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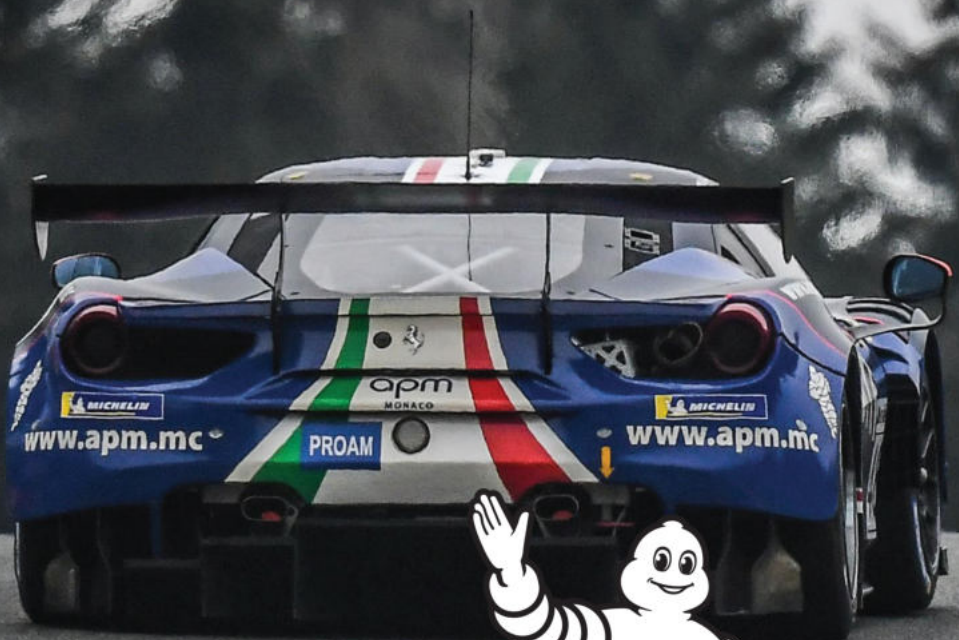
TYRE PROFESSIONAL GUIDE

CUSTOMER RACING 2021



MICHELIN

TECHNICAL DATA

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mm inch
ZERO

READING A TYRE

EX. : **27/65-18 S8M**

27 : Tread width in cm
65 : External tyre diameter in cm
18 : Rim diameter in inches
S : Slick
8 : Compound «Medium»
M : Evolution

PILOT SPORT GT : RANGE
CHIFFRE (7, 8, 9) : Stiffness of the rubber
LETTRE (L, M) : Generation

RFID TECHNOLOGY

The MICHELIN RFID READER is a system that allows FIA barcodes to be read automatically in dynamic. This system ensures regulations are adhered to by competitors while reducing administration and workload on the staff appointed to monitor the eligability of tyres.

HOW DOES IT WORK?

The system uses a RFID TAG placed in the tyre during the manufacturing process. This tag is encoded at the factory after curing and contains the unique data that allows each tyre to be identified remotely.

TWO READING MODES:

- Static reading using an RFID Terminal
- Dynamic reading up to 60 km/h by a terminal placed in the pitlane.

BENEFITS OF THE MICHELIN RFID READER:

- Removes the problem of illegible FIA labels thanks to a RFID chip placed in the tyre and read automatically
- The TAGs are read instantly and do not require alignment of the Terminal with regard to the tyre.
- Prevents any chance of cheating because the RFID TAG is locked at the factory.
- Automates controls and reduces the number of technical officials

RECOGNISING AND ACTING

WHAT TO DO IN CASE OF DAMAGE?

Any user client finding an anomaly will report it to a dealer or the technician on site.

To issue a claim, the dealer logs onto the following site: motorsportclaim.michelingroup.com

- Log on (ID + password)
- Press the 'add a new claim' button
- Fill in all the fields in each page.

CAUTION: the client's email and the photos are mandatory. Quality of the photos must be appropriate..

- Read the information thoroughly before submitting the claim. You can return at any time to add missing elements.
- The claim will be taken into consideration and will switch to the analysis status
- The client (dealer in copy) will receive an answer by email Read the information thoroughly before submitting the claim. You can return at any time to add missing elements.
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If Michelin requires the tyre to be inspected, a request will be made to the dealer via the tool (tire to be returned to the address indicated).

The dealer will then reply once the tyre is sent 'tire sent'.

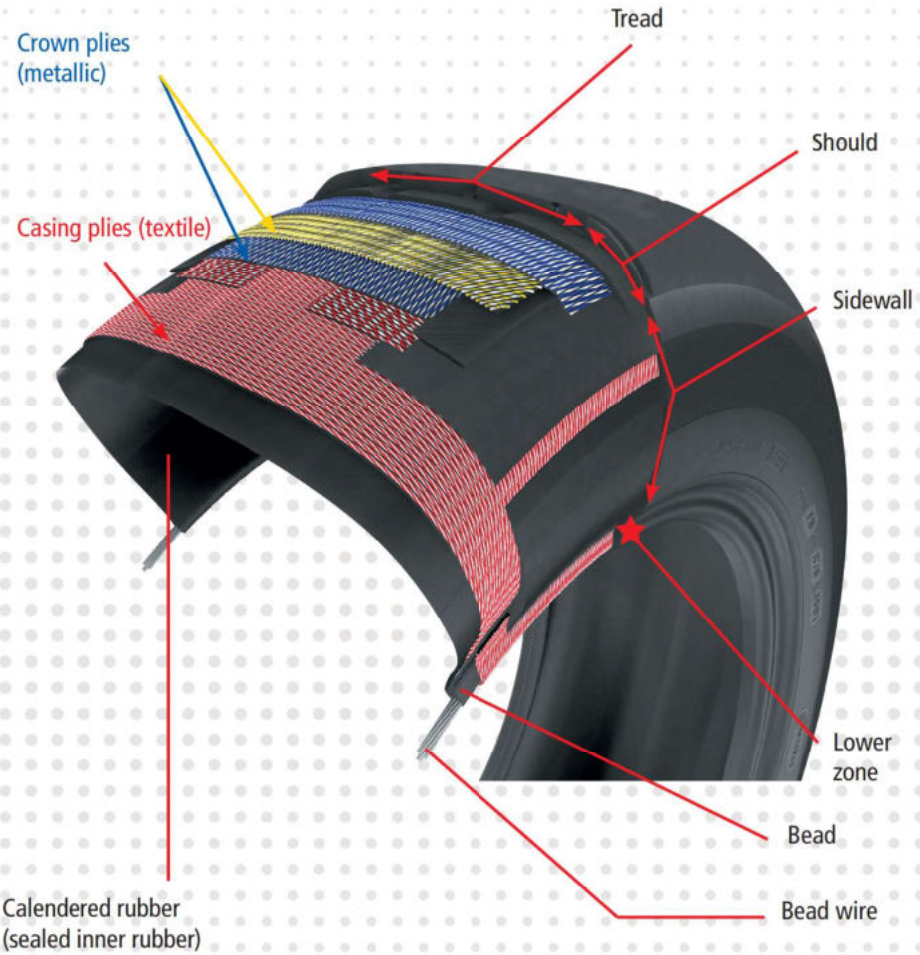
Each dealer can follow the progress of its claims via the tool.

Accurate information ensures a high quality and prompt answer.

DAMAGE ON THE TYRES

NO INJURY OR DEFORMATION IS TO BE IGNORED

Any visible injury or abnormal sign (sidewall or tread deformation, deep cut, break, appearance of vibrations, racking suffered by the vehicle, etc.) must form the subject of an in-depth examination. The diagnostic will allow for establishing whether the tyre can be repaired or is to be definitively withdrawn from use.



CONSEQUENCES OF UNDER INFLATION

Running at an insufficient pressure leads to excessive tyre flexion, causing abnormal overheating and irreversible damage..

The signs and consequences of running on underinflated tyres can be seen in the form of:
1. Marbling (folding of the inner calendered rubber).
2. Dislocation of part or all of the inner calendered rubber.
3. Total or partial loss of tread.
4. Circular rupture of the casing ply.

The signs are undetectable from the outside, hence the need to remove the tyre in the event of a puncture, in order to check its condition.

A tyre showing marbling must in no event be repaired and put back into use

BREAKAGE OR DISLOCATION OF THE CASING PLIES FOLLOWING FLAT RUNNING

Description
Tire damage following flat running due to loss of pressure and which result in:
- Casing deformation on the level of the flanks, with possible cable breakage.
- Radial breakage of the interior compound and/ or the flank compound in one or several points.
- Separation between the casing ply and the top block likely to end in detreading.

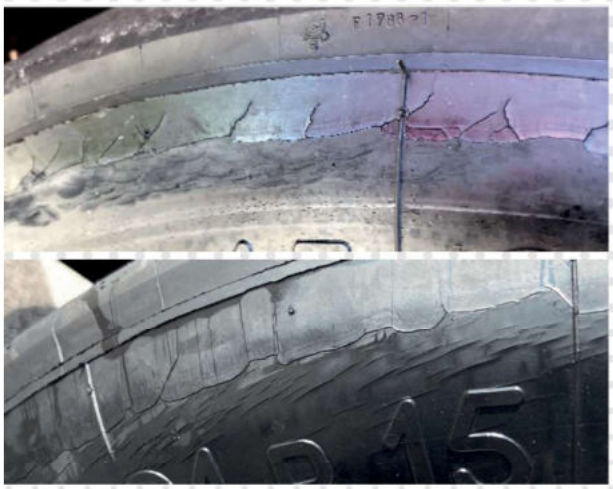
Origins
All damage causing a loss of pressure.

CRACKING SIDEWALL

Description
Sidewall cracks in the rubber.

Origins
Overheating due to extensive casing work (under-inflated running).
Exposure to ozone, extended exposure to light.
Wax, varnish, detergents, etc..

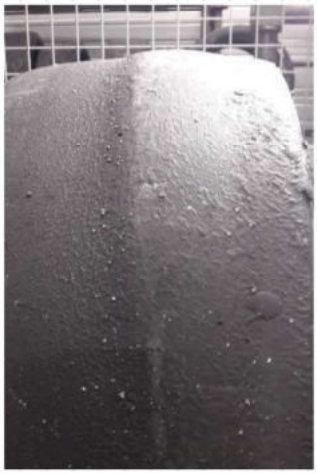
Checks/advice
- Check the conditions of use: Roads, paths, access. Type of driving, speed load, pressure.
- Check the storage or maintenance conditions of the tyres (in store or in yard)
- Choose a tyre suited to the use and adapt pressure to the use.



CROWN DEFORMATION

= EXTENDED DECOHESION OF CROWN PLY CABLES WITHOUT OXIDIZATION

Description
This damage may concern the crown ply No.1 only, crown ply No.2 only or both crown plies No.1and No.2. This damage can be seen by: deformation (domed crown) or twist in the tread area, which can be located over the width of the tread, or circular on one edge..



Two aspects possible:
- The ply cables concerned can exhibit a shiny aspect following the partial disappearance of calendaring (yellow or white cables), but still integral.
- The cables can be completely separated from the calendaring..

Origins
Product ageing.

SEPARATION BETWEEN CROWN PLIES

Description
Usually, the separation starts at the ends of the crown plies and grow into a pocket or be generalised.

Aspect :
Compound between plies reduced to powder.
Sometimes sticky aspect of compounds.
Sometimes cables shiny due to friction.

Origins
Overload, under-inflating.
Excessive sliding.
Extended running at high speed.
Wheel locked while passing over an obstacle.
Hammering

Evolutions
Carcass ply breakage.
Rapid deflation.
Flat running.

ADVICE AND USE

INTRODUCTION

We recommend you comply with the following safety and usage instructions. These instructions are valid subject to more restrictive local statutory provisions for tyres decreed or required by the competition, raid or track organizers. Failure to comply with these instructions or procedures may give rise to an incorrect fitting or firment and cause premature deterioration of the tyre.
Use on banking circuits requires specific tyres and/or conditions of use. Prior to any use, read the recommendations for use on our website www.michelinmotorsport.com or make enquiries with Michelin services:
00 33 (0) 4 73 30 14 55..

RECOMMENDATIONS

PRE-USE VERIFICATION RULES

The tyre choice must comply with the vehicle's fittings, as defined by this vehicle's manufacturer and constructor. Ensure that the tyres are of the same type on the same axle (brand, trade name, dimensions, structure).

PRIOR TO FITTING, ENSURE:

- That the rim diameter corresponds exactly to the internal diameter of the tyre.
- That the rim width complies with the manufacturer's recommendation or failing that with listed standards (ETRTO, TRA, JATMA, etc.).
- That the rim type (tubeless, tube type) corresponds to the tyre type.
- That the rim is in good condition and shows no signs of deterioration (split, deformation, etc.).
- That the rim has sufficient resistance to support the pressure required for the fitment
- That the tyres are not showing any signs of repairs.

TYRE RETREADS

- Retreading a tyre modifies its characteristics and performance. The operation requires suitable equipment and tools, as well as compliance with instructions.
- Retreading a used tyre (not new) is prohibited.
- Prior to any retreading operation, contact the Michelin department: +33 (0) 4 73 30 14 55.

Reminder: Retreading or regrooving ECE R30-approved tyres, intended for use on public roads, is prohibited.

CONDITIONS OF USE

- Never treat the tread rubber with a chemical.
- Do not use tyres for which the background is unknown.
- Within the framework of the use of heating cabinets, never place fitted assemblies in contact with metal parts and/or directly over the heat source.
- Ensure that the pressure, bodywork, speed and axle load values are those recommended by Michelin in accordance with the intended use (update the recommendations in accordance with use)

Standard recommendations for use are available on our website **www.michelinmotorsport.com** or contact Michelin services: 00 33 (0) 4 73 30 14 55.

FITTING AND REMOVING A TYRE

Fitting, removing, inflating and balancing tyres must be carried out using suitable equipment in good condition, and entrusted to trained and qualified personnel, who will ensure, in particular:

- Compliance with the constructor's and the legal rules in choosing tyres.
- Prior inspection of the external and internal appearance of the tyre by the fitter.
- Compliance with the tyre fitting, removal, balancing and inflation procedures.
- Compliance with the positioning of the tyre on the vehicle (left, right; front, rear).
- Compliance with the working pressure.
- Measurement equioment such as a pressure gauge or torque wrench must be calibrated and inspected at least once a year by an approved body, or failing this by the supplier or manufacturer.

FITTING - REMOVAL :

- Ensure that the fitting equipment is suited to the fitment type. When using this equipment, refer to the machine manufacturer's user manual.
- Comply with the fitting direction for a directional tyre.
- Lubricate rim seats and tyre beads with a suitable product.
- In the case of a tube type fitment (with inner tube), the dimension of the inner tube must correspond to that of the tyre (cross section and diameter) and the rim must be in a condition to accept the inner tube without damaging it.

INFLATION & BLANCING

INFLATION

- Important note: only use inflation stations intended for this purpose. In no event should the operator remain in immediate proximity to the tyre assembly. As a result, you must ensure that the compressed air pipe fixed to the valve is equipped with a safety clip and that it is of a sufficient length to allows the operator to move beyond any projection trajectories, in the event of an incident. Keep people not involved in the inflation operation away from the site where this is carried out.
- Remove the interior part of the valve.
- Start inflation and check the beads are correctly centred in relation to the edge of the rim.
- If the beads are poorly centred, deflate and start the operation again in full, including lubrication.
- Continue to inflate to 3.5 bar in order to obtain correct bead placement. For higher pressures, use a protection cage when inflating the tyre.
- Replace the valve interior and adjust the pressure of use.
- Install the polyamide cap with seal in order to ensure full leak-tightness.

BALANCING

- It is recommended the four tyres be balanced for track use.
- The balancing machines must be calibrated in accordance with manufacturer instructions.
- Specific attention will be paid to the mechanisms (cone/screw plate) centering the assembly on the machine..

STORAGE AND TRANSPORT

There should be compliance with certain important points during storage and transport, such as temperature, which must be higher than:

Range Circuit, hill climbing & Classic competition	Minimum storage temperature	Minimum transport temperature
Slick	10°C	15°C
Rain	5°C	10°C

Rally Range	Minimum storage temperature	Minimum transport temperature
Asphalt Rally	10°C	10°C
Gravel Rally	10°C	10°C

Furthermore, tyres must not be subject to:

- Direct and prolonged exposure to sunlight
- Sources of extreme heat and humidity (storage in tropical-type weather conditions)
- Solvents, lubricants, fuels and other chemicals
- Ozone emissions from equipment such as a transformer, welder, electric motor, etc.
- Long-term storage in a stack.

Non-compliance with these storage recommendations may significantly reduce the period over which the tyre retains its performances. The storage location must be dry, ventilated, out of direct light and kept solely for tyres.

Racks allowing tyres to be stored vertically are to be used in order to avoid tension on the casings.

TYRE AGING

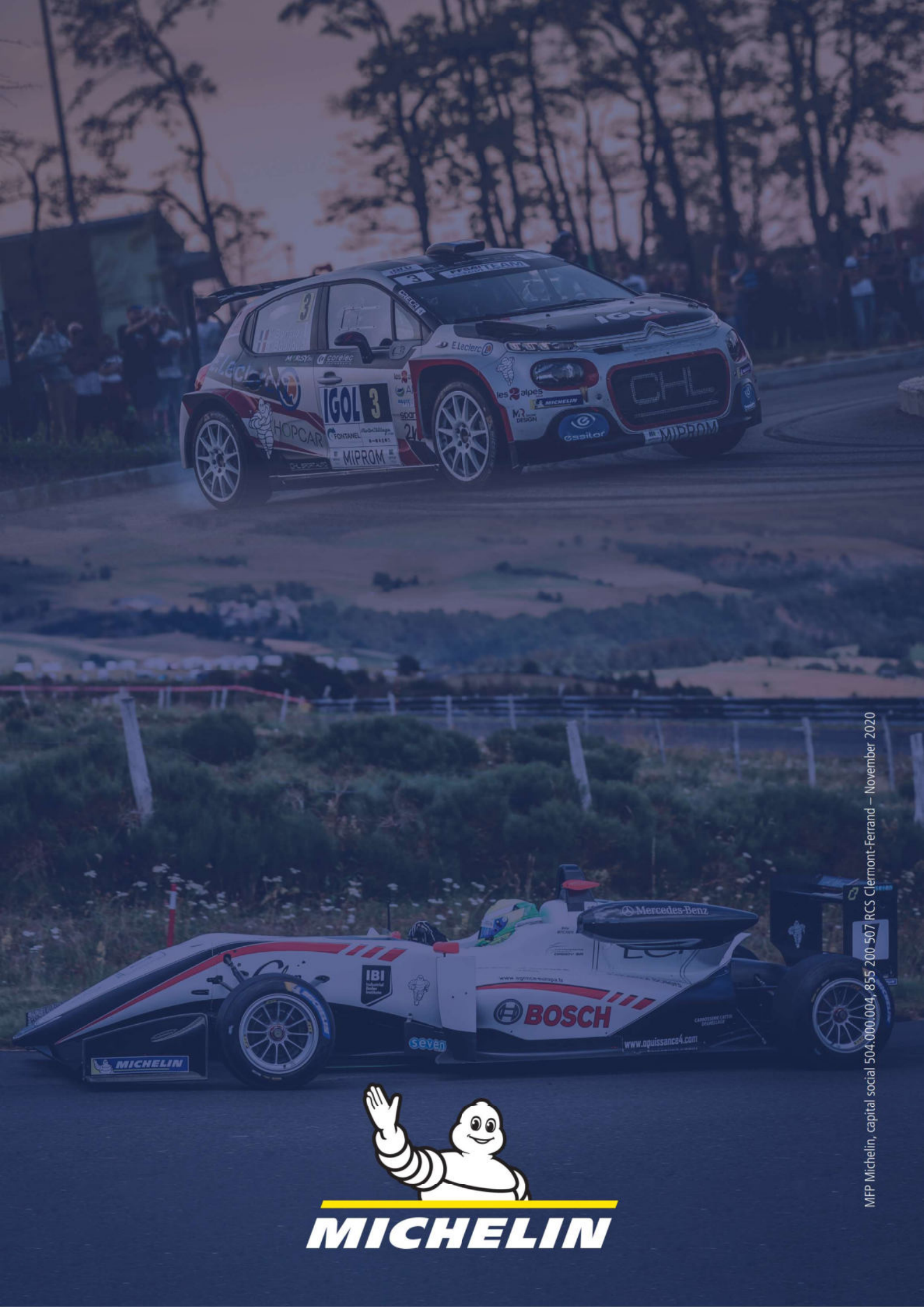
- Tyres age, even if they are not used, or if they are only used occasionally; excessive tyre age can lead to a loss of grip..
- Remove tyres from use when these show clear signs of aging or wear (cracks in the rubber of the tread, shoulder or lower zone sidewall, deformations, etc.). If in doubt, referto a tyre professional.
- We recommend using Michelin Competition tyres within a maximum of twenty four months following their date of purchase (within 3 months in the event of storage in severe tropical- type conditions)...

VALVE

- Comply with the instructions for use provided by the manufacturers (tightening and rim compatibility, type of alloys, alignment).
- Systematically retighten the polyamide valve cap with seal (equipment necessary for correct heat resistance). This ensures the valve mechanism is protected and that the tyre assembly is leak proof.
- Ensure the valve is in good condition (no ovalisation, signs of impact, etc.).
- Regularly check the tightening torques on screw valves.
- Only use metal valves (track)

MONITORING AND MAINTENANCE

- Tyre pressure verification prior to each outing and correction of this pressure if it no longer corresponds to the working pressure. Tyre pressures must be checked when cold (tyre that has not been run on, that has not been heated).
- Inflation with nitrogen does not do away with the need for regular tyre pressure checks.
- In the event of unusual pressure loss, check the internal and external condition of the tyre as well as the condition of the wheel and valve.
- Any visible perforation, cut or deformity must form the subject of an in-depth inspection by a tyre professional. Without intervention by a professional, never use a damaged tyre or one that has been run flat.



MICHELIN

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