Airport Markings

ICAO & U.S. Requirements

Presented to: ICAO/ FAA Aerodrome Certification Inspectors Workshop for the Caribbean Region

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ICAO Annex 14, 5th Edition
Aerodrome Design and Operations

- ICAO Standards
- Holding Position Markings
- Mandatory Instruction Signs
ICAO Standards

- Runway-Holding Position Markings
- Intermediate Holding Position Markings
- ICAO Sign Characteristics
- Mandatory Instruction Signs
- Mandatory Instruction Marking
- Surface Painted Signs
Airport Reference Code

• ICAO standards reference the code number for different requirements based on the length of the runway.

<table>
<thead>
<tr>
<th>Code number (1)</th>
<th>Code element 1</th>
<th>Code element 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Less than 800 m</td>
<td>A</td>
</tr>
<tr>
<td>2</td>
<td>800 m up to but not including 1 200 m</td>
<td>B</td>
</tr>
<tr>
<td>3</td>
<td>1 200 m up to but not including 1 800 m</td>
<td>C</td>
</tr>
<tr>
<td>4</td>
<td>1 800 m and over</td>
<td>D</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code letter (3)</th>
<th>Wingspan (4)</th>
<th>Outer main gear wheel span (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Up to but not including 15 m</td>
<td>Up to but not including 4.5 m</td>
</tr>
<tr>
<td>B</td>
<td>15 m up to but not including 24 m</td>
<td>4.5 m up to but not including 6 m</td>
</tr>
<tr>
<td>C</td>
<td>24 m up to but not including 36 m</td>
<td>6 m up to but not including 9 m</td>
</tr>
<tr>
<td>D</td>
<td>36 m up to but not including 52 m</td>
<td>9 m up to but not including 14 m</td>
</tr>
<tr>
<td>E</td>
<td>52 m up to but not including 65 m</td>
<td>9 m up to but not including 14 m</td>
</tr>
<tr>
<td>F</td>
<td>65 m up to but not including 80 m</td>
<td>14 m up to but not including 16 m</td>
</tr>
</tbody>
</table>

a. Distance between the outside edges of the main gear wheels.

International airports will likely be Code number 4.
Runway Hold Position Markings

There are two types of runway-holding position markings, Pattern A and Pattern B.
Pattern A Runway Holding Position
Pattern A on Runways

ICAO 5.2.10.1 – A runway-holding position marking shall be displayed along a runway-holding position.
Pattern A and Pattern B
Minimum distance in accordance with Table 3-2
### Table 3-2

**Minimum distance from the runway centre line to a holding bay, runway-holding position or road-holding position**

<table>
<thead>
<tr>
<th>Type of runway</th>
<th>1</th>
<th>2</th>
<th>Code number</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-instrument</td>
<td>30 m</td>
<td>40 m</td>
<td>75 m</td>
<td>75 m</td>
<td></td>
</tr>
<tr>
<td>Non-precision approach</td>
<td>40 m</td>
<td>40 m</td>
<td>75 m</td>
<td>75 m</td>
<td></td>
</tr>
<tr>
<td>Precision approach category I</td>
<td>60 m$_b$</td>
<td>60 m$_b$</td>
<td>90 m$_{a,b}$</td>
<td>90 m$_{a,b,c}$</td>
<td></td>
</tr>
<tr>
<td>Precision approach categories II and III</td>
<td>—</td>
<td>—</td>
<td>90 m$_b$</td>
<td>90 m$_{a,b,c}$</td>
<td></td>
</tr>
<tr>
<td>Take-off runway</td>
<td>30 m</td>
<td>40 m</td>
<td>75 m</td>
<td>75 m</td>
<td></td>
</tr>
</tbody>
</table>

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**Notes:**

- If a holding bay, runway-holding position or road-holding position is at a lower elevation compared to the threshold, the distance may be decreased 5 m for every metre the bay or holding position is lower than the threshold, contingent upon not infringing the inner transitional surface.

- This distance may need to be increased to avoid interference with radio navigation aids, particularly the glide path and localizer facilities. Information on critical and sensitive areas of ILS and MLS is contained in Annex 10, Volume I, Attachments C and G, respectively (see also 3.12.6).

**Note 1.** — The distance of 90 m for code number 3 or 4 is based on an aircraft with a tail height of 20 m, a distance from the nose to the highest part of the tail of 32.7 m and a nose height of 10 m holding at an angle of 45° or more with respect to the runway centre line, being clear of the obstacle free zone and not accountable for the calculation of OCA/H.

**Note 2.** — The distance of 60 m for code number 2 is based on an aircraft with a tail height of 8 m, a distance from the nose to the highest part of the tail of 24.6 m and a nose height of 5.2 m holding at an angle of 45° or more with respect to the runway centre line, being clear of the obstacle free zone.
Approach Runway-Holding Position Marking
Surface Painted Runway Hold Position Signs
Runway Holding Positions at Night
Pattern B Runway-Holding Position Marking
Pattern B with Surface Painted Sign
Enhanced Taxiway Centre Line Marking

The enhanced taxiway centre line marking is an extension of the hold position markings.
Enhanced Taxiway Centerline
Precision Instrument Runway Markings
Intermediate Holding Position

Minimum separation distance (see 3.15.10 and Table 3-1, column 11)

Intermediate holding position marking

De-icing/anti-icing facility
Surface Painted Taxiway Direction Signs
NON-MOVEMENT AREA MARKING
Non-Movement Area Boundary Marking
Questions?