *If the actual construction is composite or non-standard, include a note to that effect.*

b) Subgrade Strength Category:

	Code
<i>High Strength:</i> characterized by $K = 150 \text{ MN/m}^3$ and representing all K values above 120 MN/m^3 for rigid pavements, and by $\text{CBR} = 15$ and representing all CBR values above 13 for flexible pavement.	A
<i>Medium Strength:</i> characterized by $K = 80 \text{ MN/m}^3$ and representing a range in K of 60 to 120 MN/m^3 for rigid pavements, and by $\text{CBR} = 10$ and representing a range in CBR of 8 to 13 for flexible pavements.	B
<i>Low Strength:</i> characterized by $K = 40 \text{ MN/m}^3$ and representing a range in K of 25 to 60 MN/m^3 for rigid pavements, and by $\text{CBR} = 6$ and representing a range in CBR of 4 to 8 for flexible pavements.	C
<i>Ultra Low Strength:</i> characterized by $K = 20 \text{ MN/m}^3$ and representing all K values below 25 MN/m^3 for rigid pavements, and by $\text{CBR} = 3$ and representing all CBR values below 4 for flexible pavements.	D

c) Maximum Allowable Tire Pressure Category:

	Code
<i>High:</i> no pressure limit	W
<i>Medium:</i> pressure limited to 1.50 MPa	X
<i>Low:</i> pressure limited to 1.00 MPa	Y
<i>Very Low:</i> pressure limited to 0.50 MPa	Z

d) Evaluation Method:

	Code
<i>Technical evaluation:</i> representing a specific study of the pavement characteristics and application of pavement behaviour technology.	T
<i>Using aircraft experience:</i> representing a knowledge of the specific type and mass of aircraft satisfactorily being supported under regular use.	U

Note: The following examples illustrate how pavement strength data are reported under the ACN-PCN method.

Example 1: If the bearing strength of a rigid pavement, resting on a medium strength subgrade, has been assessed by technical evaluation to be PCN 80 and there is no tire pressure limitation, then the reported information would be:

PCN 80 / R / B / W / T

Example 2: If the bearing strength of a composite pavement, behaving like a flexible pavement and resting on a high strength subgrade, has been assessed by using aircraft experience to be PCN 50 and the maximum tire pressure allowable is 1.00 MPa, then the reported information would be:

PCN 50 / F / A / Y / U

Note: Composite construction.

Example 3.— If the bearing strength of a flexible pavement, resting on a medium strength subgrade, has been assessed by technical evaluation to be PCN 40 and the maximum allowable tire pressure is 0.80 MPa, then the reported information would be:

PCN 40 / F / B / 0.80 MPa / T

Example 4. — If a pavement is subject to a B747-400 all-up mass limitation of 390 000 kg, then the reported information would include the following note:

Note: The reported PCN is subject to a B747-400 all-up mass limitation of 390 000 kg.

- 2.10 Criteria should be established to regulate the use of a pavement by an aircraft with an ACN higher than the PCN reported for that pavement in accordance with paragraphs 2.5 and 2.6 above.

Note: Refer to ICAO Annex 14, Volume I, Attachment A, Guidance Material Supplementary to ICAO Annex 14, Volume I, Section 19 which details a simple method for regulating overload operations while the ICAO Aerodrome Design Manual (Doc 9157), Part 3, includes the descriptions of more detailed procedures for evaluation of pavements and their suitability for restricted overload operations.

- 2.11 The bearing strength of a pavement intended for aircraft of apron (ramp) mass equal to or less than 5,700 kg shall be made available by reporting the following information:
- a) maximum allowable aircraft mass; and
 - b) maximum allowable tire pressure.

Example: 4 000 kg/0.50 MPa.

3. PURPOSE

The purpose of this NOTAC is to notify Aerodrome Certificate Holders of the addition to the Regulation.

4. SCOPE

The content of this NOTAC applies to all UAE Certified Aerodromes.

5. IMPLEMENTATION

This NOTAC is effective from 1 June 2013.

6. PROMULGATION

6.1 Current NOTACs are published on the GCAA website. A chargeable email subscription service is available that will notify a subscriber of an addition or amendment to the GCAA's publication catalogue, see "Subscriptions".

6.2 Aerodrome Certificate Holders should promulgate NOTACs promptly to those persons within the organization/aerodrome that need to be made aware of the content and the impact on their role and responsibilities. All aerodrome personnel are encouraged to use the subscription service.

7. SUBSCRIPTIONS

All Aerodrome Certificate Holders are invited to submit a list of recipients including email addresses and job titles to regulations@gcaa.gov.ae.

8. QUERIES

Any queries, further guidance or a request for NOTAC action should be submitted by email to the Director of ANA Department at the following address ana@gcaa.gov.ae.