



AERODROME MARKINGS AND SIGNALIZATION

1. Introduction

This article will present the main aerodrome markings and signalization on runways and taxiways.

2. Runway Markings

This chapter will show the runway marking signs.

- Runway markings are **white**.
- The only exception is if a pre-threshold area is not suitable for normal movement of aircraft, but only serving as a stop way from the opposite end of the runway. The chevrons indicating such a pre-threshold area are **yellow** markings.

2.1. Marking requirements

Runway marking requirements differ per runway classification:

	Visual runways (LDA < 1200m)	Non-precision approach runway Visual runways (LDA > 1200m)	Precision Approach runways
Runway Designator	Required	Required	Required
Centreline Marking	Required	Required	Required
Threshold Marking	-	Required	Required
Touchdown Zone Marking	-	-	Required
Runway Edge Marking	-	-	Required

2.2. Runway Designator

The runway designator consists of a **two digit number indicating the magnetic runway heading, rounded to the nearest 10 degrees**.

Where parallel runways are located at an aerodrome with the same magnetic heading, the runway designator will include a letter R, L or C:

- “**L**” (Left) indicates the runway situated on the left as seen from the approach,
- “**R**” (Right) indicates the runway situated on the right.
- “**C**” (Centre) exists if there is a third parallel runway, the runway situated in the middle will be designated with the letter “C”.

If there are more than 3 parallel runways, the runway designator number must change as per example:

- 1 runway = 26
- 2 runways = 26L, 26R
- 3 runways = 26L, 26C, 26R
- 4 runways = 26L, 26R, 27L, 27R
- 5 runways = 26L, 26C, 26R, 27L, 27R

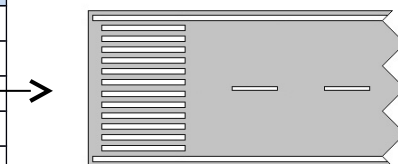
2.3. Runway Centerline

Runway centreline markings are **30 meters long and separated by 30 meters** between each mark.

2.4. Runway Threshold marking

Runway threshold markings are depending on runway width.

Runway width	Number of stripes	Stripe length
18 meters	4	24 meters
23 meters	6	24 meters
30 meters	8	30 meters
45 meters	12	30 meters
60 meters	16	30 meters



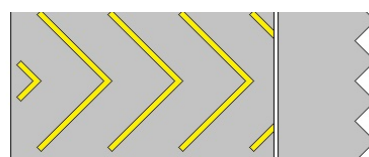
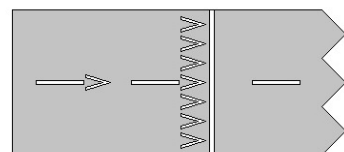
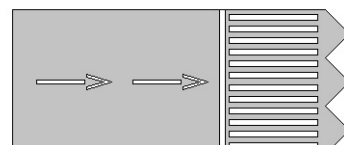
2.5. Pre-threshold marking

Pre-threshold marking is provided where a runway has:

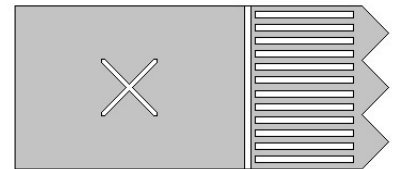
- a **displaced threshold**
- a **stop way**
- a **closed pre-threshold area**

A displaced threshold is used where not all the runway is available for landing. The **white** arrows in the pre-threshold area indicate that the surface is fit **for ground movement of aircraft only** (taxiing), and not for landing.

- **Permanent displaced threshold marking** (a threshold which is temporarily displaced but for any duration of six months or more, is considered as permanently displaced for the appropriate marking).
- **Temporarily displaced threshold marking** (the threshold is displaced for a period shorter than six months)
- The **yellow** chevrons indicate the surface is **unfit for normal aircraft movement**, but **suitable as stop way**.



- The **white** cross indicates that the surface is **unfit for normal aircraft movement**, and **unsuitable as stop way**.

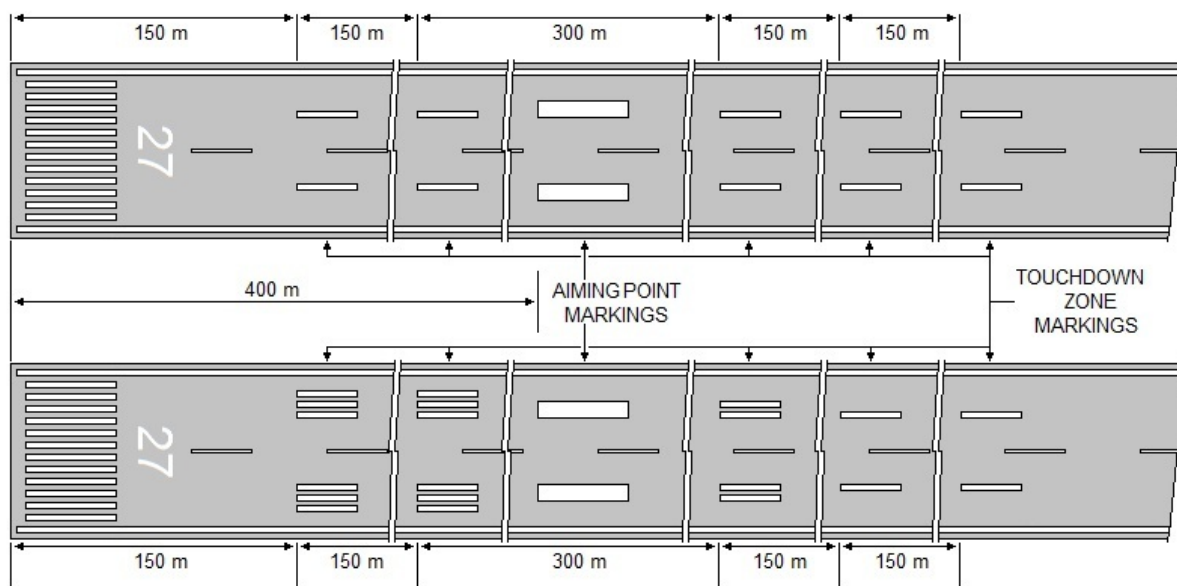


2.6. Touchdown Zone Marking

A touchdown zone is provided for all ILS equipped runways and runways where additional identification of the touchdown zone is required.

Touchdown zone markings consist of **pairs of rectangular markings placed symmetrically to both sides of the runway centreline**. The number of pairs is related to the LDA available:

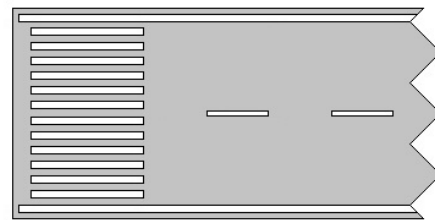
Landing Distance Available (LDA)	Number of marking pairs
LDA < 900m	1
900m < LDA < 1200m	2
1200m < LDA < 1500m	3
1500m < LDA < 2400m	4
2400m < LDA	6



2.7. Runway Edge Marking

Runway edge markings are provided on ILS equipped runways and runways where the declared runway width is less than the paved width.

Runway edge markings consist of white lines along the runway edge.



3. Taxiway Markings

Taxiway markings are:

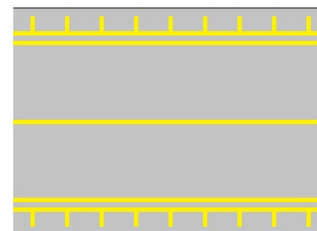
- Centre line
- Runway holding points
- Intermediate taxiway holding points
- Edge marking
- Closed cross for closed taxiways

All these taxiway markings are **yellow**.

Here are some examples of taxiway markings:

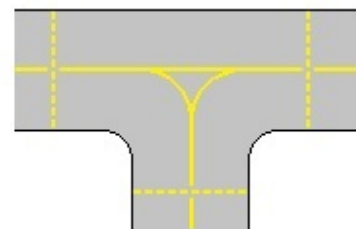
3.1. Taxiway edge markings

This indicates that beyond the marking the surface bearing strength is less than the taxiway, or the area is not intended for aircraft use



3.2. Intermediate taxiway holding point:

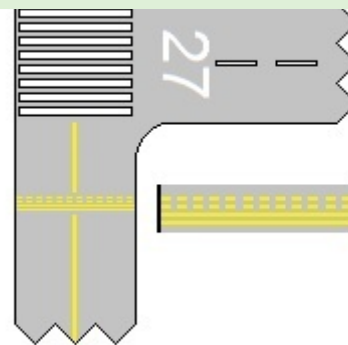
This indicates that the pilot shall take into account this intermediate crossing holding point to follow the air traffic controller instructions and to ensure the safety of nearby aircraft.



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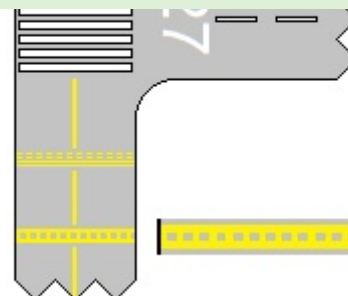
3.3. Runway holding point Pattern A

This marks the last holding point prior entering the runway.



3.4. Runway holding point Pattern B

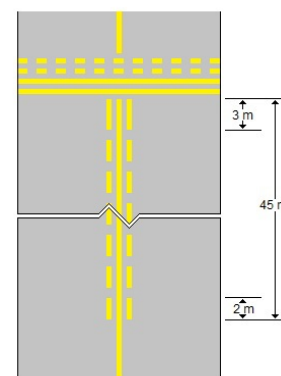
This marks a **CAT II/III holding point** where a closer holding point to the runway is provided.



3.5. Enhanced taxiway centerline

This may be provided, as part of measures against runway incursions.

Enhanced taxiway centreline marking extends from runway holding point Pattern A away from the runway for 45 meters, or the next runway holding point if this is located within 45 meters.



3.6. Yellow cross

This indicates that the taxiway is unfit for the movement of aircraft. Taxi operations are forbidden.

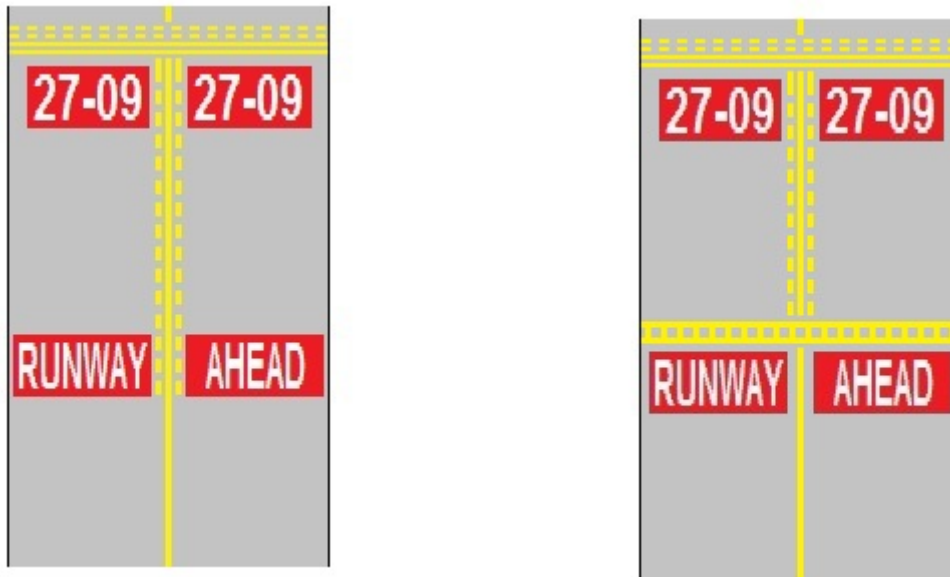


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3.7. Mandatory instruction marking

Where it is impractical to place mandatory instruction signs, or as a supplement, **some mandatory instruction markings may be provided on taxiways.**

Mandatory instruction markings consist of a **red** background with a **white** inscription.

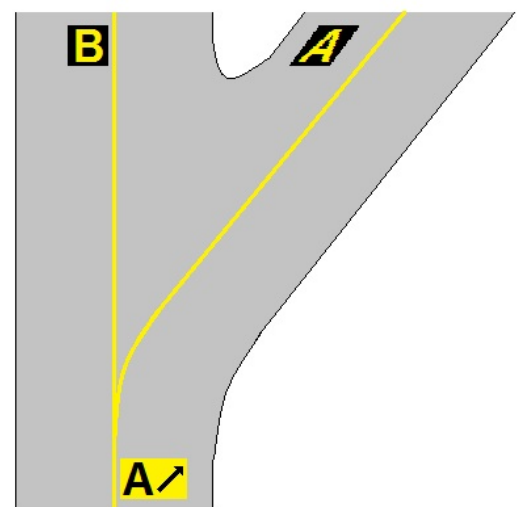


As the figure shows us, we can find the runway numbers and warning messages in order to **minimize runway incursions.**

3.8. Information marking

Where it is impractical to place Information signs, or just in addition to information signs, information markings may be provided.

Information markings indicating a location consist of a **black** background with a **yellow** inscription. Information markings indicating a direction consist of a **yellow** background with a **black** inscription.



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4. Aerodrome signalization

In addition to taxiway marking signs, in airfields, you can find additional signalization close to the taxiways.

4.1. Mandatory Signs

Mandatory instruction signs indicate a location beyond which an aircraft shall not proceed without ATC clearance.

Mandatory instruction signs consist of a **red** background with a **white** inscription. They are located at runway holding points on both sides of the taxiway.

	Indicates you are on taxiway "A", holding short of runway 27.
	Indicates you are on taxiway "B" holding short at an intersection of runway 09-27. Where the threshold of runway 27 is on your left , and 09 on your right .
	Indicates the CAT II/III holding point for runway 27.
	Indicates a holding position protecting a priority route.
	No entry sign.


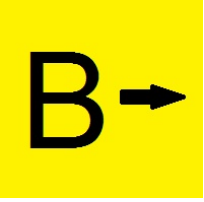




At uncontrolled airports, all care must be taken before proceeding. Mandatory instruction may be supplemented by location signs.

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4.2. Information Signs

Information signs indicate either a location or a routing.

- Location signs consist of a **black** background with a **yellow** border and a **yellow** inscription.
- Direction signs consist of **yellow** background with a **black** inscription.

	Indicating you are on taxiway A .
	Indicating taxiway B is the next right .
	Indicating runway 27 is on the right .
	Indicating reciprocal runways 27 and 09 are on the right .
	Indicating two different runways 27 and 24 are on the right .
	Indicating the TORA from this intersection is 2500 meters .

Information signs are usually located on the left side of the taxiway.
TORA = Take-off run available distance

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