



TECHNICAL BOOKLET

INTERNATIONAL GT

2021

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INTRODUCTION - INTERNATIONAL GT

INTRODUCTION

This document provides information regarding the fitment, handling and usage of the tyres on cars competing in this Championship.

For detailed technical information please refer to the individual Tyre Data Books for each tyre size, which are included as separate PDF files within this Pirelli Data Package.



FITMENT LIST - INTERNATIONAL GT

Make/Model	Front axle				Rear axle		
	Wheel size	Dry tyre	Wet tyre		Wheel size	Dry tyre	Wet tyre
Porsche 996 GT3 Cup (1999-2005)	18" x 9J	245/645-18 DHB	245/645-18 WH		18" x 11J	305/680-18 DHB	305/680-18 WH
Porsche 997.1 GT3 Cup (2006-09)	18" x 9J	245/645-18 DHB	245/645-18 WH		18" x 11J	305/680-18 DHB	305/680-18 WH
Porsche 997.2 GT3 Cup (2010-13)	18" x 9.5J	265/645-18 DHB	265/645-18 WH		18" x 12J	315/680-18 DHB	315/680-18 WH
Porsche Cayman GT4 Clubsport MR	18" x 9J	265/645-18 DHB	265/645-18 WH		18" x 10.35J	305/680-18 DHB	305/680-18 WH
Porsche 718 Cayman GT4 Clubsport MR (2019)	18" x 9J	265/645-18 DHB	265/645-18 WH		18" x 10.35J	305/680-18 DHB	305/680-18 WH
Porsche 991.1 GT3 Cup	18" x 10.5J	285/645-18 DHD2	285/645-18 WH		18" x 13J	325/705-18 DHE	325/705-18 WH
Porsche 991.2 GT3 Cup	18" x 10.5J	285/645-18 DHD2	285/645-18 WH		18" x 13J	325/705-18 DHE	325/705-18 WH
Porsche 997 GT3-R (2013)	18" x 12J	325/660-18 DHD2	325/660-18 WHA		18" x 13J	325/705-18 DHE	325/705-18 WH
Porsche 911 GT2 RS Clubsport	18" x 10.5J	285/645-18 DHD2	285/645-18 WH		18" x 12.5J	325/705-18 DHE	325/705-18 WH
Porsche 991.1 GT3-R (991) (2016-18)	18" x 12J	325/660-18 DHD2	325/660-18 WHA		18" x 13J	325/705-18 DHE	325/705-18 WH
Porsche 911 GT3-R (991 II) GT3-050	18" x 12.5J	325/680-18 DHE	315/680-18 WH		18" x 13J	325/705-18 DHE	325/705-18 WH
Ferrari 458 Challenge	19" x 9J	255/650-19 DH	255/650-19 WH		19" x 11J	305/690-19 DH	305/690-19 WH
Lamborghini Huracan ST	18" x 11J	305/645-18 DHA	305/645-18 WH		18" x 12J	315/680-18 DHA	315/680-18 WH
Audi R8 LMS Ultra GT3-017	18" x 12J	325/660-18 DHD2	325/660-18 WHA		18" x 13J	325/705-18 DHE	325/705-18 WH
Porsche 992 GT3 Cup (2021)	18" x 12J	325/660-18 DHD2	325/660-18 WHA		18" x 13J	325/705-18 DHE	325/705-18 WH

GENERAL INFORMATION

OPERATING INSTRUCTIONS

Before each run

Pressures

- The tyre pressure must always be over the declared **MINIMUM INFLATION PRESSURE** defined within this book.
- Cold tyre pressures should always be set in order that the hot target pressure stated within this book is reached.
- Dry air is recommended to inflate tyres to avoid sudden changes in pressure due to humidity.

After each run

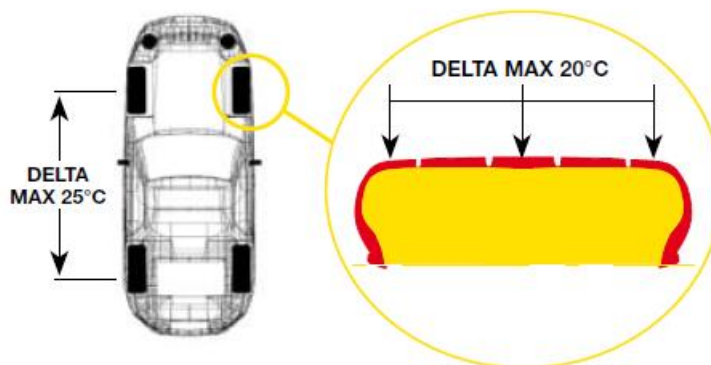
Temperatures

- the offset in measured garage bulk temperature between the inside and outside of the tyre should not exceed 20°C for optimum tyre performance (see Figure 1 below)
- the offset in measured garage bulk temperatures between front and rear axle should not exceed 25°C for optimum tyre performance (see Figure 1 below)

Pressures

- the measured garage pressure should be not less than the hot target value stated within this book
- all pressure limitations (minimum and hot) stated in this book will be monitored during each event, and modified if deemed necessary.

Figure 1



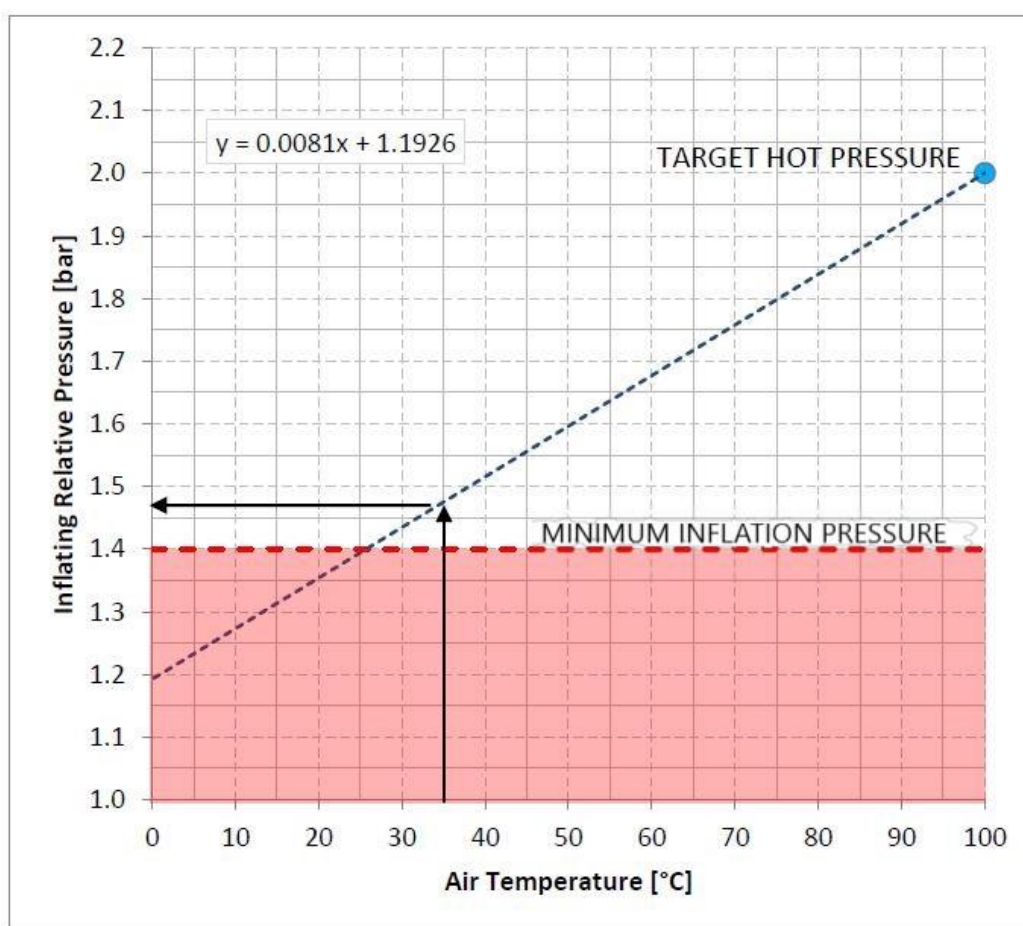
TYRE PRESSURE MANAGEMENT

INFLATION PRESSURE

Tyre pressure increases with temperature (while preheating and when car is running) following the theoretical line shown in *Figure 2*, below.

To inflate tyres in warm-to-hot ambient conditions (air temperature above 25°C), the dashed line in *Figure 1* shows the correct pressure value.

Figure 2:



If the ambient temperature is below 25°C the minimum cold pressure limit is encountered.

The car should not be released onto the circuit if the pressure is below 1.40 bar.

TYRE PRESSURE MANAGEMENT

INFLATION PRESSURE ADJUSTMENTS

In cold conditions, after one lap or as soon as the tyres have warmed-up, a pressure adjustment may be required in order to prevent exceeding target hot pressure.

The pressure adjustment for warmed tyres can be calculated as follows:

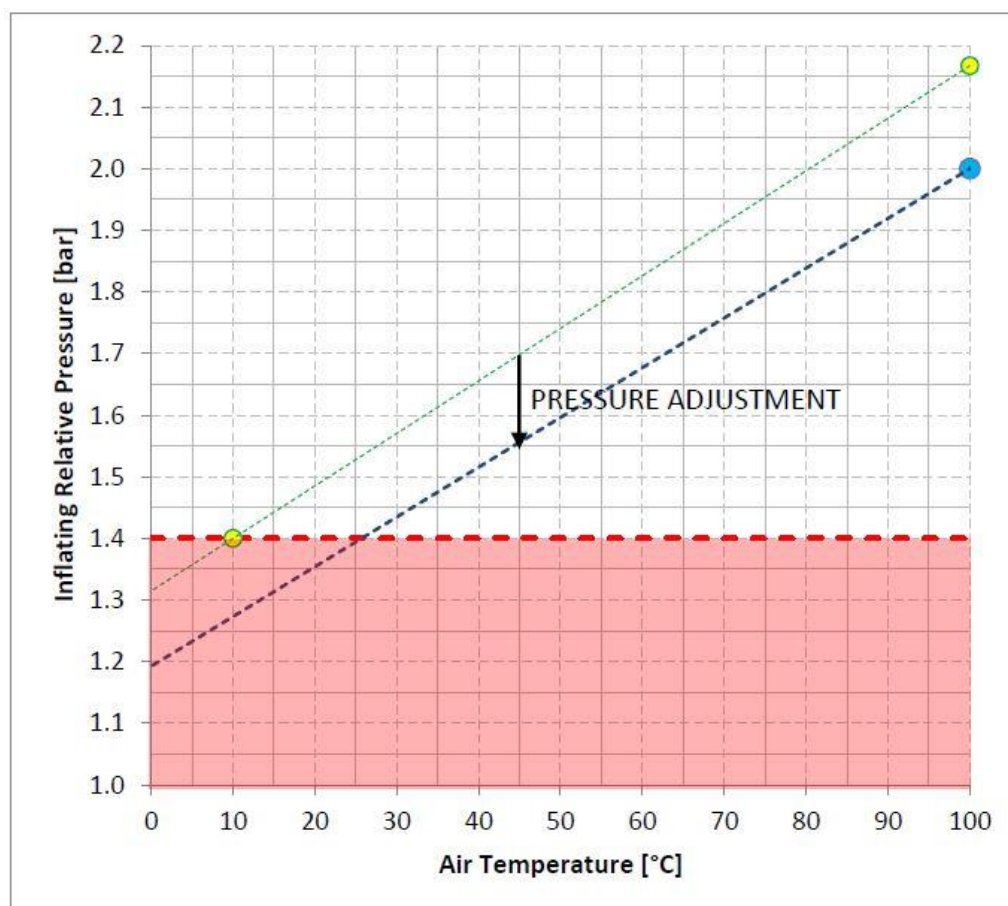
$$T_m[^\circ\text{C}] = \frac{(P_m[\text{bar}] + 1,013) \cdot (T_i[^\circ\text{C}] + 273,15)}{2,413} - 273,15$$

$$\Delta P[\text{bar}] = P_m[\text{bar}] - \frac{3,013}{373,15} \cdot (T_m[^\circ\text{C}] + 273,15) + 1,013$$

- T_i [°C]: inflating air ambient temperature
- P_m [bar]: measured pressure (after warm-up)
- T_m [°C]: calculated air temperature (after warm-up)
- ΔP [bar]: calculated adjustment for pressure

- Always note the ambient temperature when inflating cold tyres to 1.40 bar
- Measure the tyre pressures after warm-up

Figure 3:



TECHNICAL LIMITATIONS - INTERNATIONAL GT

TYRE INFLATION PRESSURE

MINIMUM INFLATION PRESSURE

1.4 bar*

/

20.3 Psi*

HOT PRESSURE TARGET

2.0 bar

/

29 Psi

*= MINIMUM INFLATION PRESSURE FOR LAMBORGHINI HURACAN ST 1.52 BAR / 22.0 PSI

CAR SETUP PARAMETERS - 911 GT3 CUP (ALL TYPES)

Maximum Static Negative Camber - Front Axle

-4.0 deg

Maximum Static Negative Camber - Rear Axle

-3.5 deg

CAR SETUP PARAMETERS - LAMBORGHINI HURACAN ST

Maximum Static Negative Camber - Front Axle

-3.0 deg

Maximum Static Negative Camber - Rear Axle

-3.0 deg

CAR SETUP PARAMETERS - ALL OTHER CARS

Maximum Static Negative Camber - Front Axle

-3.5 deg

Maximum Static Negative Camber - Rear Axle

-3.0 deg

NOTES

- Please be aware that not complying with the above technical prescriptions will expose the product to excessive levels of mechanical stress that could affect the integrity of the product.
- Particular care will be needed for any tyres used at previous events, especially those that have already been used outside of our technical prescriptions.
- Driving style during the out lap is of utmost importance to minimise the stress generated over the carcass of the tyres. We recommend that drivers always avoid aggressive kerb usage, particularly until the tyres have reached an internal pressure close to their optimum running pressure.
- We are confident you will understand the above requirements and, if necessary, will adjust your procedures accordingly.
- These recommendations are valid unless the tyres have been damaged.
- To avoid any damage to the tyres caused by air leaks, we recommend the following:
 - use metal valve bodies instead of rubber ones;
 - check the fixing of the valves and their seal frequently;
 - check the valve core;
 - use metal valve caps with integral rubber o-ring seal.

STATIC MEASUREMENT DEFINITIONS

STATIC MEASUREMENTS

The static measurements within this book are provided for each combination of tyre-rim size. Geometric measurements are taken with the tyre fitted on a rim, inflated to the standard Pirelli running pressure. Please see the individual Tyre Data Books for the pressure per tyre.

Circumference

πD [mm]

length along the middle tread line of the tyre;

Max width

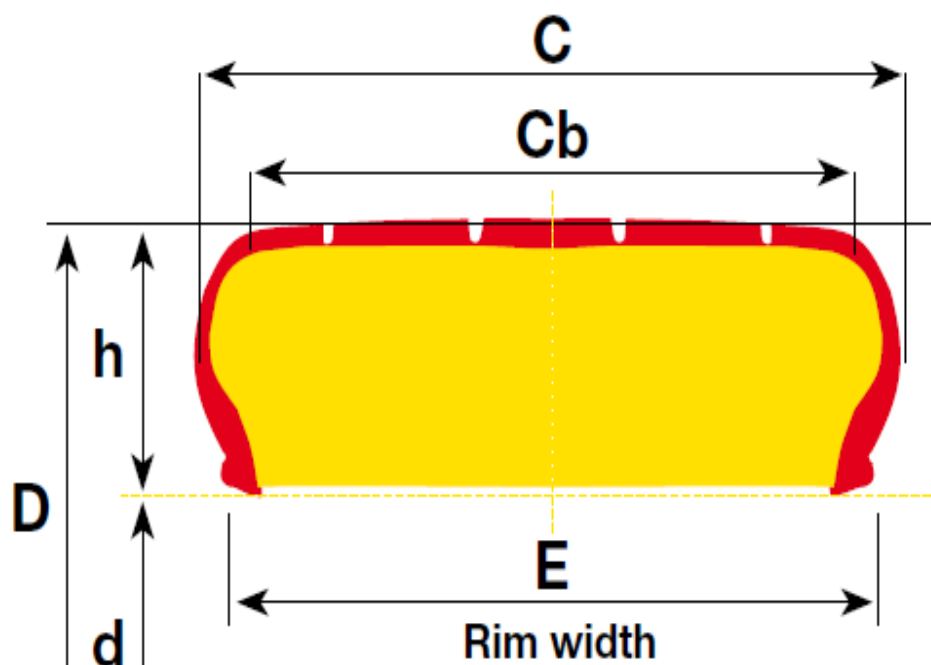
C [mm]

maximum width of the tyre;

Tread width

C_b [mm]

width of the tread.



A full characterisation of deflection vs. vertical load at different pressures is given; measurements are taken at two different camber levels (0° and -3.0°) for slick tyres.

DYNAMIC MEASUREMENT DEFINITIONS

DYNAMIC MEASUREMENTS

Tyre dynamic characterisation describes changes in dimensions due to speed and vertical load. All measurements are made without any applied camber (0°). Please see the individual Tyre Data Books for the pressure per tyre.

Loaded radius

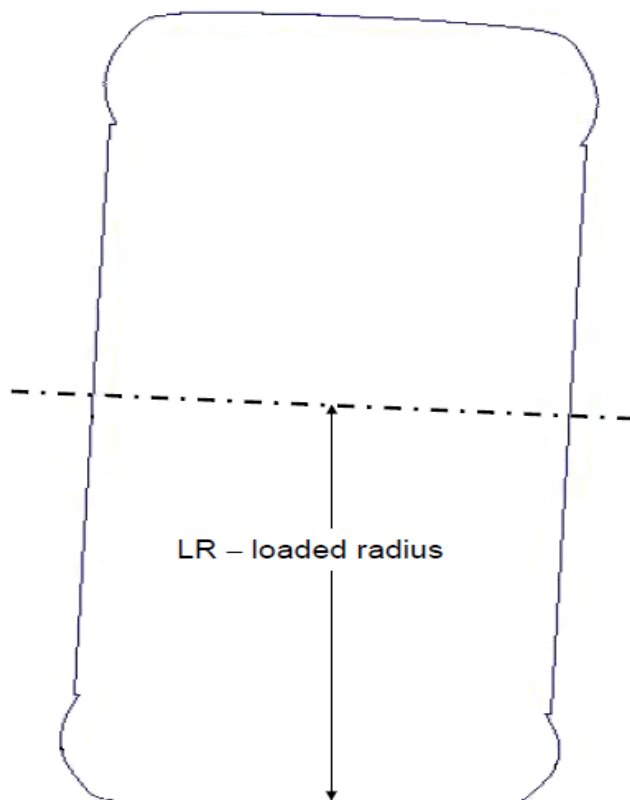
L.R. [mm]

distance between the wheel center and the ground;

Rolling radius

R.R. [mm]

the length travelled by the tyre for each wheel's revolution divided by 2π .



TYRE FITTING - INTERNATIONAL GT

FITTING INSTRUCTIONS FOR **DHD2**, **DHE** AND **DHB** SPECIFICATIONS

For **DHD2**, **DHE** and **DHB** specification products, tyres must be fitted in accordance with the sidewall markings on each tyre. The yellow FIA barcode should be positioned on the outside and the red FIA barcode on the inside. Pirelli personnel will only fit tyres in this prescribed way. Any failure to adhere to this may change the characteristics of the product.

Please note that the dot on the sidewall (red on **DHE** and white on **DHB**) should be positioned next to the valve when fitting, for balance reasons.

