# Linefollowing Dragrace rules

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## 1. Description

Linefollowing is one of the most popular robotics disciplines. This subcategory is the fastest level of robot competitions and is intended for participants who want to showcase the raw power their robot can unleash on a straight line. This category is about speed and precision when stopping the robot.

## 2. Discipline classification

The Linefollowing discipline is divided into two categories:

- LEGO®
- Free construction or electronics

## 3. Competition rules

Terminology: A match consists of rounds.

**3.1.** For the result to count, the robot must successfully reach the finish line and a part of the robot on the track must be able to stop within the stopping zone.
For example, the robot may stop directly on the finish line, as shown in the figure.

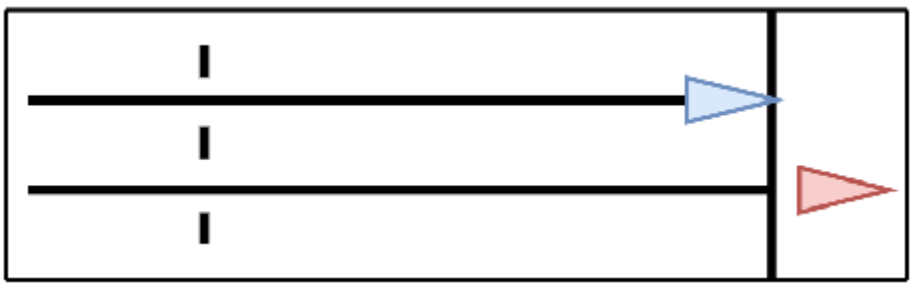


*Figure 1. A robot stopping on the finish line*

**3.2.** A round takes place between 2 robots, which are started simultaneously.

**3.3.** A point is earned by the robot that is the first to stop within the stopping zone.

3.4. The winner is the robot that is the first to earn 2 points during the match.

3.5. The competition organizer determines the competition format (round-robin or double elimination system) and the maximum number of rounds.

3.6. The technical inspection of the robots takes place when the 1st match is played during the competition.
It does not take place separately.

3.7. If the referee suspects an incorrect start, they have the right to start the robots themselves.

3.8. If no robot achieves a counted result within the match, no winner is declared, and both robots are disqualified from further competition.

## 4. Robot

4.1. The robot's maximum size (width, length, height) and weight:

- LEGO®: 30x60x30 cm; 3 kg.
- Free construction: 30x60x30 cm; 3 kg.

4.2. The robot must be fully autonomous.

4.3. The robot must be equipped with a push-button start or a remote control, which can simply be started by the referee if necessary.

4.4. The robot must have a 5-second delayed start timer.

4.5. The robot must be capable of following the line under different lighting conditions. Complaints will not be considered.

4.6. The robot's construction is prohibited from using sticky or oily substances or materials that leave stains.

4.7. The robot must not cause any damage to the arena.

| | |
|---|---|
| 4.8. | **NB!** The LEGO® robot construction may consist only of parts available in LEGO® kits. |

## 5. Arena or track

5.1. The track consists of a starting point, a straight line, a finish line and a stopping zone.

5.2. The track size is 10 x 1 metres.

5.3. The track line is at least 20 cm away from the edge of the base.

5.4. The width of the black line is 15 mm, and of the finish line 30 mm.

5.5. There is a defined starting position and a finish line on the track.

**5.6.** The stopping zone is 60 cm long from the finish line.

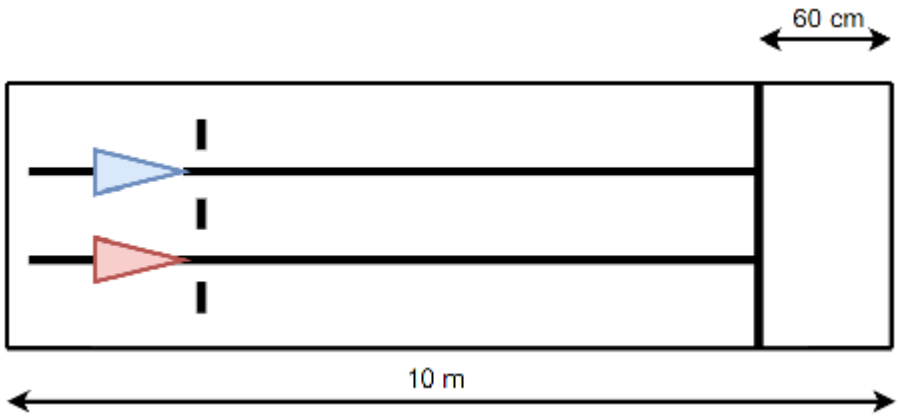



*Figure 2. The track and the stopping zone*

## 6. Competition procedure

**6.1.** When it is the participants' turn, the participants show the referee their robot's number.

**6.2.** After the referee's permission, the participants place the robot at the starting position.
A part of the robot must be on the same level as the starting position.

**6.3.** The participant is given **1 minute** to prepare their robot for the start and, if necessary, to hand over the robot's launch remote control to the referee.
If the start is not initiated, the attempt is recorded as DNF [Did Not Finish].

**6.4.** After the start signal, the participants or the referee start the robots, which begin their run after 5 seconds.

**6.5.** No more than **1 minute** is given to complete the track.
If the robot does not complete the track within this time, it must be removed from the track.

**6.6.** If the robot loses the line, it can return to any point previously covered on the track.
Otherwise, the attempt is recorded as DNF.

**6.7.** If the robot loses the line for more than 5 seconds, the attempt is recorded as DNF.

**6.8.** The robot's performance must not be influenced during the attempt.

**6.9.** A participant is prohibited from stepping on the competition track.

**6.10.** After the attempt, the participant may leave the discipline area only after the referee's signal.