*cont'd... ➤➤➤*

An aircraft with an ACR less than or equal to the PCR can operate without restriction on the pavement. Numerically the ACR is two times the derived single-wheel load expressed in hundreds of kilograms. The derived single-wheel load is calculated as the load on a single tire inflated to 1.50 Mpa (218 psi) that can have the same pavement requirements as the aircraft.

Computationally the ACR / PCR system relies on the Linear Elastic Analysis (LEA). The ACR are computed with the official ICAO - ACR software. States can start their own methods for PCR determination, which agree with the overall parameters of the ACR / PCR method.

The results of their analysis should be reported with the following format:

| PAVEMENT TYPE | SUBGRADE CATEGORY | TIRE PRESSURE CATEGORY | EVALUATION METHOD |
|---|---|---|---|
| R = Rigid<br>F = Flexible | A = High<br>B = Medium<br>C = Low<br>D = Ultra Low | W = No pressure limit<br>X = High pressure limited to 1.75 Mpa(254 psi)<br>Y = Medium pressure limited to 1.25 Mpa(181 psi)<br>Z = Low pressure limited to 0.5 Mpa(73 psi) | T = Technical Evaluation<br>U = Using A/C Experience |

For flexible and rigid pavement, the four subgrade categories are defined based on the subgrade modulus of elasticity (E):

- A. High Strength — E = 200 Mpa (29 008 psi)
- B. Medium Strength — E = 120 Mpa (17 405 psi)
- C. Low Strength — E = 80 Mpa (11 603 psi)
- D. Ultra Low Strength — E = 50 Mpa (7 252 psi)

**Section 7.6 Unpaved Airfield Compatibility** gives data for unprepared airfield.

Refer to Section 7.6 Unpaved Airfield Compatibility.

*cont'd... ➤➤➤*

**Note**

*An aircraft with an ACR equal to or less than the reported PCR can operate on that pavement, subject to any limitation on the tire pressure. (Ref: ICAO Aerodrome Design Manual, Part 3, Third Edition 2020).*

## Aircraft Classification Rating - ACR Table (C.G. max Aft)

_8b6968a2-b78c-419c-adca-19c385475573 02 MAY 2024

1288

| MAXIMUM RAMP WEIGHT<br>INTERMEDIATE WEIGHT<br>OPERATING EMPTY WEIGHT<br>(kg) | LOAD ON ONE MAIN GEAR LEG (%) | MAIN TIRE PRESSURE (Bar) | ACR FOR RIGID PAVEMENT SUBGRADES - MPa | | | |
|---|---|---|---|---|---|---|
| | | | HIGH<br>200 | MEDIUM<br>120 | LOW<br>80 | ULTRA LOW<br>50 |
| 23 170 | 48 | 8.5 | 134 | 144 | 151 | 158 |
| 17 000 | | | 91 | 99 | 104 | 110 |
| 12 850 | | | 64 | 70 | 74 | 79 |

| MAXIMUM RAMP WEIGHT<br>INTERMEDIATE WEIGHT<br>OPERATING EMPTY WEIGHT<br>(kg) | LOAD ON ONE MAIN GEAR LEG (%) | MAIN TIRE PRESSURE (Bar) | ACR FOR FLEXIBLE PAVEMENT SUBGRADES - MPa | | | |
|---|---|---|---|---|---|---|
| | | | HIGH<br>200 | MEDIUM<br>120 | LOW<br>80 | ULTRA LOW<br>50 |
| 23 170 | 48 | 8.5 | 96 | 116 | 136 | 164 |
| 17 000 | | | 68 | 80 | 90 | 106 |
| 12 850 | | | 50 | 58 | 64 | 72 |