FEDERATION INTERNATIONALE
DE MOTOCYCLISME

FIM STANDARDS FOR CIRCUITS

2024

NORMES FIM POUR LES CIRCUITS

Amendments as from 01.01.2024 are mentioned in bold type

Amendments as from 22.03.2024 are mentioned in bold and red

FIM Standards for Circuits

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4 & 5	**11.07 & 19/08/2024**	**Art. 10.1.5**

Amendments as from 01.01.2024 are mentioned in bold type
Amendments as from 22.03.2024 are mentioned in bold and red

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Any references to the male gender in this document are made solely for the purpose of simplicity, and refer also to the female gender except when the context requires otherwise.

ARTICLE 1 - OBJECT

The FIM Standards for Circuits will be used by FIM Representatives of the FIM CCR Circuits Homologation Committee for circuit homologation.

Course designers can also use these standards as initial guidance for the construction of new circuits. Practical criteria concerning conception and use are included in these standards to assist the designer of a new circuit in the presentation of a project to the FIM. Circuits that plan modifications to a course can also use these standards as guidelines and have to apply for homologation of the changes.

Exceptions to the following articles may be granted according to the grade of circuit licence.

A study of the circuit drawings will be made for each circuit and FIM Representatives of the FIM CCR Circuits Homologation Committee will issue specific requirements. The circuit will have to apply these requirements to achieve homologation.

These standards are subject to interpretation depending on each individual case and on local conditions, laws and inspections.

The operators of a circuit are responsible for the safety conditions prevailing within its precincts.

The current FIM standards come into force on 1 January **2024**. They cancel and replace all prior editions.

Changes may be made to these standards, each time the FIM, on the basis of experience or technical evolutions or for safety reasons, deems it necessary.

Please note that circuit designers should use these standards as guidance to build the racetrack (up to the second line of protection), the Pit Lane, the Medical Centre and the Race Control room. Basically, these standards deal with all safety-related matters at a circuit.

For all other aspects, please consult the Promoter's Manual of the event's organisers, if existing. For example for MotoGP™, please consult Dorna's Promoter's Manual.

ARTICLE 2 - DEFINITIONS

Circuit: A closed course, permanent or non-permanent, where the course itself starts and finishes at the same point, built or adapted specifically for motorcycling racing.

Circuit Licence:

- A certificate attesting that a circuit has been homologated by the FIM.
- It stipulates the conditions under which the circuit may be used and the categories of motorcycles and events that can be admitted.

Commission: In these Standards, the term "Commission" refers to the Commission of Circuit Racing of the FIM (CCR).

FIM Homologation Label: A FIM Homologation Label is a special recognition granted to products when specific high performance and quality standards set by the FIM are met.

FMN: National Motorcycle Federation (Fédération de Motocyclisme Nationale).

Homologation Procedure: The procedure to be followed in order to issue a circuit licence.

Inspection: A visit by the Commission delegates in order to:

- Make recommendations in accordance with these standards
- Verify or approve works preformed on the basis of the recommendations made previously.
- Verify all the conditions and services required for the circuit to host an international event.
- Issue the circuit licence on the final circuit visit if conditions are met.

New circuit: For the purposes of the application of these standards and any FIM texts concerning circuit safety and/or construction, the term “New Circuit” means:

- A non-existent circuit
- An existing circuit which has not been used for international racing
- An existing circuit that undergoes substantial modifications may also be considered by the Commission as “new circuit”

Service Areas: The areas between the first and the second line of protection

Track:

- The area defined by the outer edges of the racing surface, delimited by white lines, and the parts of a track between the pit lane entry and pit lane exit lines, and the track itself.
- These Standards do not refer to FIM Track Racing. Standards for Track Racing Circuits are to be found in a different manual.

Track surroundings: The area between the edges of the track and the first protection lines

World Championship**, titles** and Cups acronyms:

- MotoGP™: Whenever the word “MotoGP™” is used during these Standards it refers to the FIM Grand Prix World Championship.
- WorldSBK: Whenever the word “WorldSBK” is used during these Standards it refers to the FIM Superbike World Championship.
- Endurance: Whenever the word “Endurance” is used during these Standards it refers to the FIM Endurance World Championship.
- Sidecars: Whenever the word “Sidecars” is used during these Standards it refers to the FIM Sidecar World Championship.
- MotoE: Whenever the word “MotoE” is used during these Standards it refers to the FIM MotoE World Championship.
- JuniorGP: Whenever the word “JuniorGP” is used during these Standards, it refers to the FIM JuniorGP World Championship.
- **ICG: Whenever the word “ICG” is used during these Standards, it refers to the FIM Intercontinental Games-Circuit Racing.**

ARTICLE 3 - INSPECTIONS AND HOMOLOGATION PROCEDURE

3.1 CIRCUIT LICENCE GRADES

FIM circuit licences are issued in grades from A to F according to the categories and groups of motorcycles for which the circuit is considered suitable and are issued with the sole purpose of permitting the registration of races in the FIM Calendar for the categories of motorcycles specified.

The types and groups indicated below correspond to the classification established in the relevant FIM regulation. Each licence grade is also valid for all categories of motorcycles in the grades below it, except Grade F for Sidecars.

They are:

Grade	Grand Prix	Superbike Supersport	Endurance	JuniorGP **& ICG**	MotoE	Sidecar
A	X	X	X	X	X	
B		X	X	X	X	
C			X	X	X	
D				X	X	
E					X	
F						X

CCR Bureau Decision 17 May 2024

"+N" in addition to the grade means that this circuit is also homologated for night races for motorcycles not equipped with lights. A small "t" attached to the grade means that this circuit is homologated for TESTS only. The grade will be stated on the circuit licence.

The granting of a homologation licence is a prerequisite for the organisation of an FIM Championship, Prize or Cup event.

The homologation licence is valid for FIM World Championships, Prizes and Cup events only. The operators of a circuit are responsible for the safety conditions prevailing within its precincts.

3.2 PROCEDURE FOR NEW HOMOLOGATION

This article concerns the homologation procedure for new circuits ONLY.

In the case of new circuits or new projects at circuits intended for FIM events, a comprehensive dossier of plans and specifications must be submitted to the FIM in order to obtain a circuit license. (cf. dossier requirements in Article 3.4). This dossier must be submitted to the FIM through the FMN of the country in which the circuit is situated. Without submission of the dossier, no homologation process will begin.

The FIM will charge a project analysis and inspection fee for handling a new circuit dossier. The same fees will be charged each time the FIM is asked to approve a proposed modification to an existing circuit.

These standard rates will be fixed each year by the FIM. An additional fee will be charged for each study of a modified or alternative configuration requested on behalf of a circuit or required for FIM approval. Such fees are for Supplementary Simulation. These will be charged in the framework of a project analysis that needs more than the Simulations covered by the circuit inspection fees.

The FIM, after the examination of each case in relation to its particular circumstances, may recommend modifications and shall be kept informed of each stage of development.

The Commission’s delegates will perform on-site inspections, as necessary. There will be at least one preliminary inspection and one final inspection.

For permanent circuits, it is recommended that the final inspection should be made not later than 90 days before the first FIM event to be held. At this point, all works should be completed.

For new circuits, in order to obtain a FIM homologation, the circuit must have previously or simultaneously received a national homologation.

For non-permanent circuits, a special homologation procedure will be followed.

The above procedures are also mandatory for circuits that have undergone substantial modifications. Any substantial modifications carried out but not submitted to the FIM are liable to suspend the homologation.

3.3 PROCEDURE FOR HOMOLOGATION RENEWAL (existing circuits)

To see with the FIM/CCR Administration.

3.4 PROCEDURE FOR FUTURE PROJECTS

Preliminary consultations with the FIM on future projects or modifications may be requested through the FMN.

Recommendations/assistance for the improvement of existing circuits which have not been subject to prior FIM homologation may be requested from the FIM through the FMN, to organise international/national sporting events safely for motorcycles.

FIM Representatives of the CCR Circuit Homologation Committee will only respond to requests for consultations or site visits where they are mandated to do so as part of the FIM homologation procedure.

3.5 OBLIGATORY CIRCUIT DOSSIER

The circuit dossier should include the following information:

- Circuit layout to scale 1:2000 (minimum), with an indication of orientation, pit buildings, race direction, buildings, installations, access roads, service roads, services and light panels (if applicable) as requested in the relevant FIM Codes and Regulations.
- Plan of pits and paddock area and medical centre to scale 1:500 minimum.
- Detailed plan of all buildings (including medical centre and helipad), to scale 1:200 minimum.
- Profile of track centreline, to scale 1:2000 (length)/1:200 (altitude) minimum.
- Cross-sections of track and lateral spaces (track, track surroundings and service areas) at the start line, centre of principal corners, points of minimum and maximum width of the track, bridges and other singular points, to scale 1:200 minimum.
- A study of local climatic conditions and the design of the drainage system.

The circuit dossier should be supplied in digital format (to be requested to the FIM, including dwg and pdf).

The digital plans shall comply with the FIM circuit drawing standards (available on request).

The whole dossier should be revised and sent to the FIM each time the circuit is modified and will be the essential reference for the homologation process and the issuing of the circuit licence.

3.6 INSPECTIONS

Mandatory circuit inspections by the FIM and their fee categories:

TYPE OF MANDATORY CIRCUIT INSPECTION	FEE CATEGORY	FIM FEE
New circuits intended for first licence Grades A and B: with necessary simulations and inspections up to final	1	FIM Representative of the FIM CCR Circuits Homologation Committee costs + Necessary simulation costs + Fees
New circuits intended first licence Grades C, D, E & F: with necessary simulations and inspections up to final	2	FIM Representative of the FIM CCR Circuits Homologation Committee costs + Necessary simulation costs + Fees
For the renewal of FIM circuit licence, Grades A, B, C, with inspection(s)	3	FIM Representative of the FIM CCR Circuits Homologation Committee costs + Fees
For the renewal of FIM circuit licence, Grades D, E & F with inspection(s)	4	FIM Representative of the FIM CCR Circuits Homologation Committee costs + Fees

FIM consultation about safety of a non-homologated circuit	5	FIM Representative of the FIM CCR Circuits Homologation Committee costs + Fees

The fee will be determined each year by the FIM. When a circuit receives different grades of homologation, the fee payable will be the one corresponding to the highest fee category.

Simulation results remain the property of the FIM.

For new circuits and future projects the FIM charges the applicant 50% of the fee on receipt of the dossier and 50% after the final inspection. For existing circuits, 100% of the fee will be charged after the inspection. The rate applied to each category will be fixed by the FIM each year.

Inspections may also be decided on for other reasons - by the Commission or at the request of circuit representatives through their FMNs.

During the final inspection of a new circuit, the circuit operators must ensure that the FIM Representative of the FIM CCR Circuits Homologation Committee, when carrying out his/her duties, does not encounter obstruction or obstacles in the form of persons whose presence is not essential. It is recommended that no vehicle be allowed on the track during the inspection, except when works are under way on the track and its surroundings.

For inspections at existing circuits the FIM, the FMN, the FIM Representative of the FIM CCR Circuits Homologation Committee and the circuit operators will agree on a date and time for the inspection for the homologation renewal.

3.6.1 FIM Inspection Reports

After each inspection, a report will be issued with the relevant requirements of the FIM Representative of the FIM CCR Circuits Homologation Committee (this can include works to be carried out to obtain the circuit license).

After the final inspection, the homologation will be issued as well as a report including the safety measures to be taken for each FIM event.

The homologation report is valid for FIM World Championships and FIM Prize events only.

3.7 CONSEQUENCES OF INSPECTION

After the issuing of an inspection report, the circuit must comply with the requirements stated in the report in order to continue with the homologation process. If the circuit fails to comply with such requests, the homologation process will stop.

After the issuing of the report following the final inspection, if all the works have been completed to the FIM's satisfaction, a circuit license may be issued.

The organisation of a FIM World Championship or Prize event may not be allowed if the required works have not been fully carried out according to the FIM inspection reports.

Should a circuit combine more than one layout, the approval is valid only for the inspected configuration(s).

Circuits are accepted for the running of events entered in the FIM Calendar only in the same configuration and with all the same installations as are indicated in the circuit homologation report within a maximum period of validity of:

- Two calendar years from the date of the final inspection report for existing circuits
- One calendar year from the date of the final inspection report for new circuits

3.8 SUSPENSION OF THE HOMOLOGATION LICENCE

The FIM Representative of the FIM CCR Circuits Homologation Committee can suspend a homologation licence in the following cases:

- Failing to comply with the FIM requests for improvement of the permanent safety measures.
- Failure to report any modifications affecting the existing homologation license.
- Any deterioration that affects any of the elements in the existing homologation license.
- Insufficient maintenance of the circuit

3.9 NUMBER OF MACHINES ADMITTED

The maximum number of solo bikes that are allowed in a group start will be defined during the homologation process and will depend on the track's widths and lap time. The final number of machines allowed for the race will be indicated in the final inspection report.

The maximum number of sidecars that are allowed in a group start will be 60% of the solo bikes.

The absolute maximum will be 60 bikes for solo and 36 for sidecars.

For official practices, an additional 20% of machines are allowed.

For Endurance, the absolute maximum will be 65 bikes for practices and race.

3.10 PROTOCOL FOR HOMOLOGATING CIRCUITS FOR NIGHT RACE

In order to receive an FIM homologation for competitions run at night (in darkness), a circuit must be equipped with a permanent lighting system ready to deliver a sufficient light intensity to run during a "night" event and in relation to the homologation grade that the circuit is looking for.

For instance, for a Grade A homologation, the light intensity must be appropriate to run a MotoGP™ race under the light flow in safe and comfortable conditions for the riders, for pit lane and track marshals, and for rescue services.

The FIM Representative of the FIM CCR Circuits Homologation Committee in charge of such homologation will decide if the conditions are enough to deliver the "Night" homologation.

A small letter "N" attached to the grade on the homologation report will specify if the course is night homologated. If the layout of an "homologated" circuit is modified and the changes affect the lighting system (e.g. If a new loop was created and this loop must be lit), it will be necessary to keep the same quality and intensity of light all along the different circuit loops.

The following protocol must be strictly applied:

- Before the start of any work, an external and independent laboratory must conduct a survey to measure the different parameters of the existing light (quality, intensity, colour, lumens).
- These measures must be taken at least at two different points of the course: One point must be chosen at approximately 100 meters before the start of the new loop. A second point must be chosen at the same distance after the point where the new loop will join the existing course.
- Average of the values measured at these two different points will be calculated and the light flow provided on the new loop must fit with this average.
- During this process, the FIM Representative of the FIM CCR Circuits Homologation Committee must be kept informed about the development of the work and all data and technical information must be made available for him/her at all times.
- The results of the survey must be provided to the FIM Representative of the FIM CCR Circuits Homologation Committee before the start of the works.
- At the end of the work, a final inspection will determine if the conditions are suitable to deliver a new “N” homologation.

ARTICLE 4 - CIRCUIT DESIGN

4.1 GENERAL PRINCIPLES

The elements in this article are meant to be of aid in the basic approach to circuit design. In order for circuits to obtain FIM homologation it is recommended that they follow the points described herein. Circuits that want to obtain Grade A or B licences will find that some points are mandatory.

Every circuit must also comply with the laws established by the public authorities of the country where the circuit is located.

4.2 CIRCUIT LAYOUT

There are no restrictions to the form of the course in the plan. However, the FIM may recommend alterations in the interests of good competition, practical necessity and safety.

For the purposes of planning new permanent circuits, the track width should be at least 12 m excluding the starting grid straight where the minimum width required will be 14 m.

The transition between the different widths of the track should be made as gradually as possible. The recommended transition is a 1 m difference for every 20 m section.

Existing circuits requesting international recognition but which are narrower may be homologated (by going through the homologation procedure) if national events have regularly been organised on them.

The centre line is the geometrical shape of the layout: half way between the outer and inner edges of the track.

The racing line and not the centre is the factor that will be used when referring in these standards to straights and curves and in order to calculate the average speed of a circuit and to design the layout. The racing line (which is represented by the ideal trajectory of competition motorcycles in a complete lap) will generally have the effect of reducing the straights and elongating the curves.

The length of the circuit should be between 3.5 km and 10 km.

For Grade A, the ideal layout of a circuit will have a total length between 4.2 km and 4.5 km with a minimum number of 10 turns.

4.3 TRANSITION OF BANKING

Banking is the transversal gradient or slope of the track, which is measured perpendicularly to the centre-line of the latter.

On a straight the track must be banked in order to allow for the drainage of surface water.

The transition of the different gradients around the track should be carefully checked in order to guarantee the following points:

- Proper lateral drainage of water.
- Avoidance of any sudden variation in transversal acceleration, which is no longer compensated by banking (dynamic).
- A suitable line of sight for the riders.

4.4 DRAINAGE SYSTEM

A proper drainage system must ensure that the Race Track, Pit Lane, verges, run-off areas and gravel beds are cleared of any surface water.

When calculating the possible flow of water (dependent upon the intensity of rainfalls, their duration and the coefficient of flow) local climatic conditions must be respected.

A study of these local climatic conditions and the design of the drainage system must be submitted in the Circuit Dossier.

All the required drainage channels at the sides of the Race Track and between the verge and the first line of protection should be installed in such a way that the covers do not represent any step or bump for the motorbikes and riders that have lost the racing line: i.e. they must be covered by a smooth metal wire mesh, or an absorbent well must be used, in order to maintain, without any interruption, the normal surface of the verge and/or of the run-off area. (Cf. Art. 4.11.3 For the drainage marking).

It is recommended that the complete drainage system is checked one week before any FIM event in order to ensure that there are no obstructions.

To make emergency drainage in case of heavy rain, it is recommended (compulsory for MotoGP™) that the circuit has the following minimum drainage equipment available:

- 4 x electric-powered pumps capable of pumping water at 200 litres/minute,
- 2 x electric or petrol-powered pump capable of pumping water at 800 litres/minute,

- 50 metres of hose of 45 mm diameter per pump. Such hoses must have the same connections in order to be used with any of the pumps.

4.5 STRAIGHT SECTIONS

The maximum recommended length for straight sections will be 1 km.

On a straight, the track must be banked in order to allow proper drainage of the surface water. The transversal incline along the straights should be maintained between 1.5% and 3%.

4.5.1 Start / Finish Straight

Except for Endurance races, the starting zone must be compulsorily situated on a straight with a minimum length of 250 m.

The starting line must be located at a minimum distance of 200 m from the first curve.

Particular measures for Grade A Homologation:

The minimum length for the straight where the starting grid will be located is 400 m.

The starting line will be located a minimum of 250 m before the first corner.

Jump Start System Requirement: Please refer to the Promoter's Manual (if existing) for information on how to comply with this requirement.

4.6 CURVE SECTIONS

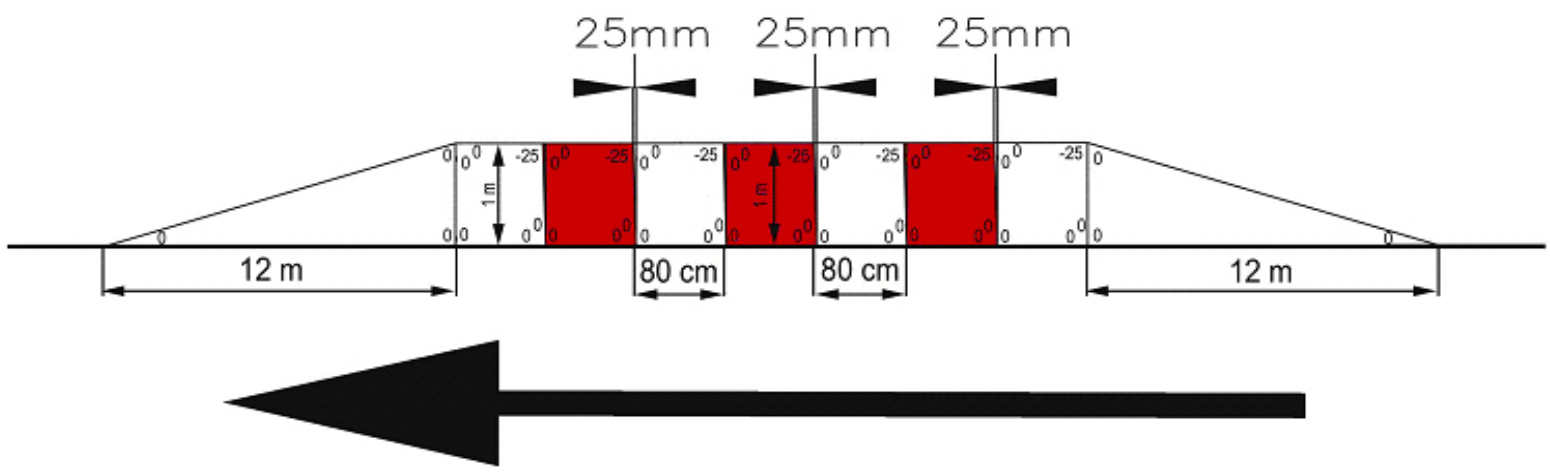
A curve (corner) will be defined by a number of different characteristics. Each circuit's curves will be defined on a case-by-case basis. Using simulation software for each circuit, the number of curves will be established. The total number of turns and their numbering will be decided by the FIM Homologation Report.

Banking in curve sections will always be calculated from the outside to the inside of the racetrack. In curve sections banking should not exceed 5%.

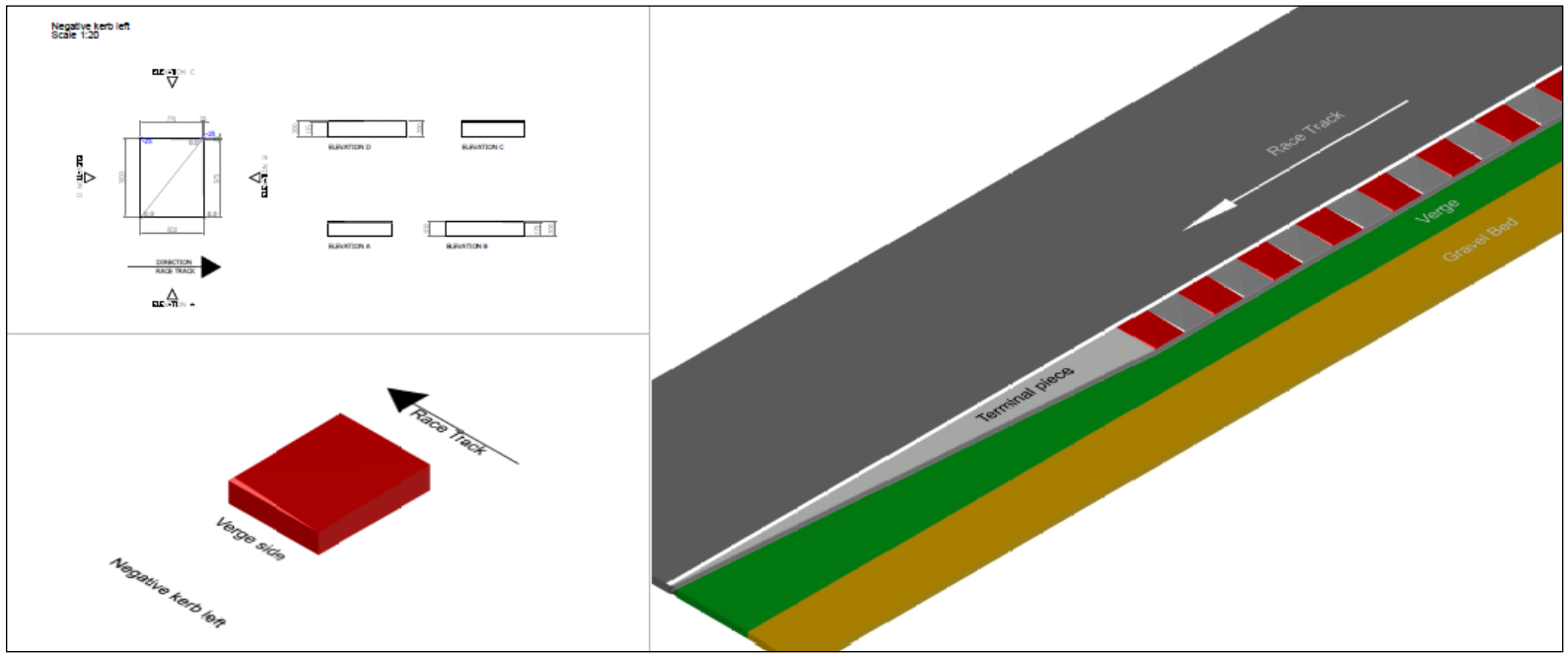
4.7 KERBS

The ideal types of kerbs approved for the FIM Championships, Cups and Prizes should be constructed according to the following parameters and recommendations of the FIM Representative of the FIM CCR Circuits Homologation Committee:

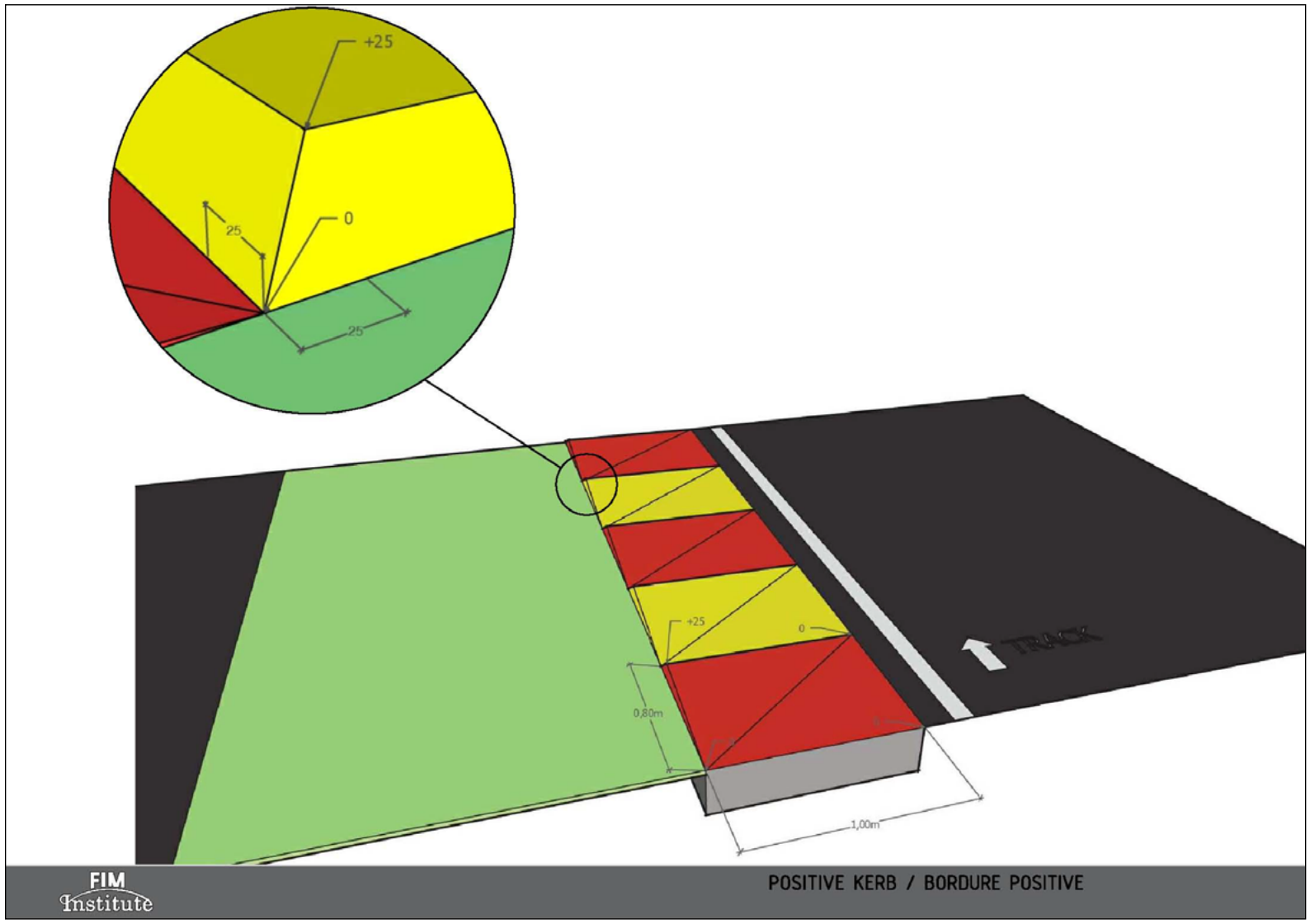
4.7.1 FIM (negative) kerb

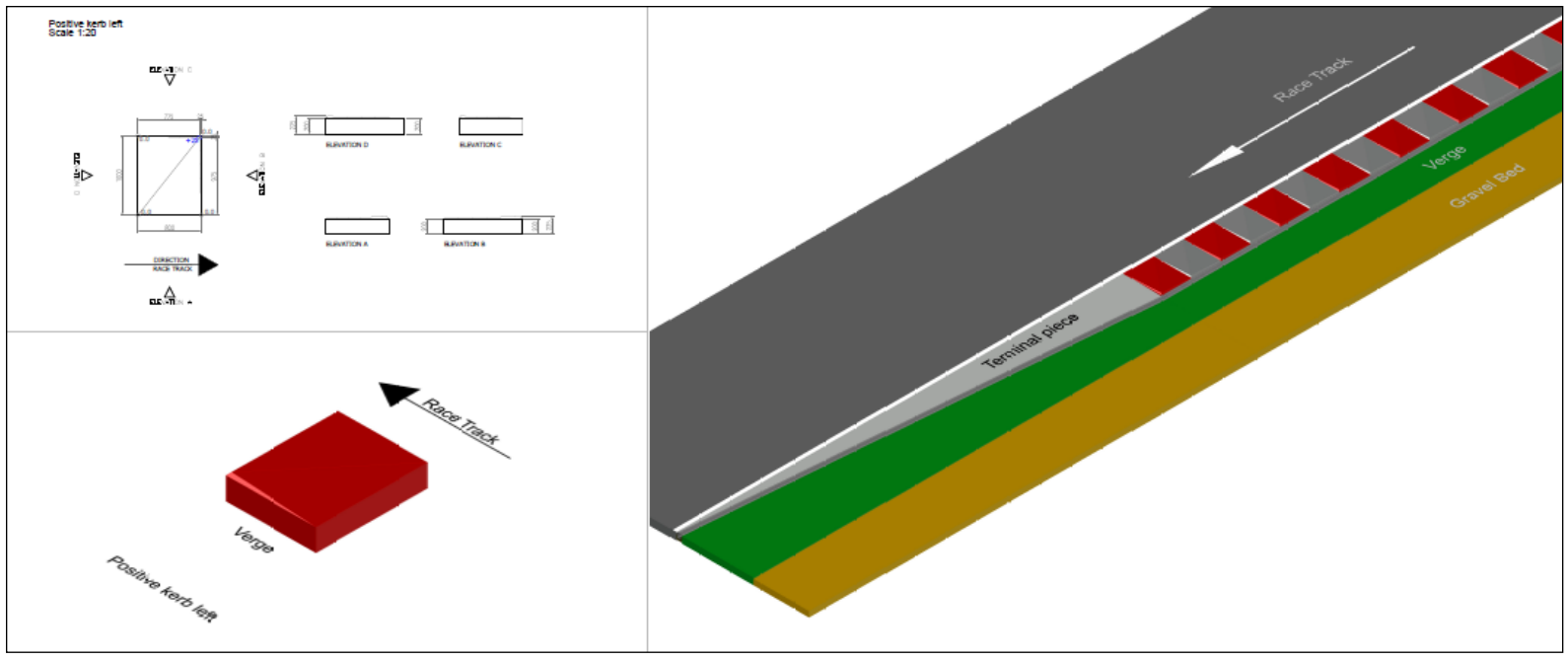


The 12 m triangle kerb at the beginning and the end of the kerb must be painted in white colour.



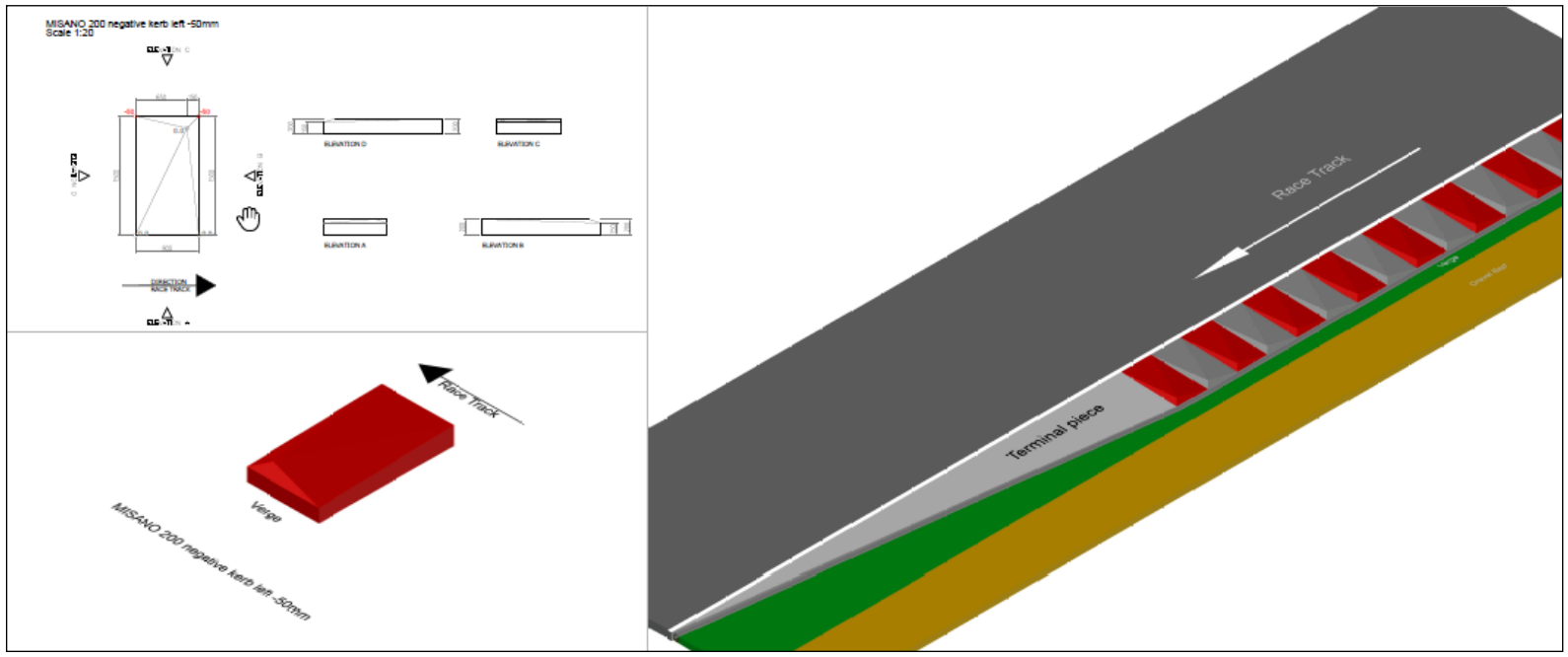
4.7.2 FIM Positive Kerb (only on internal turns)





Other kerbs can be approved during the homologation process.

4.7.3 New FIM “Misano” 200 N (Negative) Kerb



Kerbs’ designs/drawings may be asked to the FIM Administration or to the FIM Representatives of the FIM CCR Circuits Homologation Committee.

4.8 VERGES AND RUN-OFF AREAS

4.8.1 Definition and Purpose

Verges are the outer parts of the transversal profile of the track.

Run-off area is the ground between the verge and the first line of protective devices.

Both are absolutely necessary from the construction point of view as they serve as a limit and shoulder for the superstructure of the track.

They contribute to higher safety by improving visibility and the possible use of the track over its whole width. If they are of sufficient range, they may serve as an area in which motorcycles can be brought to a halt.

4.8.2 Characteristics

Verges should be at the same level as the racetrack asphalt or the lower side of the kerbs avoiding any kind of positive step.

Negative steps are permitted with a maximum of **2.5 cm**. They have a flat surface but which is less even than that of the track itself.

They must be kept free of any debris and stones of a higher diameter than those of the grains of the gravel beds.

Verges should be completely flat without any kind of obstruction and it is recommended that they should have a surface different from the racing surface.

The width of the verges will vary along the track according to the circuit layout. A minimum of 1 metre should be maintained around the complete racetrack.

To prevent the erosion of a natural grass verge, bringing earth and stones onto the track, the transition from the kerb to the run-off area, where the racing line is tangent to the track edge, should be made with a band of concrete (or asphalt) of 1 meter large, unless expressly stated otherwise by the FIM Representative of the FIM CCR Circuits Homologation Committee (due to contrary requirements for different disciplines).

The transition from the verge to the run-off area should be very smooth.

In addition to the speed at every point of the racetrack, the final length of the run-off areas will be defined bearing in mind the racetrack layout, topography, racing trajectories and gradients.

In case the run-off area slopes, it is recommended that this should not exceed 10% upward or 3% downwards. **Run-off area slopes exceeding these percentages, may be considered by the FIM Circuit Homologation Committee, depending on the layout, the location and or the type of radius of the turn.**

4.9 GRAVEL BEDS

The surface of the gravel beds must be completely flat without undulations. It should be levelled with the racetrack or the lower side of the kerb.

It is also strictly recommended that the gravel level be 1 cm or 2 cm lower than the edge of the circuit.

The depth of the gravel bed will vary according to the type of gravel available in the region and the type of run-off area. As standard, the height of the gravel bed should be 25 cm and the diameter of the grains must be between 8 mm and 20 mm. Mono-grain is strongly recommended.

The first 5 m of the gravel bed should grow gradually until we reach the exact gravel bed height required.

In order to maintain the effectiveness of the gravel beds, a mixing (countersinking) should be carried out before every FIM event and all debris and stones of a diameter superior to the grains must be taken out.

It is also recommended to have:

- A verge of approximately 2 m in width between the edge of the track and the gravel beds.
- A path of at least 3 m between the gravel bed and the first line of protection.

4.10 ADDITIONAL PROTECTIVE DEVICES

When deciding what measures will be used for the protection of riders, race officials, service personnel and spectators during competitions, the characteristics of the course should be taken into consideration. These include track layout and profile, topography, racing trajectories, adjacent areas, buildings and constructions, as well as the speed reached at any point of the track.

There will be a first line of protection at the edge of the verges and run-off areas around the complete Circuit Layout.

Most frequently it is necessary or preferable to contain an accident in relative proximity to the trackside by absorbing the bike's energy and/or providing conditions for the rider to regain control. In order to achieve this, various deceleration systems and energy-dissipating and stopping barriers may be installed to constitute an additional protection. In other circumstances, it may be appropriate to provide sufficient obstacle - and spectator - free spaces for the energy of a bike leaving the track out of control to be completely dissipated.

The type of additional protection devices to be installed will have to take into account the available space from the racetrack edge to the first line of protection, the possible impact angle and the type of facility behind of the first line of protection.

During events under the aegis of the FIM, a dedicated team must be available for rapid intervention, with all the necessary equipment to repair or replace any of the protection devices installed that may be damaged following an impact.

The homologation protocol can be obtained from the FIM administration.

4.10.1 CCR / FIM Additional Protective Devices (APDs)

The FIM Racing Homologation Programme for barriers (FRHPba-01) was launched in 2020. The main objective of these new standards is to have a better control on all the parameters regarding the FIM Homologation for barriers and to facilitate the labour of the scrutineers on the circuits. The homologation will allow the FIM to ensure a more complete and high-end protection for its riders and in particular to better track and control barriers used in FIM competitions.

To be eligible for FIM World Championships and Prize events Racing Circuits, barriers shall be homologated in conformity with the FRHPba-01 as of 2032.

Homologated barriers will have to be clearly marked and labelled with FIM Homologation Label, which includes a FIM hologram sewn/sticked on the barrier.

(Note a new FIM hologram will be created soon)

APDs that are already installed in FIM World Championships and Prize events Racing Circuits will be tolerated until the December 2031.

Accordingly, circuit managers may use their existing stock to replace them when needed.

In case of new installations, only FIM barriers homologated through FRHPba-01 can be provided by barrier manufacturers.

4.10.1.1 FIM Homologated Barriers (FRHPba-01)

For any new acquisition of barriers, and mandatory as of 2032 in all FIM competitions, please refer to the following list of barriers manufacturers.

More details can be found on
https://www.frhp.org/barriers/homologated-barriers-for-ccr-events.

CCR Type A – FRHPba-01

- ALPINA SUPER DEFENDER 3 TYPE A
- SPM Type A
- **LISKI SAFETY A**

CCR Type B – FRHPba-01

- LISKI SAFETY 3
- SPM Type B

CCR Type C – FRHPba-01

- **ALPINA BIG BALE 2**
- LISKI SAFETY 4
- **SPM Type C1**
- SPM Type C4

4.10.1.2 Existing Additional Protective Devices (APDs)

The APDs listed below already installed/stocked on circuits are tolerated until the 31/12/2031.

Type A (homologated devices)

- **Air Active Protective Devices**
  - Airprotek - Racing Safety Wall – Type A
  - Alpina Air-Module AA
  - Liski Air Safety Mattress
  - SPM AirPADS - type AA

- **<u>Air Protective Devices</u>**
  - Alpina Air-Module
  - Airfence Type IS and Airfence IIS
  - SPM AirPADS
  - Trackcare Inflatable Barrier
- **<u>Foam Protective Devices</u>**
  - Alpina Super Defender and Alpina Super Defender 2
  - Airfence Bike and Airfence Bike Evo
  - Archem (ex-Bridgestone) Module 1000 and Archem (ex-Bridgestone) Module 1300
  - Liski Safety 1
  - Recticel Safeguard barrier 1 and Recticel Safeguard RR
  - SPM Energy Absorber Type A
  - Trackcare Hi-Lite
  - PKS Modele 1

Type B (homologated devices)

- Airfence Type I and Airfence Bike B
- Alpina Defender Barrier
- Archem (ex-Bridgestone) Urethane Barrier
- Liski Safety 3
- Recticel Safeguard barrier 2
- SPM Energy Absorber Type B1

Type C (homologated devices)

- Air Protek – Racing Safety Wall – Type C
- Alpina Synthetic bales **&** “Big bales”
- Filling Italiano Protection System (ONDA 27/33 - 20/26),
- Liski Safety 4
- PKS Modele 5
- Recticel Safeguard barrier 3 and Safeguard barrier 4
- SPM Energy Absorber Type C2
- Trackcare barrier
- At the sole discretion of the FIM Representative of the FIM CCR Circuits Homologation Committee, horizontal tyre barrier built and installed according to FIM Specifications and assembly instructions for tyre barriers (available on request to the FIM Secretariat).

- At the sole discretion of the FIM Representative of the FIM CCR Circuits Homologation Committee, vertical tyre barrier built and installed according to FIM Specifications and assembly instructions for tyre barriers (available on request to the FIM Secretariat).

Manufacturers' and/or distributors' details of such APDs can be found in the Appendix.

4.10.1.3 Other devices

The protective devices listed below are not concerned by FRHPba-01 and are still allowed beyond 2032.

Type D

- Car tyre barriers covered with conveyor belt.

Type E

- Car tyre barriers.

Type F

- Various plastic protection modules.

All homologated additional protective devices must be placed against the rigid obstacle (no free space).

All homologated additional protective devices must be used and installed according to the manufacturer's indications and requirements.

It is recommended that screws securing conveyor belts to tires, barriers or walls have a round and flat head.

4.10.2 Track Openings

Several openings at each sector of the racetrack will have to be prepared along the first line of protection in order to allow all the track and medical services standing at the service road to enter the race track. The required number of accesses and the distance between them will have to be defined during the homologation process according to the racetrack layout. The recommended width for the racetrack accesses from the service road will be 3 m. All racetrack accesses in the first line of protection should be clearly marked by being painted in Pantone 17-1350 TPX Orange Popsicle.

Some of the openings may be required to have a compact surface that links the Service Road with the racetrack. This will be defined during the homologation process.

4.10.3 Advertising Pads

Only approved advertising pads can be placed in front of any approved protective devices. MotoGP™ and WorldSBK advertising pads produced by Dorna are approved for this purpose.

Any other advertising pads to be placed in front of homologated protective devices must be approved by FIM/CCR.

4.10.4 Supplementary Measures

In addition to the protective devices described in the previous points, supplementary measures for the protection of public areas, which should be placed at the same level as or higher than the track edge, may be required.

Protective devices located beyond the service road are referred to as the second line of protection. Although these standards provide guidance up to the second line of protection, the FIM is not responsible for the placement (or not) of the barriers in the second line of protection.

FIA-approved fences can be used in the second line of protection.

The FIM/CCR can provide advice on these protection devices, after examination of the proposed layout.

The admission of the public to any areas and the conditions existing in those areas must obey the laws of the country of the circuit.

4.11 TRACK MARKING

4.11.1 FIM Homologated Paints

The paint to be used for the white lines and the kerbs along the track, for the starting grid and for any other marking on the track, in the pit-lane and on the asphalt run-off areas must be homologated by the CCR/FIM.

For the Sidecar class, the use of the CCR/FIM homologated paint is recommended.

The CCR/FIM homologated paints are the following:

AXIMUM INDUSTRIE	**Racing Mark**
COLORIFICIO SAMMARINESE	Samoline Antiskid paint (8550.0500)
DREW PAINTS, INC.	09NS-Series W/B Circuit Marking Paint
GREENFORD	Anti-slip
GEVEKO (ex ORÉ PEINTURE)	Race Line
MAPEI	Mapecoat TNS Race Track
PRISMA PAINTS	Prisma Racetrack Paint (WB260)
SWARCO LIMBOROUTE	Circuit line WBP

(cf. the manufacturers' contact details in the appendices)

Circuits shall keep at the disposal of the Safety Officer, the FIM Representative of the FIM CCR Circuits Homologation Committee or the Jury President, the paint order forms and invoices, so that it can be proved at any time that the paints used are the FIM homologated ones.

The paint application method defined by the manufacturer shall be scrupulously followed.

The homologated procedure can be obtained from the CTI/FIM Administration.

4.11.2 Race Track edge

The complete Racetrack surface (and possible variants) will be bordered on both sides by continuous 10 cm wide white lines, excluding:

- The entrance and the exit of the Pit Lane where an interrupted white line must be painted.
- The entrance and the exit of the Long Lap where an interrupted white line must be painted.

The length of this white line will be fixed by the FIM Representative of the FIM CCR Circuits Homologation Committee during the homologation.

No decoration or advertising is permitted on the track surface with the exception of the run-off areas.

For MotoGP™ and WorldSBK events, Dorna has the exclusive right to allocate advertising in the run-off areas, with the agreement of the FIM safety officer.

For EWC events, EEL has the exclusive right to allocate advertising in the run-off areas, with the agreement of the FIM safety officers.

If necessary, it is also recommended that the protection device at the first line of protection be painted with a white line one (1) metre wide aligned with the marks at the edge of the track (cf. Breaking Marks Art. 4.11.7).

4.11.3 Drainage

Drain Grates must be painted with FIM homologated paint the same colour as the surface attached to it.

4.11.4 Kerbs and Track Edges

Track edges (verges) must be painted in a uniform green colour (Ref. RAL 6029) whenever it is estimated that a rider can gain an advantage if he infringes track limitations. If it is felt that no advantage can be gained, the track edges (verges) **must** be painted in any other uniform colours. FIM officials **should** define the areas to be painted in green (Ref. RAL 6029).

For FIA-FIM Double Kerb, the second part of the FIA-FIM kerb should be painted in green and white, starting with a white triangle on the side of the darkest part of the standard kerb. The track edges should be painted with a uniform green colour (Ref. RAL 6029).

4.11.5 Openings

The openings in the first line of protection allowing access to the run-off area must be indicated by a “fluorescent” orange (recommended color reference: Pantone 17-1350 TPX “Orange Popsicle”) line two metres wide minimum, painted on the first line of protection or on the protective devices.

Both sides of the opening must be painted.

4.11.6 Start Line

The Start Line will be marked with a white 10 cm-wide line across the Track.

If the Finish and Start Line are in the same position, the drawing will meet the specifications of the Finish Line Plan.

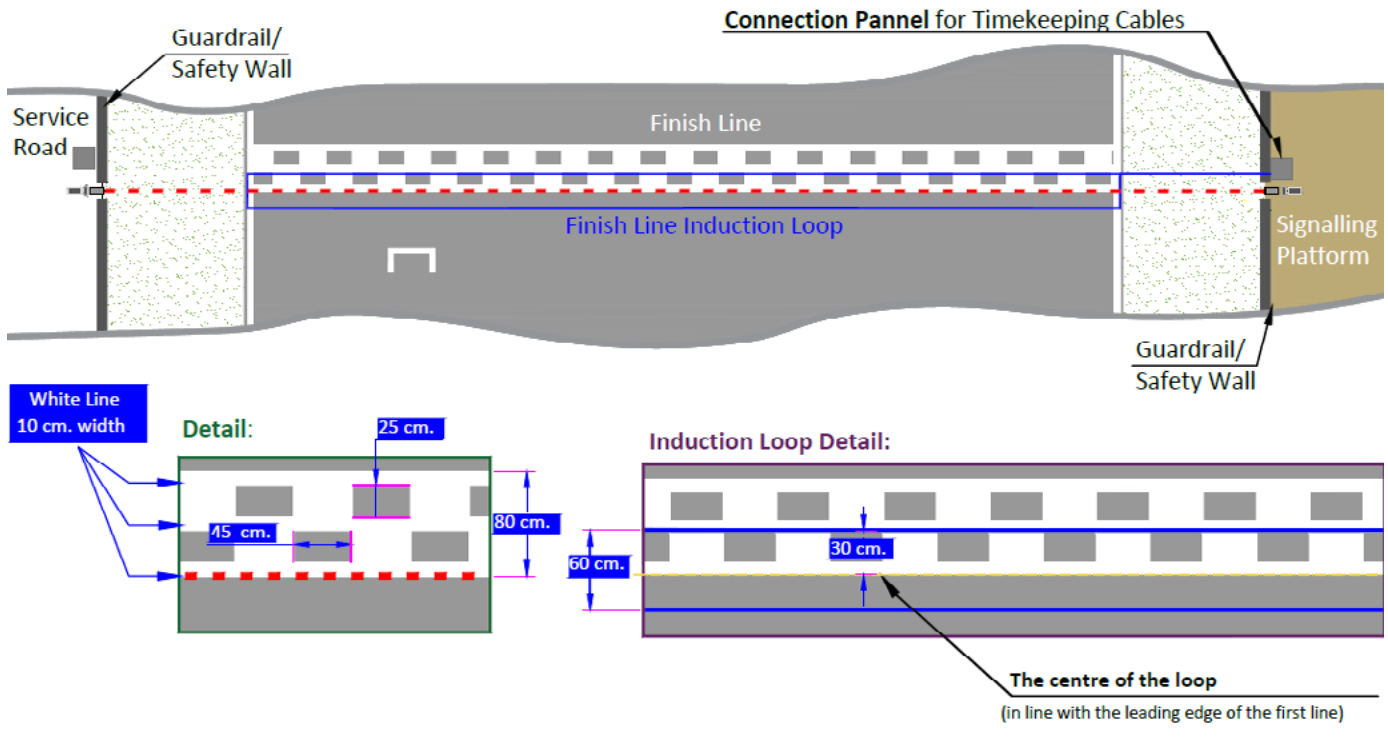
4.11.7 Finish Line

The Finish Line will always be aligned with the Timekeeping Room. It will be marked with a white 10 cm-wide line across the track.

When the Finish and Start lines are different, the Clerk of the Course must inform the competitors in a written note which one is the Finish line.

In case of a tie between competitors by a photo-finish, the Finish Line will be defined as the leading edge of the first white line before the chequered line.

The Finish Line will have the following characteristics and dimensions.



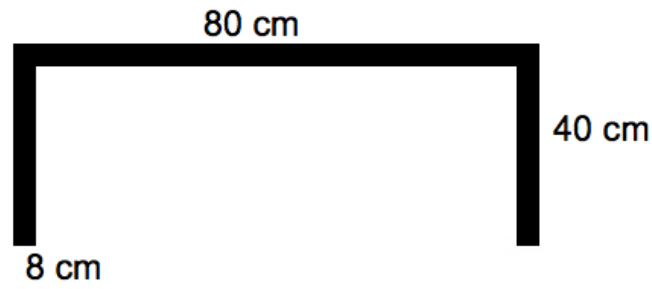
NB: Depending on the FIM disciplines, this finish line may have additional (but not contradictory) characteristics.

4.11.8 Starting Grid

The positions on the starting grid must be indicated on the track with an homologated paint as follows:

- **Solo and Sidecar "FIM":**

White box



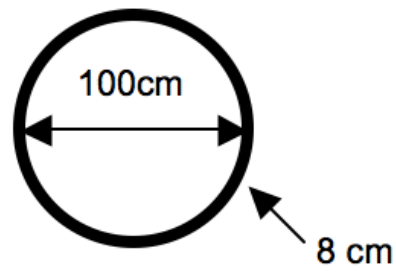
- **Sidecar "FIA":**

  White box dimensions (FIA requirements).

- **Endurance:**

White circle

or



White dot ○ **Circ. 10 cm**

A red light connected to the starting light lever control should be installed at each of the rows of the starting grid. These lights must work simultaneously with the starting lights and shall be opposite the marshals in charge of the control of the start.

The starting grid shall be formed in the following way:

- The width available on the start line will be divided into lanes taking into consideration the number of riders per row, and the interval of the riders on the second row.
- The minimum width available must be:
  - for solo machines: lane of 3.00 m
  - for sidecars: lane of 4.00 m

Pole position: 1 m behind the start line.

The FIM Representative of the FIM CCR Circuits Homologation Committee will decide during the homologation procedure at which side the pole position will be located. As standard, the pole position will be at the side opposite the side corresponding to the direction of the first corner.

- Length of track available for each row: 9 m.
- Machines must be positioned “in echelon” on the grid in staggered lines, thus leaving the space in front of each machine free in the preceding row.
- For sidecars, the grid in echelon 2x2x2 is also permitted when a car grid is already drawn on the starting grid and provided that it meets the FIA requirements.

Particular measures for all solo machines except Endurance:

It is recommended to remove the old starting grids from other series before preparing the MotoGP™ starting grid.

There will be 9 metres between each row of the Starting Grid. A minimum of 14 rows should be painted.

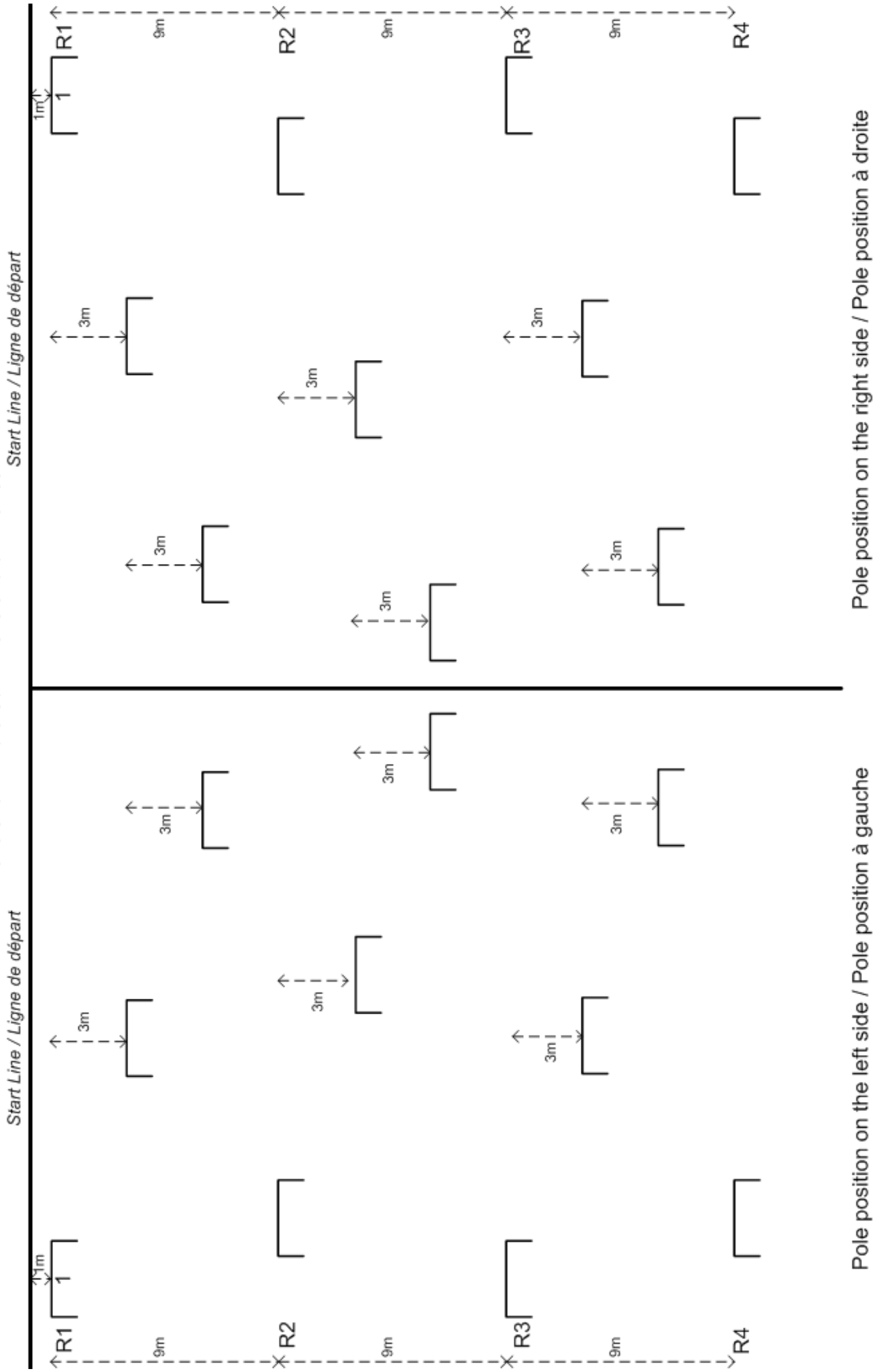
The width of the Start/Finish straight should be divided into eight (8) equal corridors in order to separate the starting boxes as much as possible, always leaving free the two corridors at the sides.

The Starting Grid plan must be in accordance with certain requirements as per following simplified drawings:

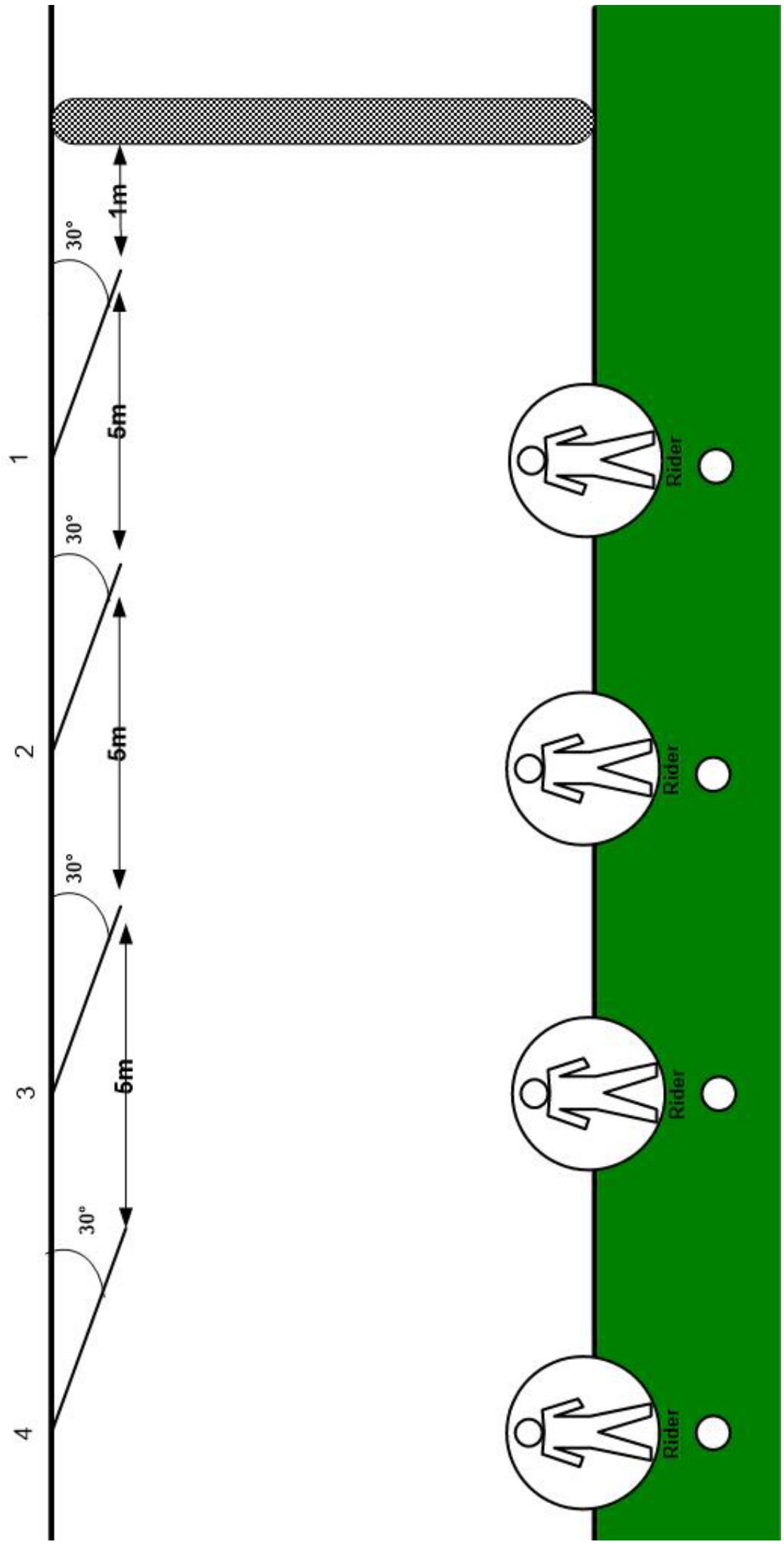
SOLO (3-3-3-3)

STARTING GRID / GRILLE DE DEPART

Dimensions in meters / Dimensions en mètres



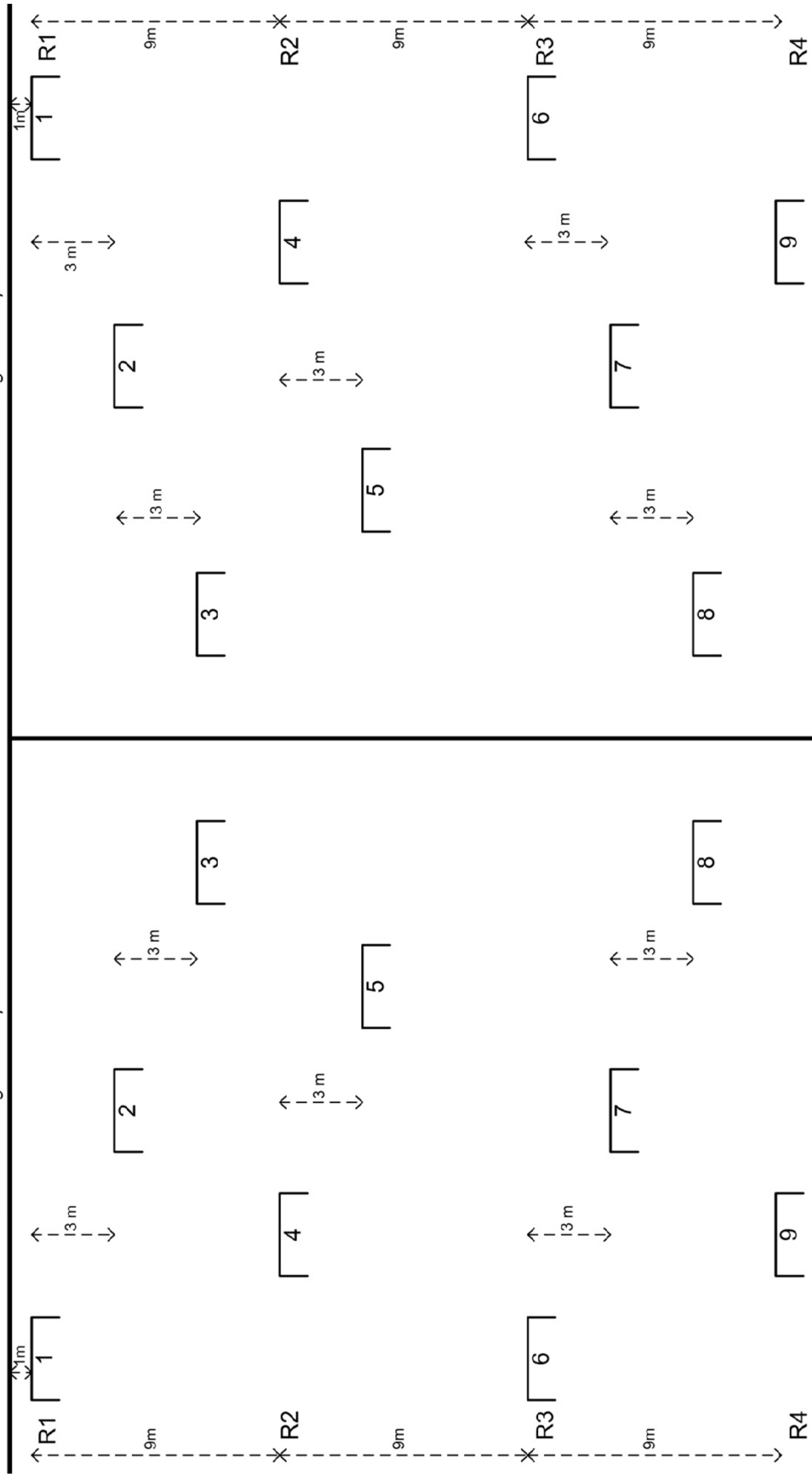
Endurance
Starting Grid / Grille de départ



SIDECAR

STARTING GRID / GRILLE DE DEPART

Dimensions in meters / Dimensions en mètres



4.11.9 Breaking Marks and Turn Signals

There must be a white line (width: 1 m; length: minimum 5 m) painted at both sides on the verge at the edge of the racing surface or the kerb in order to be used for the riders as a breaking reference when approaching the turn.

This white line must also be painted on the first line of protection (guardrail or wall).

If necessary, it will be also required to paint the protection device at the first line of protection with a white line 1 metre wide aligned with the marks at the edge of the track.

The approach before a turn must be indicated. Boards indicating the distance to the turns can also be installed. The position, type and dimensions of these boards should be approved during the homologation process.

For Endurance races taking place partly at night, signs in reflective material must be installed.

4.11.10 Pit Lane Marking

4.11.10.1 Pit Lane Entry:

A continuous 10 cm-wide white line must be painted across the pit lane entry. The exact position of this line will be defined by the FIM Representative of the FIM CCR Circuits Homologation Committee during the homologation process. This line will coincide with the first speed control loop. 60 km/h speed limit boards must be placed on both sides of this line.

4.11.10.2 Pit Lane Exit:

A continuous 10 cm wide white line must be painted across the pit lane. This line will coincide with the last speed control loop. Crossed-out 60 km/h speed limit boards must be placed on both sides of this line.

4.11.10.3 Line defining the fast lane:

It is recommended to paint two parallel white lines of 10 cm wide with a 40 cm gap between them, along the pit lane in order to separate the pit lane working area from the fast lane.

ARTICLE 5 - SERVICE ROAD

5.1 DEFINITION AND PURPOSE

The internal and external rings running more or less parallel to the racetrack form the Service Road. These rings are located after the first line of protection and must be separated from public areas. It is recommended that both rings be in place.

The purpose of the Service Road is mainly to enable service motorcycles and other vehicles to circulate around the track without using the racetrack itself. These service vehicles include (amongst others):

- Ambulances
- Fire-fighter trucks
- Recovery vehicles
- Moto-taxi
- Medical (fast) cars
- Photographers shuttles
- VIP shuttles

In certain circumstances, the FIM Representative of the FIM CCR Circuits Homologation Committee (or FIM Safety Officer) may forbid the circulation of shuttles.

The marshals are placed along this Service Road to survey the track. For more information on marshal posts (cf. Art. 10).

5.2 CHARACTERISTICS

A complete internal and external ring for the emergency services will be required in order to guarantee easy and quick access to any point of the racetrack and run-off areas. This ring will have direct access to the Medical Centre as well as the quick exit from the circuit.

Preferably the ring will be a two-way road, if the circumstances do not allow this, several holding areas where emergency vehicles can stand by and allow overtaking should be planned around the Circuit. The surface should be in solid and stable material.

Particular measures for Grades A, B and C:

Scaffolding for the TV cameras will be placed at some points on the Service Road. Space for these should be planned in advance. Circuit designers should plan this with the event organisers during the design phases.

5.3 PROTECTION OF PERSONNEL

Personnel installed in a fixed place during an event (marshals, paramedics, doctors, cameramen, etc.) must be protected from possible debris or projectiles resulting from activity on the track.

If they consider the protections insufficient, the FIM Representative of the FIM CCR Circuits Homologation Committee (or FIM Safety Officer) may request additional protections.

ARTICLE 6 - TRACK ADVERTISING AND STRUCTURES

6.1 GENERAL REQUIREMENTS

All advertising boards must be perfectly stable. The position and characteristics of any advertisements placed on the circuit must neither reduce riders' or officials' visibility nor create an optical effect likely to obstruct or give a false impression. No form of advertising is permitted on the track surface (run-off areas excepted). The paint used for advertising on the asphalt run-off areas must be homologated by the CCR/FIM.

All advertising structures must be approved by the Safety Officer or Jury President in coordination with the possible promoter of the Event (i.e. for MotoGP™ they must be approved by Dorna Sports S.L.).

6.2 TRACK SIDE STRUCTURES

Circuits must provide any type of structure that protects from adverse weather conditions, either sun or rain, for marshals, medical teams and TV cameramen.

It is strongly recommended that these devices be in a grey colour.

ARTICLE 7 - RACE CONTROL

7.1 DEFINITION

The Race Control room is the center of supervision and control of the race.

It must provide the Clerk of the Course and his/her assistants, as well as the Race Direction if appropriate, with all the facilities necessary to perform these duties in suitable working conditions. It should be a room with suitable sound attenuation.

It will be accessible only to the authorised personnel.

The Clerk of the Course should remain in Race Control for the duration of all on-track activities.

A proper Race Control room must be spacious enough to hold (approx. 120 m^2), in a comfortable manner, 26 working officials (National and International) including the relevant furniture and technical equipment.

7.2 LOCATION

Race Control has to be located in a permanent facility preferably on the ground floor of the Pit Box building, with direct access to the Pit Lane and as close as possible to the Start line.

7.3 EQUIPMENT

The following equipment must be installed in the control post:

- A telephone connected to the outside network available for international calls
- A radio transmitter/receiver for the internal network
- WiFi connection in a private network must be provided and sufficient for all of the members of the Race Control
- Closed-circuit television (CCTV) (cf. Art. 7.4)

- 1 TV screen for live feed and 1 or preferably 2 TV screens for timing (recommended size: 42 inch screens)
- A switch to turn on/off all the red lights around the track including the pit lane exit lights
- The Circuit must be equipped with an Uninterruptible Power System (UPS) (cf. Art. 7.5)
- Adequate heating or cooling facilities

7.3.1 Particular Measures for Grades A, B and C Circuits:

7.3.1.1 Radio Communications

Frequency Control system to interconnect the Race Control Room with the following Race Track services: Race Track Marshals, Scrutineering, Medical services, Recovery Bikes service, Security, Moto Taxi services and Race Track maintenance service.

All track-side personnel connected with the Race Control by radio should have head-sets to avoid noise interference. To avoid any interference among different services, at least 8 different frequencies must be provided.

7.3.1.2 Control of Red Lights along the track

The circuit must be provided with red lights (same meaning as the red flag) along the track. The lever or the push-button control to switch on these red lights must be located ONLY at the Race Control and NOT at the marshal posts along the track.

Red lights are not compulsory for circuits that are already equipped with led panels.

7.3.1.3 Cables

The Circuit/Promoter will have to provide a patch panel with several cable connections between the Data Processing Control room (DPC) at the Paddock and the Race Control. The best position for the Patch Panel inside the Race Control room will be near the working tables of the International Race Direction.

(When necessary, please refer to Dorna’s Data Processing and Timing Manual for a detailed explanation of the cables and connections required)

There will be a temporary installation for intercom and data transmission between the TV Broadcasting Area and the Race Control room. Cable access has to have a clear unobstructed run from the TV Broadcasting Area to the Race Control room.

At each work station, various electric sockets should be provided.

7.3.1.4 Other Requirements

Comfortable chairs and large desks will be necessary for all the officials working in this area.

Toilets must be provided close to this area. It is important to keep this service in optimum condition.

7.4 CLOSED CIRCUIT TELEVISION (CCTV)

This installation can be permanent or provisional and must be in compliance with the following instructions:

- 1 small TV screen per track camera
- 2 larger TV screens to enlarge any of the track cameras
- A CCTV operator must be in the Race Control Room.
- All the TVs must be clearly visible from the last row of the Race Control Room (officials must be able to recognise incidents from the last row).
- The sizes of the TVs, the number and location of cameras will be decided during the homologation procedure.
- It is recommended that the size of the small screens should be 27 inches and the larger screens 42 inches.
- It is also highly recommended to use HD cameras and HD TVs.
- Each screen (camera) must be connected to a video or DVD recorder system.

- The control system of the recorders must be located in the Race Control room.
- The operating technician must be able to replay an incident in a very short time.
- The storage capacity of the recording system must be sufficient to record all the sessions of an event.
- The installation must be operational throughout the event from the first practice session.
- The cameras must be pivoting and be equipped with an efficient zooming system. If the installation is provisional, it must be completely independent of the installation for the TV broadcast of the event (different cameras, different cameramen, different control screens and different recording devices).
- If the installation is provisional, the presence of a crew coordinator who is in charge of passing the instructions of the officials to the cameramen all around the track and vice-versa is compulsory throughout the event at the Race Control Post.
- The cameras must be located in such a way that the officials at the Race Control Post can follow a rider for a full lap without missing him/her while all the cameras are stationary.
- The footage recorded should be kept at the disposal of the Race Direction and the FIM for a period of at least 6 months following the event.

7.5 UNINTERRUPTIBLE POWER SYSTEM (UPS)

It is compulsory to protect the mains power supply of the Race Control room with an Uninterruptible Power System 0,0 s (ON LINE).

The UPS must cover the following elements:

- The Telephone connected to the track network, the service posts and outside the network
- The radio transmitter/receiver for the internal network
- The WiFi connection

- The CCTV
- The 2 TV screens for live feed and timing
- The switch to turn on/off all the red lights around the track
- All of the signalling lights around the track including the start/finish line and pit lane entry & exit.
- An audible warning must be installed in this room to indicate when the UPS begins to operate. In addition, the system should specify the remaining autonomy time.

For new Grade A circuits, the Race Control Room must in the first instance protect its power supplies with a UPS for a minimum of 10 minutes following the start of the UPS.

7.6 CONSTRUCTION OR RENOVATION OF A RACE CONTROL ROOM OF A GRADE A CIRCUIT

For MotoGP™, a guideline for the construction of a grade A Race Control room (for new circuits or for circuits renewing its race control room) is available upon request made to the FIM.

ARTICLE 8 - PIT LANE

8.1 DESCRIPTION

The pit lane is part of the racetrack in terms of planning, designing and constructing a circuit. It is the area where the bikes can access the pit boxes.

The pit lane in front of the pits should have a minimum width of 12 m.

For new Grade A circuits, the pit lane should have a minimum width of 15 m.

The pit entry and pit exit white lines delimit the pit lane. The pit lane will be divided into two lanes. The lane closest to the pit wall will be designated the “fast lane” and must be a minimum 3.5 m wide and maximum 5 m wide.

The lane closest to the pit boxes will be designated the “inner lane”. This lane must be as wide as possible, fuel resistant and have similar anti-skid properties to the track.

It is recommended that the surface of the working lane can resist the deterioration caused by fluids such as fuels, brake fluids and any other liquids that are carried in a motorcycle or a car.

At the same time, the surface should resist to the use of hydraulic or air jacks.

Both lanes must be divided by a corridor. This corridor must be a minimum of one (1) metre wide and be delimited with white lines.

Both lanes must be clearly delimited with white lines on both sides of each lane.

All marking on the pit lane must be done with anti-skid paint homologated by the CCR/FIM.

The inner lane is the only area where any work can be carried out on a bike.

It is reminded that the pit lane represents a potentially dangerous area during the running of an event, not only because of the racing motorcycles using it but also in view of accidents that may occur owing to motorcycles being on the race track adjacent to it.

In all international circuit events, motorcycles using the pit lane in practice or racing should not exceed 60 km/hour: This must be applied and checked over the whole length of the pit lane (cf. Art. 8.4, 8.5 and 8.7).

8.2 SIGNALLING PLATFORM

A platform for teams’ and marshals’ signalling must be built between the Pit Lane and the verge at the Race Track edge. This platform will be used by the Teams to install their canopies. This temporary set-up will be the main information point for all the team personnel during practice and the race. It will also be the only point of contact between the rider on the track and his/her team during all sessions.

This platform should respect the following minimum dimensions:

- Width of the verge trackside (2 metres).
- Width of the platform (minimum 1.5 metres).
- Length of the platform should cover all the Pit Boxes and it should be extended 25 metres at the Pit Entry side and another 25 metres at the Pit Exit side.
- Level of the ground in the lane (35 cm higher than the Pit Lane asphalt level).
- Protective concrete wall with a thickness of 25 cm.
- Pit Lane Wall (high 1 metre above ground of the platform).

A protection barrier of 65 cm in height is necessary between the platform and the Pit Lane. There must be openings of approximately 80 cm, located at a maximum of every 25 m.

There must be two openings of at least 2 m wide in the wall and the whole infrastructure of the signalling platform. One of these openings must be located at the level of the Start/Finish Line. It is indispensable that this passage is fitted with a sliding door that must be joined to the wall.

8.3 PIT LANE WALL

8.3.1 Required Facilities

8.3.1.1 Electricity

It must be equipped with electrical outlets at regular intervals of a minimum of 4 sockets in front of each pit box.

Particular measures for Grade A, B and C circuits:

- There should be a minimum of thirty low amperage 220 v double electricity outlets (Schuko), evenly spaced along the Pit Wall (it is recommended that every outlet has its own trip switch - 16 A/300 mA).
- It is highly recommended to install a UPS system in order to protect the power supply in this area.

8.3.1.2 TV Signal

The signalling wall should be cabled in order to allow Teams to receive the TV/ Timing feed in their canopies at the signalling wall (two RF outlets close to every electricity outlet).

8.3.1.3 Cable Tray

It is highly recommended to fit out a cable tray along the complete Pit Wall for the temporary cabling installations the event organisers may need.

8.3.2 Additional Debris Protective Devices

It is compulsory to install a debris fence or another protective device on the Pit Wall for the protection of the people working in the signalling platform and Pit Lane areas.

The structure of this fence/protection should be divided into sections (gaps) through which the teams are able to show the info panels to the riders. Devices other than the debris fence must be previously approved by the FIM.

The fence or protective device must be installed throughout the whole pit lane wall.

8.3.3 Lap / Time Counter

An electronic counter above the Pit Wall at the Finish Line and linked with the official Timekeeping service must be installed for rider information during practices and races.

8.4 PIT LANE ENTRY

A continuous white line must be painted across the Pit Lane entry where the pit entry detection loop is installed. The exact location will be decided by the FIM Representative of the FIM CCR Circuits Homologation Committee during the homologation of the circuit.

60 km/h speed limit boards must be placed on the ground on both sides of the white line that delimits the Pit Lane entry.

8.5 PIT LANE EXIT

The Pit Lane exit must be controlled with a set of lights. The light sequences that will be needed are steady red light, flashing blue light and steady green light.

It is recommended that these lights are also controlled from the Race Direction.

8.6 STARTER'S ROSTRUM

The starter's rostrum has to be located between 20 and 50 metres after the Start Line. A structure of at least 2 m higher than the signalling platform, surrounded by a handrail, must be installed. This structure must be built so that the Starter can easily see the complete Starting Grid. The control of the starting lights must be made from here.

Access to this platform is strictly reserved for the Starter and, possibly, his/her deputy.

8.6.1 Starting Light Control

The Starting Light Control System should be allocated in the Starter's Rostrum. The Starting Light Control should be with a lever and not with push button (cf. Art. 10.1.1 Start Lights).

The Starting Light System operated from the Starter's Rostrum must have a separate switching circuit, independent from any connected with Race Control.

As the Starter has to observe the motorcycles on the grid, he/she cannot look at the push-buttons at the same time, and therefore the lever control system is much safer because the Starter knows, without looking, that turning the lever in a clockwise direction the progression will be, without error, red-off.

The only lights sequences that we will be needed for the Starting Lights are:

- Steady Red Lights on or off: To indicate the start of the race.

The electrical line for the whole system including starting lights and controls should be protected with UPS.

8.7 SPEED CONTROL SYSTEM

Particular measures for Grade A, B and C circuits:

Several induction loops along the Pit Lane will be required in order to control the speed. The organisers' Timekeepers will install and prepare the system and leave them permanently for future events. If the circuit should re-asphalt the Pit Lane before the Event, the organisers must be informed so that they can arrange for the requisite personnel and material. (Please, check Dorna's Data Processing and Timing Manual for more information).

8.8 CLOSED PARK AREA

This closed park, with a 300 m^2 minimum surface area, must be fenced off and must only have one controlled entrance/exit point.

For Endurance this area must be 600 m^2.

ARTICLE 9 - MARSHAL POSTS

9.1 DEFINITION

Marshal post staff provides surveillance of the track and its immediate surroundings. These posts will be located behind the first line of protection close to the service roads. In their simplest form, these posts should provide an adequate, stabilised area for the staff and equipment protected from competing motorcycles, flying parts and sheltered from adverse weather conditions.

In the interests of visibility for riders and marshals, these posts should be raised in relation to the service road level.

9.2 NUMBER AND LOCATION

The number of personnel (track marshals, flag marshals and paramedics) at each marshal post and its exact location will be defined during the homologation of the Circuit, by the FIM Representative of the FIM CCR Circuits Homologation Committee.

Two maps of the circuit (one for the flag marshals and one for the track marshals) with the location of the posts and the number of marshals per post, will be attached to the homologation report.

It is recommended to attach also a combined table with the position (turns location, numbers and kind of (track or Flag) marshals.

The number of flag and track marshal posts will be decided during the homologation process.

The number of marshal posts for each circuit will be defined in accordance with the racetrack layout and its characteristics.

For MotoE events, the minimum number of track marshals at specific “MotoE” positions cannot be less than 5. The FIM Safety Officer will define in the homologation report the positions and number of specific MotoE posts where additional equipments and personnel will have to be provided.

Also the following conditions should be taken into consideration:

- No section of the road should escape observation.
- Each post should be able to communicate by sight with the preceding and the following one.
- The distance between consecutive posts should not exceed 250 m.
- Each post must be able to communicate verbally with race control.
- Each post should be marked with a sign-board bearing the number of the post.
- The FIM must be notified of any modification in the number or location of the posts.

For new circuits, it is recommended that the posts be numbered in the following way:

The posts will be numbered in the direction of the track and according to the turn numbers.

The starter rostrum will be post 0.0. After that, the first post will be 1.1 then 1.2, and so on.

Halfway between turn 1 and turn 2 the numbering will change to 2.1 the same will happen throughout the entire circuit.

All the posts (flag and marshal posts) will be numbered in this way regardless of the function of the post.

For example, there can be flag post 1.1 and if the next post is a track post it will be 1.2 even if it is the first track post at this turn.

A “T” will be placed before the number of the Track Marshal Post.

An “F” will be placed before the number of the Flag Marshal Post.

An “LC” will be placed before the number of the led panel controller marshal Post.

For existing circuits, the above form of numbering the posts is a recommendation.

9.3 FLAG MARSHAL POST

Each post should be indicated by a signboard clearly visible from the track.

A suitable size for this board is: width 40 cm and height 30 cm.

Each board must have a white background where the number of flag marshal post must be indicated in black writing as per the following example: “F1.A”.

An additional board (width 40 cm and height 30 cm) is required. Each board must have a white background where the letters “LC” followed by the number of the panel being controlled by the led panel controller marshal must be indicated in black writing as per the following example: “LC1”.

During an official FIM visit of a circuit in the absence of the flag marshals, it is recommended to allow the visualisation of the posts by presenting a fixed yellow flag in horizontal position.

If protected from the sun or the rain by an umbrella by, it is recommended to be of a grey colour but in any case, it cannot be red or yellow.

9.3.1 Equipment

At each post, the following equipment must be available:

9.3.1.1 General Equipment

- A reliable two-way radio communications system with race control including headsets and microphones.
- 1 set of official flags:
  - The flag dimensions should be 80 cm vertically and 100 cm horizontally.
  - The “Pantone” reference for the colours mentioned in brackets must be respected:
    - 1 green (348 C)
    - 1 with 3 yellow and 2 vertical red stripes (Yellow C, Red 186 C), each stripe with the same width.
    - 1 blue (298 C)
    - 1 white
    - 2 yellow (C)
    - 1 red (186 C)
    - 1 black (black C)
    - 1 black with orange disk (Ø 40 cm) (Black C, Orange 151 C)
    - 1 white with a diagonal red cross (Red 186 C) whose stroke width is between 10 cm and 13 cm
- 1 black board 70 cm wide and 50 cm high that enables the race number of a rider to be attached.
- 3 sets of white numbers whose stroke width is a minimum of 4 cm and height of 30 cm minimum.

9.3.1.2 On the Starter rostrum and at the finish line level the following equipment is needed

- 1 “drop of position” yellow board (100 cm horizontal x 80 cm vertical) which enables the race number of a rider to be attached and which can indicate the number of positions to be dropped. A “+” sign as well as one set of black numbers, whose stroke width is a minimum of 4 cm and height minimum of 30 cm, must also be provided.
- 1 ride through yellow board (100 cm horizontal x 80 cm vertical) which enables up to 4 rider’s race numbers to be attached.
- 2 yellow flags
- 1 green flag
- 1 red flag
- 2 Chequered flags
- 1 or 2 blue flag(s)
- Boards – 5 min / 3 min / 1 min / 30 sec
- Boards for remaining practice time – 3 min / 2 min / 1 min
- “Wet/dry race” board
- “Start delay” board

9.3.1.3 Equipment for Pit Lane Exit

- Whistles
- 1 set of official flags:
  - The flag dimensions should be 80 cm vertically and 100 cm horizontally.
  - The “Pantone” reference for the colours mentioned in brackets must be respected:
    - 1 green (348 C)
    - 1 red (186 C)
    - Yellow (C) depending on the number of pit lane marshals

- Boards for remaining practice time – 5 min / 4 min / 3 min / 2 min / 1 min
- “Wet/dry race” board
- “Start delay” board
- A countdown clock

9.3.1.4 Equipment for the Starting Procedure

- Flags:
  - The flag dimensions should be 80 cm vertically and 100 cm horizontally.
  - The “Pantone” reference for the colours mentioned in brackets must be respected:
    - 1 yellow (C) per row
- Number boards row by row
- Ground numbers for starting positions

9.3.1.5 Additional Equipment for Endurance races

- SC board at each marshal post: white board with black letters. Minimum dimensions of the board: 80 cm x 60 cm. Minimum dimensions of the letters: 40 cm high.
- 1 yellow board with the word “Push” in black (Black C, Yellow C). For races taking place partly at night, this board must be retro-reflective.
- Yellow flashing lights
- A set of official retro-reflective boards.

All the boards must have the following dimensions: 100 cm horizontal x 80 cm vertical.

The “Pantone” reference for the colours mentioned in brackets must be respected:

- 1 green (348 C)
- 1 with 3 yellow and 2 vertical red stripes (Yellow C, Red 186 C), each stripe with the same width.

- 1 white
- 1 red (186 C)
- 1 white with a diagonal red cross (Red 186C) whose stroke width is between 10 cm and 13 cm.
- 1 white board with the letters “SC” in black (black C).

9.3.1.6 Additional Equipment for the Sidecar Races

On the Starter rostrum and at the finish line level the following equipment is needed:

- 1 per-bend black/white flag

9.3.2 Presentation of the Flag Marshals’ Equipment

During the inspection lap on each day before the first practice session or warm up, the flag marshals must stand at their post, presenting a waved yellow flag and a board indicating a number. The FIM Safety Officer (MotoGP™, Superbike, Endurance events) or the Jury President (other FIM World Championship and Prize events) may require extra equipment to be also presented.

9.4 TRACK MARSHAL POST

Each post should be indicated by a signboard clearly visible from the track.

The suitable sizes for this board will be: width 40 cm and height 30 cm.

It is mandatory that each board has a white background where the number of track marshal post should be indicated in black writing as per the following example: “T1 A”.

9.4.1 Equipment

At each post, the following equipment must be available:

- A reliable two-way radio communications system with race control including headsets with microphone.
- 2 rigid brooms and shovels.

- 1x 15 liter recipient and 2x 4 liter recipients filled with calcium carbonate or similar substance that can absorb oil (cf. Art. 13.2 for recommended products).
- 5 litres of detergent or products disaggregating oil on hand, with sufficient further supplies available at the circuit (cf. Art. 13.2 for recommended products).
- Absorbent Towels/Roller
- Fire-fighting service:
  - Preferably 2 fire extinguishers of polyvalent powder or ABC type of 6 Kg.
  - 1 fire extinguisher of 1 liter of “AFFF foam spray unit” type is recommended.
- Straps for lifting the motorcycle.
- For wide gravel beds it is recommended to have sledges to move the bikes.
- Minimum of 2 “Doctor barriers”: (cf. Art. 4.10.1).

Further recommendations for “Doctor barriers”:

- Recommended dimensions: 100 x 70 x 30 cm
- Recommended weight: Approx. 10 kg
- These Doctor Barriers should be covered with a fire resistant material whose colour is recommended to be grey with the word “DOCTOR” in retro-reflective orange.

9.4.2 Supplementary Requirement for MotoE Events or other Electric Series

<u>In the pit lane:</u>

- One 9 litres lithium-ion extinguisher (also valid for class ABC fires and including F500 encapsulate agent) located at every pit box in front of which will stand an electric motorcycle;
- One insulated emergency hook (Norm CEI 61230) located at every pit box in front of which will stand an electric motorcycle;

At each track marshal MotoE post:

- Two 9 litres lithium-ion extinguishers (also valid for class ABC fires and including F500 encapsulate agent) at track marshal posts defined by the Safety Officer during the homologation;
- One firefighter or fire marshal with appropriate PPE;
- One insulated emergency hook (Norm CEI 61230) at track marshal posts defined by the Safety Officer during the homologation;
- Each track marshal must be equipped with insulated rubber gloves (Class 0 certified to CEI 60903-2003 or CEI 60903-2002). It is recommended that marshals have long-sleeved gloves and wear standard working gloves on top in order to offer protection when handling equipment to avoid damage that can affect the effectiveness of the insulated gloves. It is also recommended that these marshals wear a protective helmet with a protection mask.
- The minimum number of track marshals at the specific “MotoE” positions cannot be less than 5.

9.4.3 Presentation of the Track Marshals’ equipment

During the inspection lap at each day before the first practice session or warm-up, the track marshals must stand at the edge of the track, in line with their post.

On the first day, 2 units of “Doctor Barriers” have to be displayed at the edge of the track at each post with the presentation on their top of absorbent towels/ rollers and a recipient of absorbent powder. After the inspection, they must be removed behind the first line of protection.

9.5 MARSHALS’ UNIFORMS

Marshals should not wear clothing similar in color to any signalling flag, particularly yellow and red. The uniform must cover the whole body. It is strongly recommended that the marshals’ uniforms be white or orange (Ref. Pantone: 151 C) and that the raincoat be transparent.

ARTICLE 10 - TRACK SIGNALLING

10.1 BASIC SIGNALLING INSTALLATIONS

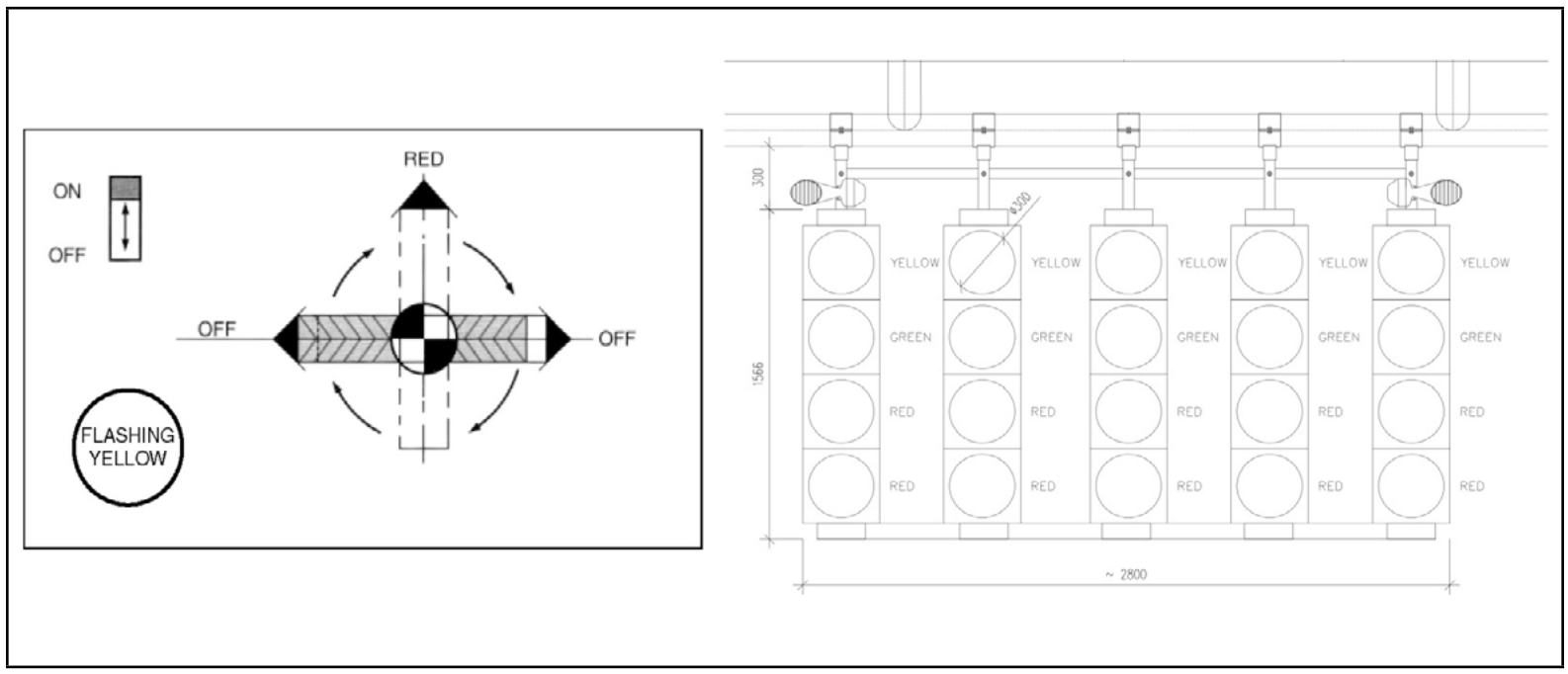
10.1.1 Start Lights

An installation of a minimum of 5 red lights and 5 yellow lights is recommended. The following combinations must be possible:

- All Red lights on
- All Red lights off

For information, the following combinations are requested by FIA and are also accepted by FIM provided that the FIM regulations are followed:

- Yellow flashing light only
- Red light



These Start Lights have to be protected by UPS.

The Start Lights are placed on a gantry. The gantry must be placed approximately 25 metres in front of the Start line. The exact height of the gantry will be decided during the homologation procedure. In any case, the minimum height must allow a truck to pass under it (according to local truck dimensions). The lights will be placed on the gantry with a minimum clearance of 5 metres from the ground level. If the gantry is taller than 5 metres the lights will be hung so that they are at a height of 5 metres. The final position of the gantry and the lights will be decided during the homologation procedure. It is recommended to place the lights in a central position.

10.1.2 Red Lights around the Circuit

Only the Clerk of the Course or the Race Director (for MotoGP™, WorldBSK and Endurance) can switch on Red Lights to signal that the practice or race is stopped. They will be complemented by the marshals' red flags.

The luminous intensity must ensure good visibility of the lights. In order to avoid sun reflection, it is desirable to cover the top. There must be a minimum of 3 lights around the circuit (plus the start lights). The distance between these lights should be about equal.

10.1.3 Pit-Lane Exit Lights

The pit exit lights are red, flashing blue and green. These signs must be controlled by an official at the pit-lane exit continuously. Each light must work independently. Two lights cannot work simultaneously.

It is recommended that these lights are also controlled from the Race Direction room.

10.1.4 Yellow Flashing Lights around the Circuit

Each circuit on which races taking place partly at night are organised must be equipped with light signals fixed to each marshal post.

These signals must be controlled by the post on which they depend and by the following post.

This installation may be made of flashing lights, i.e. two lamps that switch on alternatively or by light or LED panels that flash alternately.

10.1.5 Light / LED Pannels

Light panels could be used in addition to the flag presentation with the prior approval of the Safety Officers. The Colors of the panels used will remain at the discretion of the Safety Officers. In any case, when applied, the red light can only be operated from the Race Control.

A joint FIA-FIM Homologation program has been developed.

The use of FIM homologated light panels is mandatory for GP, WorldSBK and EWC disciplines.

The Homologation Manual - FRHPlp-01 sets out objective design and performance requirements for light panels intended for use in motor racing circuits. It addresses systems that are specifically designed for motorsport applications and that provide dual control, such as local stand-alone operation via the marshal control device and remote operation by the Race Control.

This standard defines different homologation Grades as follows:

a) Grade 1 and Grade 2 homologations will concern the Circuit Racing FIM World Championships and Prize events;

b) Grade 3 homologation will not be used for motorcycle competition.

The requirements for Grades 1, 2 and 3 presented herein will ensure that the light panels will have a minimum luminance within a certain range of vertical and horizontal angles as well as the required set of colour coordinates, to improve rider visibility across all the circuit grades. The standard also details the flag signals and their functions during race conditions.

This document is not intended to outline any details concerning the location and number of light panels. In principle, the location and the numbering of the light panels will be organised along the same lines as the marshal posts, in either a full circuit or partial circuit installation. Adjustments in the location and the numbering of the light panels may be required to accommodate different types of racing.

The homologation protocol can be obtained from the FIM administration.

The current FIM homologated light/led panels homologated are:

Grade 1
DZ ENGINEERING - DZeF-01
EM MOTORSPORT - T1
MYLAPS SPORTS TIMING - LP Grade 1
PIXELCOM (PIXELMOTORSPORT) - 768-G1
SPORTOTAL - FLPG1

Grade 2
DZ ENGINEERING - DZeF-02
EM MOTORSPORT - T2
ITS CHRONO - ITSF9HOMG2
MYLAPS SPORTS TIMING - LP Grade 2
PIXELCOM (PIXELMOTORSPORT) - 768-G2

Grade 3
DZ ENGINEERING - DZeF-03
EM MOTORSPORT - T3
MYLAPS SPORTS TIMING - LP Grade 3

ARTICLE 11 - RESCUE SERVICES

11.1 INTERVENTION VEHICLES

Intervention vehicles are a fundamental part of circuit emergency equipment. Their crews provide the specialized intervention that may be needed at any accident on the racetrack, in the pits or in the paddock area.

11.1.1 Duties

Fire-fighting:

- There must be enough fire-fighting vehicles so that no area of the race track is more than 4 minutes away from these vehicles.
- **Unless otherwise specified in the specific Regulations, or in the homologation report, a** fire-fighting vehicle with a minimum water capacity of 3000 litres, manned with 3 firefighter, must be available to cover the paddock from the day of the teams set up (24H) until the day following the event. In addition, the pit lane must have a dedicated fire vehicle to act as a second intervention and to have the means to extinguish the fire completely.
- For MotoE events or other electric Series, fire-fighting vehicles should be located less than 2 minutes from from the E-paddock and ready to intervene for the duration of the event.
- In any case all of the fire-fighting equipment around the circuit (including track, pit boxes and paddock areas) must comply with national laws.

Medical:

- Please refer to the specific FIM Medical Codes.

Recovery vehicles:

- Recovery vehicles must be able to transport a damaged bike from the service road to the pit boxes.
- Recovery vehicles will not enter the racetrack or the run-off areas.
- The marshals will take the bike from where it has crashed/stopped to the Service Road. From there it will be loaded onto the recovery vehicle and taken to the pits.

Moto-taxi:

- Moto-taxis are used to take uninjured riders back to the pit boxes.
- Injured riders will be taken in ambulances or medical cars to the Medical Centre.

The number and location of all these vehicles will be decided during the homologation process.

11.2 EQUIPMENT IN THE REFUELLING PITS

Each pit must have at least one (1) portable extinguisher. It is also compulsory that in the pit lane in front of every second pit a high volume extinguisher is placed.

11.3 EQUIPMENT IN THE PADDOCK

The paddock area should be provided with sufficient portable extinguishers as well as be easily accessible to fire-fighting vehicles. These should comply with national rules and laws.

ARTICLE 12 - MEDICAL SERVICES

Please refer to the specific FIM Medical Codes.

ARTICLE 13- OTHER SERVICES

13.1 CIRCUIT MAINTENANCE

All of the circuit installations and structures must be maintained in good operating conditions. This must be done before and during FIM events.

It is recommended that the complete drainage system is checked one week before any FIM event in order to ensure that there are no obstructions.

To make emergency drainage in case of heavy rain, it is recommended (compulsory for MotoGP™) that the circuit meets the minimum requirement for drainage equipment stated in art. 4.4.

13.2 TRACK MAINTENANCE

The circuit must be equipped with at least one cleaning/washing truck with sweeping and vacuuming functions and/or at least 2 mobile high-pressure washers with water tanks in order to remove detergent after cleaning.

This vehicle must be also equipped with 5 litres of ready-mixed detergent on hand in a spray applicator.

For a Grade A homologation, a minimum of six blowers with the following specifications must be provided:

- Minimum air flow 380 CFM
- Minimum blowing force 9N

It is recommended that each circuit have a quick sweeping system, preferably towed by a vehicle to pick up easily various debris from rubber, gravel, glass, fairings, etc.

Some recommended quick sweeping systems, having proved their efficiency, are:

- WIEGEL Transport Equipment “FOD*BOSS Kehrmatten”

The Promoter’s Manual of the event’s organisers, if existing, could require supplementary equipment.

13.2.1 Wet conditions

The circuit must be equipped with sufficient detergent to be able to quickly dissolve and/or deteriorate the mixture of oil/fuel in case of oil spill on track over an extended length of the circuit.

It is recommended that each marshal post has 5 litres of ready-mixed detergent on hand in a spray applicator, with further supplies available at the circuit.

Such detergent must be a mild general purpose detergent containing:

- No less than 25% Sodium Laureth Sulphate.
- 5-15% cationic surface active.
- No more than 5% silicates.
- No more than 5% agent making balanced water (neither too hard nor too soft).
- 5-15% inorganic salts.

A good liquid detergent like the one used for hand washing wool sweaters is suitable for this purpose. This detergent must NOT contain any alcohol or solvents.

Once the detergent has dissolved the mixture, that part of the tarmac should be washed with water.

Some products are not simply detergents; they break down and “digest” the oil.

Some recommended products, having proved their efficiency, are:

- Arbos Co. Japan “Abusu”,
- Buzil-Werk Wagner GmbH “Indumaster Fast IR14”,
- CSA Italy “RbeO+”,
- 7 d’Armor “SYNER J”.

(Details available from the FIM Safety Officers)

The above detergents must be used only when requested by the Race Director or FIM Safety Officer. Marshals may not use detergent on the track surface without permission.

In order to effectively handle these products, the FIM Safety Officer may request an oil spill cleanup simulation during the Track Safety Inspection, the day before the first practices.

13.2.2 Dry conditions

Some recommended absorbent powders, having proved their efficiency, are:

- CSA Italy “Sorb&Go2”,
- Minerals I Derivats S.A “Sepiolita”.

(Details and suppliers available from the FIM Safety Officer)

This product and any other absorbent powders can ONLY be applied with the express permission of the FIM Safety Officer or Race Director. Marshals CANNOT apply these to the track surface without permission.

In order to effectively handle these products, the FIM Safety Officer may request an oil spill cleanup simulation during the Track Safety Inspection, the day before the first practices.

13.3 COMMUNICATIONS SERVICE

The following communications networks must be installed:

- A telephone connection with the outside network from the Race Control post.
- An internal network linking up the race control with:
  - Flag and track marshal posts
  - The medical centre
  - Medical personnel
  - Recovery vehicles and moto-taxi
  - Medical/safety cars
  - Any other personnel required during the homologation process - or in the promoters manual (if existing).

- The communication must be efficient. Preferably radio communication must be used. But the exact type of communication will be established in the homologation process or with the event promoters.
- A public address system. The paddock area must be able to be disconnected without disconnecting the rest of the areas.

ARTICLE 14 - CIRCUIT BUILDINGS AND INSTALLATIONS

A circuit includes various elements and buildings. These can be divided into the following:

Pit Boxes Building: It is highly recommended that this Building include:

- Pit Boxes
- Race Control
- Timekeeping room
- Safety Officer room

It also may include:

- Podium
- Media Centre
- One Commentary Booth
- One FIM Official Room
- Offices for permanent circuit staff
- Hospitality suites

Medical Centre:

- It must contain all of the items described in the specific FIM Medical Codes.
- The medical centre together with its helicopter pad must be separated from the paddock and spectator areas with a fence.

Paddock:

- The paddock is the area where the teams' offices, teams' hospitalities and organisation's offices are located.
- Showers and toilets will also need to be provided in this area.
- The circuit will need to provide a sufficient area for all of this.

Parking areas:

- It is highly recommended that a circuit plan some areas for parking, especially if it wants to host international events.

Spectator areas:

- Grandstands and general viewing areas are highly recommended.
- They can be permanent or temporary.
- Giant screens are also recommended so that spectators can follow the whole race.
- These areas must be separated from the service roads by the second line of protection.
- They must comply with national laws and regulations.

Accreditation centre:

- This is the place where organisation guests and staff as well as journalists collect their accreditations.
- An accreditation centre is highly recommended, especially at international events.

All of these areas have to have toilets, and it is also highly recommended to put in place dining facilities.

Please note that for more specific explanations for all of these elements, circuits should ask for the Promoter's event organisers manual (if existing):

- MotoGP™: Dorna Sport S.L.
- World Superbikes: Dorna Sport S.L.
- Endurance World Championship: EEL

Also, please consult FIM environmental code.

14.1 PIT BOXES

The specifications and conditions laid down hereafter may vary upon request of the Championships' promoters.

For new circuits requesting a FIM MotoGP™ Homologation (or for existing circuits renewing their bit boxes), the minimum specifications are:

- Minimum number of Pit Boxes: 40
- Minimum width: 7 m (6 m door clearance)
- Minimum length: 18 m

14.1.1 Security

Each box should be lockable front and back with a barrier or partitions preventing access from both sides of the boxes. However, it is preferable that these partitions can also be removable to allow teams occupying more than one box to remove them.

The boxes should also be protected from natural elements so that the wind does not blow through and rain and stagnant water do not seep in.

14.1.2 Electricity and Lighting

Boxes should be equipped with at least 8 electricity outlets per 50 m^2 of box space. The outlets should be of at least 16 amps, and should be capable of meeting the current electrical specifications of devices such as tyre warmers etc. It is also desirable that electrical outlets be provided on the Pit Lane side of boxes to allow teams who do not have access to electricity from their boxes to use it during practice or the race.

It is highly recommended to have a 380 v (32 amp) sockets outside, at the back of the pit boxes for the teams' working trucks, and at the front.

All boxes should be well lit, with good quality lighting (minimum 500 lux) throughout the whole boxe and be cabled to receive timekeeping and television signals.

It is highly recommended to have a TV socket per pit box connected to the Closed Circuit Television (CCTV) signal, in order to receive footage of the races and timekeeping results.

14.1.3 Water, Drainage

Each Pit box should have individual access to water and drainage.

14.1.4 Compressed air

Each Pit Box should also be equipped with a compressed air supply equipped with a humidity extractor in order to release water built up from the compressed air.

14.1.5 Fire-fighting

Each Pit Box shall be equipped with fire-fighting supplies (extinguishers, etc.).

14.2 PODIUM

The Podium must be visible and protected at the prize giving ceremony by installing a temporary protection line a distance away from the podium, in order to allow a large number of photographers to work efficiently.

14.3 TIMEKEEPING ROOM

The specifications and conditions laid down hereafter may vary upon request of the Championships' promoters (see promoters' or timekeeping company manual if existing).

The timekeeping post must be sound-proofed as much as possible and must allow perfect viewing conditions. It must be equipped with adequate heating or cooling facilities.

The timing equipment must be able to record times on each lap and be accurate to 1000th of a second.

The results office must be arranged in such a way that the time of each rider for each lap may be calculated immediately.

The results office which, if possible, will be situated in a nearby but separate room from the timekeeping room, must contain at least one photocopier machine and a backup photocopier.

14.4 MEDIA CENTRE (FOR NEW CIRCUITS)

The specifications and conditions laid down hereafter may vary upon request of the Championships' promoters (see promoters' manual, if existing). The press centre must be equipped with adequate heating or cooling facilities.

14.4.1 Location

It is recommended that the press centre be located above the stands so that the start and arrival of the races are visible, together with the activity in the pit lane. If the press centre is not above the stands, it must be located in the paddock.

14.4.2 Opening Hours of the Press Centre

The minimum opening hours of the press centre are the following:

Thursday: 14h00 – 21h00

Friday: 08h00 – 22h00

Saturday: 08h00 – 23h00

Sunday: 08h00 – midnight

The opening hours of the press centre must be clearly mentioned on a professional board in front of each press centre's entrance.

14.4.3 The Press Officer's Office

This office must be equipped with:

- 1 desk with drawers (preferably lockable)
- 1 piece of furniture with a lock
- 2 tables measuring together at least 8 m long by 1 m wide
- 1 direct telephone line
- 1 telephone cable (two pairs cased, 4 cables in total) as from the timekeeping room. The cable must be connected to each end. Ways through a generator or amplifier together with connections must be absolutely avoided.
- 1 photocopier
- 1 small refrigerator

- 1 TV monitor at least (preferably a set of 4 TV screens) with enough electric outlets for a computer, a charger for walkie-talkie and two printers.

14.4.4 Space for Internet

It must be equipped with:

- 2 telephone lines (1 line must be of ISDN type in the countries where such service exists).

Both lines must be installed in the timekeeping room.

14.4.5 Space for Teams' Information

Space for teams' information must be provided in the press centre (a table of a minimum of 10 m long by 1 m wide). This space must be clearly marked with a "teams' information" board.

14.4.6 Reception Desk

One reception desk, as near as possible to the press centre's main entrance, near the trays for the results and the official information board (cf. Art. 14.4.8.6) must be provided.

14.4.7 Working Places

- A minimum of 200 working places (tables/desks) must be available. The minimum dimension for each place must be: 100 cm long and 60 cm deep.
- 200 chairs

14.4.8 Equipment

14.4.8.1 Electricity

The press centre must be equipped with the equivalent of one (1) electric multiple adaptor and at least 3 working places. The best way is to install outlets on the ground and to fix extensions under the tables with a multiple adaptor every two metres. The extensions must not lay on the floor for security reasons.

For events outside Europe, a sufficient number of adaptors for European outlets (at least 50) is required.

14.4.8.2 TV Monitors

Each group of monitors includes 5 units.

The minimum size of the TV screen must be: 54 cm (21 inches). A lower dimension will not be accepted.

All TV monitors must be placed so that the channels can be changed with a simple remote control.

The number of TV monitors depends on the size of the press centre. It is recommended that the monitors be hung up on the ceiling.

A connection with the timekeeping room must be provided.

14.4.8.3 Connection with the National TV

The installation of a cable which goes from the TV centre, from which signal comes, to the press centre is necessary.

14.4.8.4 Photocopier

Three (3) photocopiers should be able to produce at least 60 copies per minute.

One of these machines at least must be equipped with a sorting machine for a minimum of 10 copies and if possible with an automatic stapler.

A big table must be installed near the photocopiers.

14.4.8.5 Official information/messages board

- 1 official information board (dimensions of minimum 2 m^2).
- 1 board for messages (dimension of 1 m^2).

14.4.8.6 Trays for Result Sheets

Sufficient trays for result sheets of each class must be placed as close as possible to the official information board.

14.4.8.7 Telecommunication Installations

3 telephone lines minimum.

It is important that the whole telephone area be suitably isolated to soundproof.

A certain number of converters for telephone/computer connections must be available upon request.

All the lines must be of optic fibres of very high quality and equipped to ensure transmissions via modem.

14.4.8.8 Direct Telephone Lines at the Working Places

It must be possible to install direct telephone lines at the working places if such is the wish of the journalists. All such telephones must be equipped in order to ensure transmissions via a modem.

14.4.8.9 Services for the Photographers

An area for photographers must be created near the press centre, but separately. Such area must be equipped with tables and chairs for at least 40 people.

An official information board and a board for messages must be provided together with a total of 4 TV monitors.

14.5 COMMENTARY BOOTHS

The specifications and conditions laid down hereafter may vary upon request of the Championships' promoters (cf. promoters' manual, if existing).

A minimum of 12 booths must be provided, i.e.:

- A direct and wide view of the track at the start/finish line.
- Commentary boxes spacious enough for two people.
- Two monitors, one for the TV broadcast and the other for the lap-by-lap positions from the leader to the last rider.
- An immediate relay of press information, simultaneously transmitted to the commentary boxes and the press room.
- Direct information (by telephone or radio) from the pit lane, paddock or medical centre concerning riders who have abandoned. The press officer at the circuit should appoint a few people to relay this sort of vital information as soon as possible during the race.

- Adequate heating or cooling facilities per booth.
- At least 2 chairs and one table per booth.
- At least 2 electric sockets of 200-220 Volts per commentary position.

14.6 OFFICIAL ROOMS

The specifications and conditions laid down hereafter may vary upon request of the Championships' promoters (cf. promoters' manual, if existing). These rooms must be near the race control post. The rooms must be accessible to riders during the event.

The following equipment must be installed as well:

- 1 TV screen connected (via normal antenna) with the host broadcaster
- 1 monitor connected with the timekeeping
- 1 telephone (direct line with outside national and international calls)
- Enough ADSL internet connections or Wifi
- Table and chairs
- Lockers labelled with the name of the persons present
- One refrigerator with soft drinks
- Adequate heating or cooling facilities

14.7 PADDOCK

The specifications and conditions laid down hereafter may vary upon request of the Championships' promoters (cf. promoters' manual, if existing). The surface of the paddock must allow heavy motorcycles to circulate on it.

Any demarcation of roadways, unauthorised zones and parking spaces must ensure that motorcycles occupying the paddock are positioned rationally. If the paddock is situated on the inside of a race track, it should be possible to gain access via a bridge or tunnel (clearance: 4,5 metres) for private cars, ambulances, heavy trucks etc. at all times.

The following minimum installation requirements must be met:

- WCs: 30 including 10 for ladies and 2 for disabled persons (and in any case following local legal requirements)
- Showers with hot water 12 including 4 for ladies and 1 for disabled person (and in any case following local legal requirements)
- A riders' information office
- A first aid post
- A medical service post or Medical Centre (in accordance with the FIM Medical Code).
- Fire-fighting post
- Bars and restaurant facilities are recommended.

14.7.1 Usable Areas

• Tractor Unit Park	700 m^2
• Teams Working Area (Minimal Box Space)	5000 m^2
• Major Service Companies	2000 m^2
• Secondary Service Companies	1000 m^2
• Hospitality	5500 m^2
• Living Area	4500 m^2
• Roads	5000 m^2
• Total	23700 m^2

This is only to be regarded as a guideline, as it an almost impossible to account for and utilise every square metre of a paddock.

14.7.2 Electricity Outlets

The minimum totals of electricity in the following areas should be:

	220 v (16 amp)	380 v (32 amp)
• Teams Working Area (Minimal Box Space)	55	15
• Major Service Companies	15	5
• Secondary Service Companies	15	5
• Hospitality	40	20
• Living Area	70	20
• Total	195	65

These figures are only guidelines. The greater the number of outlets, the easier access can be. It is desirable that no vehicle should ever be further than 50 metres away from an electricity supply. The further leads have to stretch through a paddock, the greater the power loss through the cables, as well as a the chance of cable damage and accident.

The total amount of KVA needed is difficult to ascertain, but on average a minimum of 7.5 KVA should be assigned to every vehicle in the paddock making a maximum of 1300 KVA. (This does not take into account electricity used within the pit boxes).

14.7.3 Water Outlets

Teams Working Area (Minimal Box Space)	50
Major Service Companies	10
Secondary Service Companies	10
Hospitality	40
Living Area	70
Total	180

Enough water pressure must be guaranteed at every water outlet distributed along the paddock.

Water should also be available adjacent to the Medical Centre (according to the FIM Medical Code).

14.7.4 Drainage

The used water must be evacuated, without atmospheric contact, through a flexible pipe to the device provided for this evacuation.

14.7.5 Waste Oil / Fuel Containers

A total of 8 x 200-litre containers located evenly throughout the working area should be easily accessible to teams area according to the FIM Environmental Code and at least according to the local legal requirements.

14.7.6 Waste disposal units

Waste disposal unites should be located evenly throughout the paddock area. Special attention needs to be paid to the hospitality area according to the FIM Environmental Code and at least according to the local legal requirements.

14.7.7 Maintenance

Waste oil/fuel containers and waste disposal units must be emptied or replaced at least once a day. It is recommended to be done before 8 am and/or after 7.30 pm. The toilets and showers must be kept clean and serviced throughout the event.

A technician for all the main services should remain on site throughout the event and be easily reachable.

14.8 SCRUTINEERING AREAS

Inside or near the paddock, a zone must be set aside for personnel carrying out administrative checks and scrutineering. This zone must have the following specifications:

- It must be fenced and covered
- The surface must be flat
- The area must have a minimum of 100 m^2
- Weighing material must be provided
- Access must be strictly controlled.

A board for official notices must be set up on the edge of this zone. The board must have a surface of at least 3 m^2. Any official notices must be suitably protected from inclement weather.

APPENDICES

The homologation procedure of new additional protective devices is available on request from the FIM Administration.

COORDINATES OF MANUFACTURERS & SUPPLIERS OF HOMOLOGATED ADDITIONAL PROTECTIVE DEVICES:

Airfence I, IS, IIS, Bike, Bike B & Bike Evo

AIRFENCE SAFETY SYSTEMS
Harim Industrial Corporation, M. Andy Coffey
P.O. Box 7161 Geelong West
Vic 3218 – AUSTRALIA
Tel.: +61 (0) 417 500 852
Fax: +61 (0) 3 8660 2577
airfence@airfence.com
www.airfence.com

Airprotek - Racing Safety Wall Type A & C

AIRPROTEK SAS
ZI Combe de Bramefond,
46200 SOUILLAC, FRANCE
Tél : +33 (5) 65 27 01 85
commercial@airprotek.com

Alpina Air-Module, Air-Module AA, Defender, Super Defender, Super Defender 2, Super Defender 3 Type A, Synthetic Bales & Big bales

ALPINA SAFETY SYSTEMS GMBH
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9552 STEINDORF - AUSTRIA
Tel.: +43 4243 2480 0
Fax: +43 4243 2480 5
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Archem (ex-Bridgestone) Module 1000, Module 1300 & Urethane Barrier

ARCHEM BUSINESS JAPAN CO., Ltd.
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Tokyo, 108-0075, JAPAN
Tél. : +81 50 8885 0615
Fax : +81 50 3737 8856
foam_support@archem.inc
www.archem.inc/contact/

Filling Italiano Protection System (ONDA 27/33-20/26)

FILLING TECHNOLOGIES S.r.l.
M. Paolo Barbazza
Via Pavoni, 1
20900 Monza (MB) - ITALY
Tel.: +39 (0) 39 20 50 999
Fax: +39 (0) 39 20 51 266
fillingtechnologies@pec.it
www.fillingtech.it

Liski Air Safety Mattress, Safety 1, 3 and 4

LISKI S.r.l.
Via Veneto, 8
Brembate (BG) - ITALY
Tel.: +39 0 35 4826195
Fax: +39 035 2283818
info@liski.it
www.liski.it

PKS Modele 1 & Modele 5

PKS PROMOTER SERVICE
Via Michele Angileri 162
91020 PETROSINO (TP) - ITALIE
Tel./Fax: +39 0923 986166
pks@ctomline.it

Recticel Safeguard Barrier 1, 2, 3, 4 & RR

THE AWNING COMPANY
Unit 1 Jubilee Works, Vale Street, Bolton
Lancashire BL2 6QF – GRANDE BRETAGNE
Tel.: +44 1204 544900
information@theawningcompany.co.uk or
safeguard@theawningcompany.co.uk
www.theawningcompany.co.uk or
www.safeguardbarriers.co.uk

SPM AirPADS & Energy Absorber Type A, B1 and C2

SPM SpA
Via Provinciale, 26
21030 BRISSAGO (Varese) - ITALY
Tel.: +39 0332 54 20 11
Fax: +39 0332 57 61 68
sport@spmspa.it
www.spm-sport.com

Trackcare Barrier, Inflatable Barrier & Hi-Lite

TRACKCARE MARKETING AND MAINTENANCE
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info@trackcare.com

COORDINATES OF MANUFACTURERS OF FIM HOMOLOGATED PAINTS:

09NS-SERIES W/B CIRCUIT MARKING PAINT

DREW PAINTS, INC. (Keith DiBrino)
PO Box 29139,
Portland, Oregon 97296-9139 – UNITED STATES OF AMERICA
Tel.: (+1) 503-227-6497
kdibrino@drewpaints.com

ANTI-SLIP
GREENFORD LTD

Unit 1, London Road
OX33 1JH Wheatley - UNITED KINGDOM
Tel.: (+44) 01865 876000
Antislip@greenford.ltd.uk

AXIMUM INDUSTRIE

Racing Mark
5 Rue du Quai du Débarquement
76100 Rouen, France
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MAPECOAT TNS RACE TRACK

MAPEI SpA (Ing. Elisa Portigliatti)
v. le Jenner, 4
20158, Milan (Italy)
Tél. : +39 3351303121
e.portigliatti@mapei.it

PRISMA PAINTS

Prisma Racetrack Paint (WB260)
P.O. Box 20392, Bldg: 754, Road: 113, Block: 601,
Sitra Industrial Area, KINGDOM OF BAHRAIN.
T: +97317732373
F: +97317731028
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prisma@batelco.com.bh

RACE LINE

GEVEKO (ex ORÉ PEINTURE) Edouard CHAMPALBERT
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e.champalbert@ore-peinture.fr
c.dunaye@ore-peinture.fr

SAMOLINE ANTISKID PAINT 8550.050
SAMOLINE STARTING GRID (WHITE 8555.0050 ou BLACK 555.0099)

COLORIFICIO SAMMARINESE SA
Via del Camerario 7
47891 Falciano – RÉPUBLIQUE DE SAINT MARIN
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SWARCO LIMBOROUTE Circuit line WBP

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COORDINATES OF LIGHT LED PANEL MANUFACTURERS HOMOLOGATED BY THE FIM:

DZ ENGINEERING

DZeF-01, DZeF-02, DZeF-03
286/A, Viale Bologna
47122 FORLÌ - ITALY
Tel.: (+39) 0543 1917350
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EM MOTORSPORT

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Unit A4 Telford Road,
Bicester OX26 4LD OXON - ENGLAND
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MYLAPS SPORTS TIMING

LP Grade 1, LP Grade 2, LP Grade 3
Zuiderhoutlaan 4
2012 PJ Haarlem - THE NETHERLANDS
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PIXELCOM, PIXELMOTORSPORT

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