010-09-02

Indicators, signalling devices and markers: key figures

43 figures in 9 groups. Read the cue, say the figure, then check. Each group ends with a recap. Rules change: check the regulation in force.

PPL Knowledge · © rpvfalmeida · CC BY-NC-ND 4.0 Educational content. It does not replace ATO instruction.

Paved instrument runway length that brings an aerodrome into scope

800 m

With public use and commercial air transport

Passenger limit for a possible national exemption

10 000 passengers per year

Member State decision, for a small aerodrome

Cargo movement limit for a possible national exemption

850 movements per year

Member State decision, for a small aerodrome

Scope of EU rules: recap

CUE	FIGURE	DETAIL
Paved instrument runway length that brings an aerodrome into scope	**800 m**	With public use and commercial air transport
Passenger limit for a possible national exemption	**10 000 passengers per year**	Member State decision, for a small aerodrome
Cargo movement limit for a possible national exemption	**850 movements per year**	Member State decision, for a small aerodrome

Minimum length of the wind direction indicator

3.6 m

Fabric truncated cone

Minimum diameter at the larger end

0.9 m

Fabric truncated cone

Height from which it is clearly visible and understandable

300 m

At least

Alternate colour bands on a two-colour indicator

5 bands

First and last bands use the darker colour

Wind speed at which a cone extends fully

about 15 kt

Guidance for choosing a cone, not your aircraft limit

Diameter of the circular band around the indicator

15 m

Guidance; at least one indicator, preferably white

Width of the circular band around the indicator

1.2 m

Guidance

Wind direction indicator: recap

CUE	FIGURE	DETAIL
Minimum length of the wind direction indicator	**3.6 m**	Fabric truncated cone
Minimum diameter at the larger end	**0.9 m**	Fabric truncated cone
Height from which it is clearly visible and understandable	**300 m**	At least
Alternate colour bands on a two-colour indicator	**5 bands**	First and last bands use the darker colour
Wind speed at which a cone extends fully	**about 15 kt**	Guidance for choosing a cone, not your aircraft limit
Diameter of the circular band around the indicator	**15 m**	Guidance; at least one indicator, preferably white
Width of the circular band around the indicator	**1.2 m**	Guidance

> **Length 3.6 m, width 0.9 m, visible from 300 m.**

Maximum distance for usefully reading an illuminated indicator

1 km

In good visibility; guidance

Maximum distance from the threshold for use on approach

600 m

Guidance

Ideal distance along the runway from the threshold

300 m

Obstacle criteria excluded; guidance

Ideal lateral displacement from the runway centre line

80 m

Obstacle criteria excluded; guidance

Threshold separation below which one indicator serves both ends

1 200 m

Guidance

Lateral distance from the runway edge

200 m

Preferably no more than; guidance

Wind direction indicator siting: recap

CUE	FIGURE	DETAIL
Maximum distance for usefully reading an illuminated indicator	**1 km**	In good visibility; guidance
Maximum distance from the threshold for use on approach	**600 m**	Guidance
Ideal distance along the runway from the threshold	**300 m**	Obstacle criteria excluded; guidance
Ideal lateral displacement from the runway centre line	**80 m**	Obstacle criteria excluded; guidance
Threshold separation below which one indicator serves both ends	**1 200 m**	Guidance
Lateral distance from the runway edge	**200 m**	Preferably no more than; guidance

> **Ideal: 300 m along, 80 m across. Limit: 600 m.**

Length of the cross arm

4 m

Minimum

Width of the cross arm

0.4 m

Minimum

Length of the shaft, measured from the cross arm

4 m

Minimum

Width of the shaft

0.4 m

Minimum

Landing T: recap

CUE	FIGURE	DETAIL
Length of the cross arm	**4 m**	Minimum
Width of the cross arm	**0.4 m**	Minimum
Length of the shaft, measured from the cross arm	**4 m**	Minimum
Width of the shaft	**0.4 m**	Minimum

> **Cross arm 4 m by 0.4 m. Shaft 4 m by 0.4 m.**

Signals the signalling lamp produces

3 colours

Red, green and white

Minimum beam spread

1°

Narrow beam

Maximum beam spread

3°

Negligible light beyond it

Minimum coloured light intensity

6 000 cd

Daytime use

Signalling lamp: recap

CUE	FIGURE	DETAIL
Signals the signalling lamp produces	**3 colours**	Red, green and white
Minimum beam spread	**1°**	Narrow beam
Maximum beam spread	**3°**	Negligible light beyond it
Minimum coloured light intensity	**6 000 cd**	Daytime use

> **Beam 1° to 3°. Daylight: 6 000 cd.**

Minimum size of the signal area

9 m square

Guidance; a level, even surface

Width of the white border around the signal area

0.3 m

Minimum; guidance

Elevation above the horizontal for visibility in all directions

10°

Guidance; seen from the viewing height

Viewing height for the visibility criterion

300 m

Guidance

Signal area: recap

CUE	FIGURE	DETAIL
Minimum size of the signal area	**9 m square**	Guidance; a level, even surface
Width of the white border around the signal area	**0.3 m**	Minimum; guidance
Elevation above the horizontal for visibility in all directions	**10°**	Guidance; seen from the viewing height
Viewing height for the visibility criterion	**300 m**	Guidance

> **Signal area (guidance): 9 m square, 0.3 m border; visible above 10° from 300 m.**

Flat rectangular marker on an unpaved runway without lights

1 m × 3 m

Minimum; long side parallel to the centre line

Maximum height of a conical marker

0.50 m

Unpaved runway

Maximum interval of edge markers on a snow-covered runway

100 m

Along each side

Runway markers: recap

CUE	FIGURE	DETAIL
Flat rectangular marker on an unpaved runway without lights	**1 m × 3 m**	Minimum; long side parallel to the centre line
Maximum height of a conical marker	**0.50 m**	Unpaved runway
Maximum interval of edge markers on a snow-covered runway	**100 m**	Along each side

Minimum viewing area of a taxiway edge marker

150 cm^2

Blue retroreflective face

Spacing of edge markers on a straight section

60 m

Closer on curves; guidance

Edge marker distance outside the taxiway edge

3 m

Only when not at the edge; guidance

Ideal maximum height above the mounting surface

35 cm

Taller where deep snow is possible; guidance

Width of the example taxiway edge marker

75 mm

Design example, as drawn

Height of the retroreflective sleeve on the example marker

200 mm

Design example, as drawn

Marked surface of the example taxiway edge marker

150 cm^2

Design example; guidance

Minimum viewing area of a taxiway centre line marker

20 cm^2

Retroreflective green

Offset of a centre line marker from the centre line marking

0.3 m

Where placing it on the marking is impracticable

Taxiway markers: recap

CUE	FIGURE	DETAIL
Minimum viewing area of a taxiway edge marker	**150 cm²**	Blue retroreflective face
Spacing of edge markers on a straight section	**60 m**	Closer on curves; guidance
Edge marker distance outside the taxiway edge	**3 m**	Only when not at the edge; guidance
Ideal maximum height above the mounting surface	**35 cm**	Taller where deep snow is possible; guidance
Width of the example taxiway edge marker	**75 mm**	Design example, as drawn
Height of the retroreflective sleeve on the example marker	**200 mm**	Design example, as drawn
Marked surface of the example taxiway edge marker	**150 cm²**	Design example; guidance
Minimum viewing area of a taxiway centre line marker	**20 cm²**	Retroreflective green
Offset of a centre line marker from the centre line marking	**0.3 m**	Where placing it on the marking is impracticable

> **Edge: 150 cm², 60 m apart, 3 m out. Centre line: 20 cm².**

Wind direction indicators at an aerodrome, ICAO Standard

1 (at least)

The EU text asks for a sufficient number

Illuminated wind indicators at a night aerodrome, ICAO recommendation

1 (at least)

The EU text asks for a sufficient number

Taxiways with ICAO edge and centre line markers

code number 1 or 2

The EU text has no code number condition

ICAO comparison: recap

CUE	FIGURE	DETAIL
Wind direction indicators at an aerodrome, ICAO Standard	**1 (at least)**	The EU text asks for a sufficient number
Illuminated wind indicators at a night aerodrome, ICAO recommendation	**1 (at least)**	The EU text asks for a sufficient number
Taxiways with ICAO edge and centre line markers	**code number 1 or 2**	The EU text has no code number condition