LINE FOLLOWING

ROBOT CATEGORIES

A. Line Following robots;
B. Line Following robots using a turbine;
C. LEGO Line Following robots.
The organizers reserve the right to combine categories A and B depending on the number of participants.

ROBOTAS

1. The robot must be registered by the deadline set by the organizers. Unregistered robots may participate in the competition, but their results will not count towards the official rankings. Each participant may register only one robot.
2. The robot must operate autonomously.
3. The maximum robot dimensions are 25 × 25 × 25 cm, and the maximum weight is 1 kg. NB! The LEGO® robot measuring box will be 25 × 25 × 25 cm with a tolerance of +2 mm.
4. The robot must cover the line with its body while moving along the track. Otherwise, the attempt is considered unsuccessful.
5. The robot must not damage the competition field or pose a danger to spectators.
6. The robot's voltage must not exceed 24 V.
7. The robot must have a start/stop remote control. IMPORTANT! A remote control is not required for LEGO robots – they may be started using buttons on the robot.
8. The robot's body must fully block the timing system's light beam at a height of 2 cm.

ADDITIONAL REQUIREMENTS FOR LEGO ROBOTS

1. The robot must be built using original, licensed LEGO® or HiTechnic® parts. An exception applies to cables, which must be licensed by LEGO®, HiTechnic® or Mindsensors. LEGO® RCX sensors, motors and other components are not allowed.
2. The robot must use only LEGO® licensed or recommended batteries.

LINE FOLLOWING

COMPETITION FIELD

1. The competition field is made of white synthetic material and has an area of 3 to 100 m^2.
2. The track may be open or closed.
3. The line width is 15 mm for categories A and B and 20 mm for LEGO robots (category C).
4. The minimum turning radius is 0.
5. Sharp angles may be greater than 90°.
6. There must be 25 cm of clear space on both sides of the line, except at intersections.
7. The start and finish lines are marked separately on the competition field. On a closed track, the start and finish lines may be the same

COMPETITION

1. Robots compete by following the track in one direction.
2. An optical timing system records the start and finish times at the start and finish lines.
3. An attempt begins when the robot crosses the start line and ends when it crosses the finish line.
4. Time is measured throughout the attempt. A robot is considered to have crossed the line when it fully blocks the timing system's light beam at a height of 2 cm.
5. Each robot may make an unlimited number of attempts during the qualification period set by the organizers.
6. The best track completion time from all attempts is used to determine which robots qualify for the final stage.
7. The 5 robots with the fastest times in qualification advance to the final stage.
8. Each robot has 3 minutes in the final. The team may make an unlimited number of attempts within this time. Qualification times are reset.
9. The top 3 places are determined by the fastest times recorded in the final.
10. Robots may only start their runs after the judge gives the signal.

11. The maximum time for a single run is 2 minutes. If a robot exceeds this time, the attempt is considered unsuccessful.
12. A robot must not leave the track. If it does, the attempt is considered unsuccessful.
13. A robot must not leave the track. If it does, the attempt is considered unsuccessful.
14. A team may consist of up to 3 members.

ORGANIZATION

1. The competition and practice fields are made of the same material.
2. The robot must be registered before the competition. During registration, the robot undergoes a technical inspection and receives a competition number and sticker, which must be attached to the robot in a clearly visible position. The start and stop functions are also checked.
3. The technical inspection must take place at the time announced by the organizers.
4. Any questions or issues arising during the competition are handled by the judge.
5. Final decisions on appeals are made by the judge and/or the organizers. All complaints must be reported to the judge during the competition or immediately after it ends. Complaints submitted later will not be accepted. The judge makes the final decision on any disputes or uncertainties.

TRACK AND ROBOT DIMENSIONS

The robot dimensions and track requirements for categories A and B are shown in Figure 1. The robot and track dimensions for category C are shown in Figure 2.

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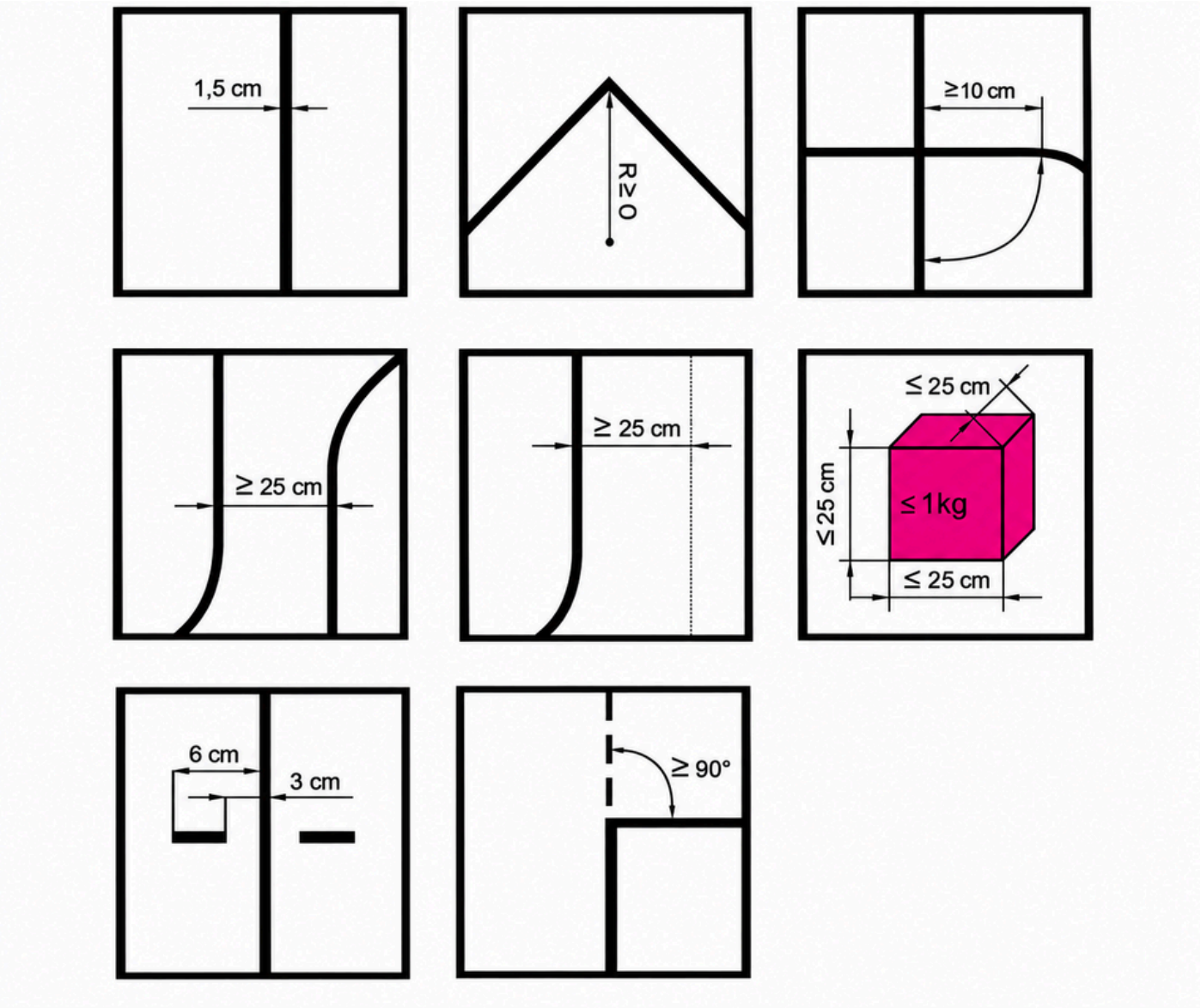


Figure 1. Robot dimensions and track element requirements for categories A and B.

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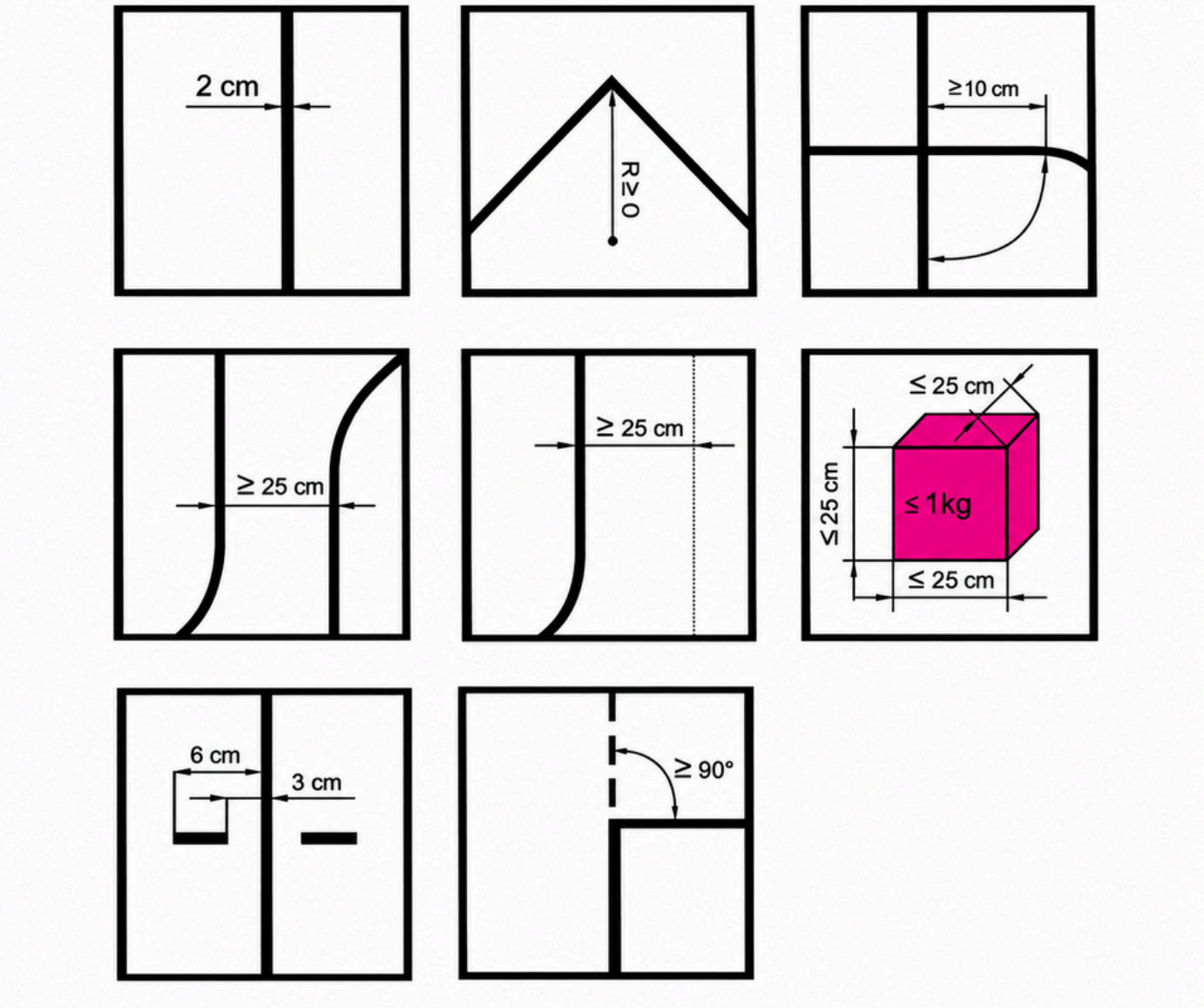


Figure 2. Robot and track dimensions for category C.