

Technical Regulations Le Mans Series 1/24

January-2022 Version 3.3b – Icar Indoor Le Mans Series

1. DESCRIPTION

Any reproduction at scale 1/24 or 1/25 of the modern Endurance Prototypes (LMP1, LMP2, DPI and hypercars) in real life which have participated in 2015, 2016, 2017, 2018, 2019, 2020, 2021 and 2022

2. WEIGHTS & MEASUREMENTS

- 2.01 Total minimum weight of the **whole** car at the start of the race: 165.00 gr.
- 2.02 Total minimum weight of the **whole** car at the end of the race: 164.00 gr.
- 2.03 Minimum bodyweight with body holders: 20 gr.
- 2.04 Minimum ground clearance at the start of the race: 1.20 millimeters.
- 2.05 Minimum ground clearance for the chassis during and after the race: 0.40 mm.
- 2.06 Maximum width of chassis: 78 mm.
- 2.07 Minimum width of front axle is the body's width at the wheel arches -5mm.
- 2.08 Maximum front and rear track width: 83mm.



The axle width is understood to be the length of the axle plus the wheel (not including the hubcaps) and shall always be measured from the outside of one wheel to the other.

3. MOTOR & GEAR RATIO

- 3.01 The approved motor type is the SRP Speed35 short can 35.000 rpm
- 3.02 The gear ratio isn't regulated. For endurance races, a single gear ratio will be established for all participants and will be announced with sufficient notice before the race.

4. CHASSIS

The chassis is of free choice for this category.

- 4.01 Only one chassis shall be used throughout the race
- 4.02 The use of differentials is not allowed.
- 4.03 Magnets can only be used in the motor.
Additional magnets are not allowed; neither is the use of condensers or accessories that increase the power of the motor or modify the current to the motor.
- 4.04 The motor may not be attached to the chassis with welds.
- 4.05 The use of thermal paste is not allowed.
- 4.06 Welding is not allowed on the chassis. Welding may only be used for the wiring connections of the motor.
- 4.07 The use of screw-mounted ballasts is allowed at the same level of the chassis (no lead or tungsten), providing that it does not extend beyond the lower part of the chassis. Should lead or tungsten be used, it must always be placed on the base of the chassis.
- 4.08 The maximum width of the chassis is 78mm. Only carbon fibre, fibre glass or the body itself can be present beyond these 78mm. Given the case that the bodywork includes additional lateral counterweights, these can't exceed the chassis' maximum width .
- 4.09 When viewed from above, the chassis must be completely covered by the bodywork.

5. WHEELS

The wheels must be centered in the wheel arch with a tolerance of +/- 1 mm.

All four wheels must make contact with the track and be fitted with 3-dimensional wheel inserts similar to the wheels of the real 1:1 car, throughout the whole race.

Tires dressing of any kind is not allowed during official practice races or the race itself.

Wheels may only be cleaned with the liquids and tape supplied by the organization.

As seen from above, the wheels may not exceed the width of the car body.

FRONT WHEELS

The diameter of the front wheels for cambered wheels will be measured at the largest present diameter.

- 5.01 The front wheels shall be made of black foam and may be hardened with cyanoacrylate or varnish.
- 5.02 The use of cambered front wheels does not in any way void the rule regarding the minimum diameter, nor the rule regarding the contact surface.
- 5.03 The wheel rims shall be made of aluminum.
- 5.04 Maximum angle of inclination of the front wheels 3.00°.
- 5.05 Exterior diameter of the rim 21.00 mm.
- 5.06 Minimum exterior diameter of the wheel 26.00 mm.
- 5.07 Minimum width of the rim 6.00 mm.
- 5.08 Minimum width of the wheel 6.00 mm.
- 5.09 Minimum width of the area of contact of the wheel 6.00 mm.

REAR WHEELS

- 5.10 The rear wheels shall be made of black foam.
- 5.11 Wheel rims shall be made of aluminum.
- 5.12 Exterior diameter of the rim 21.00 mm.
- 5.13 Maximum exterior diameter of the wheel 27.50 mm.
- 5.14 Minimum exterior diameter of the wheel 26.00 mm.
- 5.15 Maximum width of the rim 13 mm.
- 5.16 Maximum width of the wheel 13.00 mm.

6. BODYWORK, INTERIOR & ACCESSORIES

All bodywork must be within the scale 1/24 or 1/25 and accurately reproduce the real car.

6.01 Bodywork

The maximum width of the body will be of 85.00 mm with a minimum weight of 20 gr. and the bodywork must be painted, decorated according to the car's era and equipped with:

- Front windshield and side windows, if existing on the real 1/1 car.
- Front splitter, if existing on the real 1/1 car.
- Rear spoiler, the same shape as the reproduced model.
- Rear view mirrors.
- Rear diffuser with a minimum width of 4 mm.
- Front headlights.

Only the use of one body throughout the race is allowed.



It is compulsory to assemble the maximum number of visible exterior features, including tire guards and chassis parts (which shall be regarded as parts of the bodywork) to achieve maximum similarity with the real model. Also included in this rule is the shape of the original body work in a way that **bodywork that does not resemble the original model will not be allowed**; e.g, a longer or shorter, wider or narrower body, or any other modification affecting the original appearance of the car. It is forbidden to change or deform any feature of the bodywork except the manufacturing of one or more domes to provide room for the crown and/or axle support.

6.02 Interior/cockpit

The body interior must contain at least the following items:

- Dashboard.
- Steering wheel.
- Painted driver figure with at least a head, trunk and arms, and made of plastic, resin or Lexan.
- Crash helmet made of hard plastic (not Lexan) or resin.

6.03 Material

- The bodywork must be made and/or assembled from one or more of the following materials: molded polystyrene (i.e., plastic model kits), or molded and/or resin laminated with fiber glass or carbon fiber.
- The exterior of the body must accurately reproduce the real 1/1 car.
Conformity to this requirement will be left to the judgement of the scrutineers and the race marshal.
- Lexan is allowed in the interior of the car, the driver, the windows, the rear wing, diffuser, headlights, and in a rear vertical position such as the shark fin and only for the specified parts and elements.
- The other elements not specified in the point above must be made of resin, carbon fiber, of the same material as the bodywork or in molded polystyrene (i.e. plastic model kits).
- **The body must completely cover every part of the chassis**, all the mechanical parts of the car and the wheels must not exceed the width of the body when viewed from above.

Exception: For the cars with aero openings over all 4 wheels, as is compulsory since 2012 for LMS 1:1 races, the models reproduced in 1/24 are allowed these openings providing they are located in the correct position.

7. AXLES

7.01 The axle must not extend beyond the wheel rim.

8. GUIDE

8.01 Only one guide in the original designated position is allowed.

8.02 The guide shall not be longer than 27 mm.

8.03 The guide should not be visible when viewed from above.

9. LIGHTS

For endurance races conducted at night, the cars must carry a working lights kit which must be operating throughout the nocturnal section of the race.

- The lights must be installed as in the original 1:1 car position.
- Front lights: a minimum of two lights in the appropriate color, either yellow or white, and must shine with a continuous beam.
- Rear lights: a minimum of two red lights, one compulsory on the left, and must shine with a continuous diffuse beam.

The lights must be in full working order when the car enters Parc Ferme, otherwise they must be repaired during racing time. The car won't be allowed to start until the light system is repaired.

It shall be understood that, during the race, lights will be considered to malfunction if 3 corners of the car are not lit for more than half a lap and thus must be repaired.

10. GENERAL OBSERVATIONS

Any points which haven't been covered by these Regulations are regarded as free and left to the discretion of the race technical marshalls and decision of the race director.



Registration for the race signifies the full acceptance of these rules and regulations by the driver. It is the sole responsibility of the driver to present his or her vehicle in the conditions stipulated in these regulations.

11. SUMMARY OF MEASUREMENTS AND WEIGHTS

Max width, front wheel	83.00 mm.				
Min width. front axle	5 mm less than width of wheel arch.				
Max width. Rear axle	83.00 mm				
Max width. chassis	78.00 mm				
Max. width body	85.00 mm				
Min ground clearance at start of race	1.2 mm				
Min ground clearance at end of race	0.4 mm				
FRONT WHEELS	D.min.rim	D.min.wheel	Min width. rim	Min width.wheel	Min. Surface contact.
	21.00 mm	26.00 mm	6 mm.		
REAR WHEELS	D.min.rim	D.min.wheel	D.max.wheel	Max width. rim	Max width.wheel
	21.00 mm	26.50 mm	27.50 mm	13.00 mm	
Min weight of body including bodyholders	20,00 gr.	Motor		SRP Speed35 short can and 35.000 rpm	
Min total weight of car at start of the race	165.00 gr.	Min total weight of car at end of the race		164.00 gr.	