

# MOTORSPORT

# PRECONISATION GUIDE FOR WATER-COOLED PORSCHE APPLICATIONS

# **SPRING 2018**





# **PORSCHE APPLICATION GUIDE**

CAI	MSPN	Size	Dry Compound	Application
386513	17667	25/64-18	Porsche Cup N2	Porsche GT3 Cup 996/997 front (all), 981 GT4 Clubsport, front
373234	77844	25/64-18	S8L	Porsche GT3 Cup 996/997 front (all), 981 GT4 Clubsport, front medium
907466	73822	27/65-18	Porsche Cup N2#	Porsche 991 GT3 Cup, front
873904	50612	27/65-18	S8L	Porsche 996 GT3 R, GT3 RS, GT3 RSR early, 991 GT3 Cup, GT4 Clubsport MR, front medium
033685	12397	27/65-18	S9L	Porsche 996 GT3 R, GT3 RS, GT3 RSR early, 991 GT3 Cup, GT4 Clubsport MR, front hard
587114	77014	27/68-18	Porsche Cup N2	Porsche 996/997.1 GT3 Cup up to 2009 rear, 981 GT4 Clubsport, rear
743979	38043	30/65-18	S7L	Porsche 997 GT3 R/RSR, front soft
077061	16091	30/65-18	S8L	Porsche 997 GT3 R/RSR, front medium
978075	29721	30/65-18	S9L	Porsche 997 GT3 R/RSR, front hard
628143	00718	30/68-18	Porsche Cup N2	Porsche 997.2 GT3 Cup 2010-12, GT4 Clubsport MR, rear
372613	09849	30/68-18	S7L	Porsche 991 RSR, front soft
287556	00355	30/68-18	S8L	Porsche 997.2 GT3 Cup 2010-12, GT4 Clubsport MR, rear medium / 991 RSR, front medium
281867	29044	30/68-18	S9L	Porsche 997.2 GT3 Cup 2010-12, GT4 Clubsport MR, rear hard / 991 RSR, front hard
297596	96917	31/71-18	Porsche Cup N2	Porsche 991 GT3 Cup, 2013+, rear
902421	00792	31/71-18	S8L	Porsche 996/997 R/RSR, 991 GT3 Cup/R/RSR, rear medium
099040	23878	31/71-18	S9L	Porsche 996/997 R/RSR, 991 GT3 Cup/R/RSR, rear hard
Note: N-spe	ec models d	eveloped in c	ooperation with Porsc	he Motorsport A.G. and used in Porsche Supercup and Carerra Cup competition globally
CAI	MSPN	Size	Wet	Application
448993			P2L	Porsche GT3 Cup 996/997 front (all), 981 GT4 Clubsport, front wet
463077	36649	27/65-18	P2L	Porsche 996 GT3 R, GT3 RS, GT3 RSR early, 991 GT3 Cup, GT4 Clubsport MR, front wet
765707	98172	27/68-18	P2L	Porsche 996/997.1 GT3 Cup, GT4 Clubsport, rear wet
619653	25100	30/65-18	P2L	Porsche 997 GT3 R, front wet
447350	73015	30/68-18	P2L	Porsche 997.2 GT3 Cup 2010-12, GT4 Clubsport MR, rear wet
797297	03166	31/71-18	P2L	Porsche 996/997 R/RSR, 991 GT3 Cup/R/RSR, rear wet

# **DIMENSIONSAL SPECIFICATIONS**

Size	Dry Compound	Rim Width in		Section Width mm	Inflated Diam mm	Rolling Circum mm	Weight kg
25/64-18	Porsche Cup N2	9.5	249	271	642	1990	9.3
25/64-18	S8L	10.0	249	271	642	1990	9.1
27/65-18	Porsche Cup N2#	11.0	263	295	646	2025	10.2
27/65-18	S8L / S9L	11.0	260	298	648	1990	10.2
27/68-18	Porsche Cup N2	11.0	265	306	679	2111	10.5
30/65-18	S7L/ S8L / S9L	12.5	288	329	650	1996	9.8
30/68-18	Porsche Cup N2	12.0	298	327	680	2108	11.0
30/68-18	S7L /S8L / S9L	12.5	288	333	678	2116	10.3
31/71-18	Porsche Cup N2	13.0	314	348	707	2131	NA
31/71-18	S8L / S9L	13.0	310	347	712	2185	NA
Size	Wet						
25/64-18	P2L	10.0	231	269	647	2031	9.5
27/65-18	P2L	11.0	260	299	652	2048	11.4
27/68-18	P2L	11.0	255	295	684	2147	11.8
30/65-18	P2L	12.5	295	325	653	2057	10.7
30/68-18	P2L	12.5	311	329	684	2150	10.8
31/71-18	P2L	13.0	313	347	711	2232	NA
	1 mm = 0.03937 in						
	1 kg = 2.2046 lbs						

### MICHELIN COMMERCIAL SLICK 'PRECO'

#### CAMBER AND PRESSURE RECOMMENDATIONS FOR CIRCUITS WITHOUT BANKING

### Porsche 996 GT3 Cup, 997 GT3 Cup, 981 GT4 Clubsport front

Preconisation Slick: 25/64-18 S9H / S9L / S8L /

Usage: Track without banking
Charge maximun: 450 DaN
Vitesse maximun: 320 Km/h
Jante Nominal: 10 (+0,5/-1) J 18
Pression minimun à froid: 1.3 Bar

Distance d'un relais: 150 Km

Nombre de relais	Pression minimun à chaud							
Carrossage	1.7 Bar	1.7 Bar 1.8 Bar 1.9 Bar 2.0 Bar 2.1 Bar 2.2 Bar						
-4.25 °	0	0	0	1	2	2		
-4.0 °	•	0	1	2	2	2		
-3.75 °	•	0	1	2	2	2		
From -2.0 to -3.5 °	•	1	1	2	2	2		

#### Preconisation Slick: 25/64-18 Porsche Cup N1 / Porsche Cup N2 /

Usage: Track without banking
Charge maximun: 400 DaN
Vitesse maximun: 280 Km/h
Jante Nominal: 9,5 (+/- 0,5) J 18
Pression minimun à froid: 1.5 Bar

Distance d'un relais: 180 Km

Nombre de relais	Pression minimun à chaud							
Carrossage	1.6 Bar	1.6 Bar 1.7 Bar 1.8 Bar 1.9 Bar 2.0 Bar 2.1 Bar						
-4.5 °	•	•	1	1	1	1		
-4.25 °	•	0	1	1	1	1		
-4.0 °	•	1	1	1	1	1		
from 2.0 to -3.75 °	•	1	1	1	1	1		

Conversion: Load 1 Dekanewton (DaN) = 2.25 pound-force

Pressure 2.0 Bar = 29 psi Distance 1 km = 0.6213 mi

# Porsche 996 RSR, 997.1 R, 991 GT3 Cup, 981 GT4 Clubsport MR front

#### Preconisation Slick: 27/65-18 S9L / S8L /

Usage: Track without banking
Charge maximun: 600 DaN
Vitesse maximun: 320 Km/h
Jante Nominal: 11 (+/- 0,5) J 18
Pression minimun à froid: 1.4 Bar
Distance d'un relais: 180 Km

Nombre de relais	Pression minimun à chaud							
Carrossage	1.9 Bar	1.9 Bar 2.0 Bar 2.1 Bar 2.2 Bar 2.3 Bar						
-4.0 °	•	0	•	1	1			
-3.5 °	•	0	•	1	1			
-3.0 °	•	0	•	1	1			
From -2.0 to -2.5 °	0	2	2	2	2			

#### Preconisation Slick: 27/65-18 Porsche Cup N2# / Porsche Cup N2 /

Usage: Track without banking
Charge maximun: 400 DaN
Vitesse maximun: 280 Km/h
Jante Nominal: 11 (+/- 0,5) J 18
Pression minimun à froid: 1.2 Bar
Distance d'un relais: 180 Km

Nombre de relais		Pression minimun à chaud						
Carrossage	1.6 Bar	1.6 Bar 1.7 Bar 1.8 Bar 1.9 Bar 2.0 Bar 2.1 Bar						
-4.5 °	•	•	1	1	1	1		
-4.25 °	•	0	1	1	1	1		
-4.0 °	•	1	1	1	1	1		
From -2 to -3.75 °	•	1	1	1	1	1		

## Porsche 996 GT3 Cup, 997.1 GT3 Cup, 981 GT4 Clubsport rear

#### Preconisation Slick: 27/68-18 S9F / Porsche Cup N1 / Porsche Cup N2 / S8E /

Usage: Track without banking
Charge maximun: 550 DaN
Vitesse maximun: 320 Km/h
Jante Nominal: 11 (+/- 0,5) J 18
Pression minimun à froid: 1.5 Bar
Distance d'un relais: 200 Km

Nombre de relais	Pression minimun à chaud								
Carrossage	1.9 Bar	1.9 Bar 2.0 Bar 2.1 Bar 2.2 Bar 2.3 Bar 2.4 Bar							
-4.25 °	•	1	1	1	1	1			
-4 °	•	1	2	2	2	2			
-3.75 °	•	2	2	2	2	2			
From -2.0 to -3.5 °	•	2	2	2	2	2			

## Porsche 997.2 R, 997 RSR, 991 R front

#### Preconisation Slick: 30/65-18 S9L / S9M RFID /

Usage: Track without banking
Charge maximun: 600 DaN
Vitesse maximun: 320 Km/h

Jante Nominal : 12,5 (+0,5/- 1,5) J 18

Pression minimun à froid : 1.4 Bar

Distance d'un relais: 180 Km

Nombre de relais	Pression minimun à chaud							
Carrossage	1.8 Bar	1.8 Bar 1.9 Bar 2.0 Bar 2.1 Bar 2.2 Bar						
-4 °	•	0	•	1	1			
-3.5 °	0	0	2	2	2			
-3.25 °	0	0	2	2	2			
-From -2 to -3 °	0	1	2	2	2			

#### Preconisation Slick: 30/65-18 S8L / S7L /

Usage: Track without banking
Charge maximun: 600 DaN
Vitesse maximun: 320 Km/h

Jante Nominal : 12,5 (+0,5/- 1,5) J 18
Pression minimun à froid : 1.4 Bar
Distance d'un relais: 180 Km

Nombre de relais	Pression minimun à chaud							
Carrossage	1.8 Bar	1.8 Bar 1.9 Bar 2.0 Bar 2.1 Bar 2.2 Bar						
-4 °	•	0	0	1	1			
-3.5 °	•	0	•	1	1			
-3.25 °	0	0	1	1	1			
-From -2 to -3 °	0	0	1	1	1			

# Porsche 996 RSR (early), 997.2 GT3 Cup, 981 GT4 Clubsport MR rear, 991 RSR front

#### Preconisation Slick: 30/68-18 S7L / S8L / S9L / S9L RFID /

Usage: Track without banking
Charge maximun: 600 DaN
Vitesse maximun: 320 Km/h

Jante Nominal : 12,5 (+0,5/- 1,5) J 18
Pression minimun à froid : 1.3 Bar
Distance d'un relais: 180 Km

Nombre de relais	Pression minimun à chaud								
Carrossage	1.8 Bar	1.8 Bar 1.9 Bar 2.0 Bar 2.1 Bar 2.2 Bar							
-4 °	0	0	2	2	2				
-3.5 °	•	3	3	3	3				
-3 °	•	3	3	3	3				
-From -2 to -2.5 °	0	3	3	3	3				

#### Preconisation Slick: 30/68-18 Porsche Cup N1 / Porsche Cup N2 /

Usage: Track without banking
Charge maximun: 600 DaN
Vitesse maximun: 280 Km/h

Jante Nominal : 12,5 (+0,5/- 1,5) J 18

Pression minimun à froid : 1.5 Bar

Distance d'un relais: 180 Km

Nombre de relais		Pression minimun à chaud							
Carrossage	1.8 Bar	1.8 Bar 1.9 Bar 2.0 Bar 2.1 Bar 2.2 Bar 2.3 Bar							
-4.25 °	0	•	0	0	1	1			
-4°	0	•	0	1	1	1			
-3.75 °	0	0	1	1	1	1			
-From -2 to -3.5 °	•	1	1	1	1	1			

# Porsche 996 RSR (late), 997 R, 997 RSR, 991 GT3 Cup, 991 R, 991 RSR rear

Preconisation Slick: 31/71-18 S7L / S8L / S9L /

Usage: Track without banking
Charge maximun: 610 DaN
Vitesse maximun: 320 Km/h
Jante Nominal: 13 (+/- 0,5) J 18
Pression minimun à froid: 1.2 Bar
Distance d'un relais: 180 Km

Nombre de relais	Pression minimun à chaud							
Carrossage	1.8 Bar	1.8 Bar 1.9 Bar 2.0 Bar 2.1 Bar 2.2 Bar						
-3.75 °	0	0	0	0	0			
-3.5 °	0	2	2	2	2			
-3.25 °	0	2	2	2	2			
-3 °	•	2	2	2	2			
-From -2 to -2.75 °	0	2	2	2	2			

#### Preconisation Slick: 31/71-18 Porsche Cup N2 /

Usage : Track without banking

Charge maximun : 600 DaN

Vitesse maximun : 280 Km/h

Jante Nominal : 13 (+/- 0,5) J 18

Pression minimun à froid : 1.2 Bar

Distance d'un relais: 180 Km

Nombre de relais	Pression minimun à chaud					
Carrossage	1.8 Bar	1.9 Bar	2.0 Bar	2.1 Bar	2.2 Bar	2.3 Bar
-4.25 °	0	0	0	0	1	1
-4°	0	0	0	1	1	1
-3.75 °	0	0	1	1	1	1
-From -2 to -3.5 °	0	1	1	1	1	1

## MICHELIN COMMERCIAL WET 'PRECO'

#### Preconisation Rain: 25/64-18 P2L /

Usage: Track without banking
Charge maximun: 450 DaN
Vitesse maximun: 320 Km/h
Jante Nominal: 10 (+0,5/-1) J 18

Pression minimun à froid : 1.3 Bar Distance d'un relais: 150 Km

Nombre de relais	Pression minimun à chaud					
Carrossage	1.7 Bar 1.8 Bar 1.9 Bar 2.0 Bar 2.1 Bar 2.					2.2 Bar
-4.25 °	0	0	0	1	2	2
-4.0 °	•	•	1	2	2	2
-3.75 °	•	•	1	2	2	2
From -2.0 to -3.5 °	0	1	1	2	2	2

#### Preconisation Rain: 27/65-18 P2L /

Usage: Track without banking
Charge maximun: 600 DaN
Vitesse maximun: 320 Km/h
Jante Nominal: 11 (+/- 0,5) J 18
Pression minimun à froid: 1.4 Bar

Distance d'un relais: 180 Km

Nombre de relais	Pression minimun à chaud					
Carrossage	1.9 Bar	2.0 Bar	2.1 Bar	2.2 Bar	2.3 Bar	
-4°	•	0	•	1	1	
-3.5 °	•	0	•	1	1	
-3 °	•	0	•	1	1	
From -2 to -2.5 °	0	2	2	2	2	

#### Preconisation Rain: 27/68-18 P2G / P2L /

Usage : Track without banking

Charge maximun : 500 DaN

Vitesse maximun : 280 Km/h

Jante Nominal : 11 (+/- 0,5) J 18

Distance d'un relais: 250 Km

Pression minimun à froid : 1.3 Bar

Nombre de relais	Pression minimun à chaud					
Carrossage	1.7 Bar	1.8 Bar	1.9 Bar	2.0 Bar	2.1 Bar	2.2 Bar
-3.5 °	•	0	0	0	1	1
-3.25 °	•	0	0	1	1	1
-3.0 °	•	0	1	1	1	1
From -2.0 to -2.75 °	•	1	1	1	1	1

#### Preconisation Rain: 30/65-18 P2L /

Usage : Track without banking Charge maximun : 600 DaN Vitesse maximun : 320 Km/h

Jante Nominal : 12,5 (+0,5/- 1,5) J 18
Pression minimun à froid : 1.4 Bar
Distance d'un relais: 180 Km

Nombre de relais	Pression minimun à chaud					
Carrossage	1.8 Bar	1.9 Bar	2.0 Bar	2.1 Bar	2.2 Bar	
-4 °	•	0	•	1	1	
-3.5 °	•	0	2	2	2	
-3.25 °	•	0	2	2	2	
-From -2 to -3 °	0	1	2	2	2	

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#### Preconisation Rain: 30/68-18 P2L /

Usage: Track without banking
Charge maximun: 600 DaN
Vitesse maximun: 320 Km/h

Jante Nominal : 12,5 (+0,5/- 1,5) J 18
Pression minimun à froid : 1.3 Bar
Distance d'un relais: 180 Km

Nombre de relais	Pression minimun à chaud					
Carrossage	1.8 Bar	1.9 Bar	2.0 Bar	2.1 Bar	2.2 Bar	
-4 °	0	0	2	2	2	
-3.5 °	•	3	3	3	3	
-3 °	•	3	3	3	3	
-From -2 to -2.5 °	0	3	3	3	3	

#### Preconisation Rain: 31/71-18 P2L /

Usage: Track without banking
Charge maximun: 610 DaN
Vitesse maximun: 320 Km/h
Jante Nominal: 13 (+/- 0,5) J 18
Pression minimun à froid: 1.2 Bar

Distance d'un relais: 180 Km

Nombre de relais	Pression minimun à chaud					
Carrossage	1.8 Bar	1.9 Bar	2.0 Bar	2.1 Bar	2.2 Bar	
-3.75 °	•	0	•	•	•	
-3.5 °	•	2	2	2	2	
-3.25 °	•	2	2	2	2	
-3 °	0	2	2	2	2	
-From -2 to -2.75 °	0	2	2	2	2	

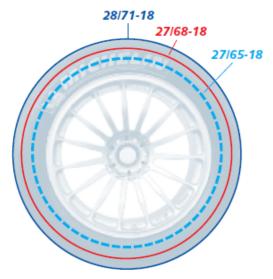
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# A SPECIAL NOTE ON PORSCHE

#### WHY RUN ON 27/68-18 OR 28/71-18

To get the most from your modern 911 racecar, MICHELIN recommends using the 27/68-18 or 28/71-18 on the rear axle. These sizes were specifically designed for the latest-generation 911 racecars (including those based on the 993, 996 and 997) and were developed and tested in world-wide competition. Compared to the 27/65-18, the taller size offers several advantages:

- The increased diameter of the tread band permits easier conformation of the tire to the flat road surface; the tire's tread "maps" to the road surface more readily. This results in improved temperature distribution and increased performance over a longer duration.
- The greater diameter also increases the total amount of tread rubber available to transfer power to the ground, again improving temperature distribution and prolonging performance consistency.
- The taller sidewall helps cushion the shock of power application, providing more progressive corner exit with less wheelspin during aggressive acceleration.





NOTE: 28/71-18 is no longer available from the Michelin commercial catalog. The alternate size is 30/68-18 or 31/71-18 depending on the model generation of car, rear wheel size, and bodywork configuration.

# SPECIAL REQUIREMENTS FOR BANKED 'ROVALS'

Daytona International Speedway and other American banked 'roval' circuits require competitors to take special care of their tires. Michelin commercial slick tires were designed for maximum dry performance on traditional natural terrain road course circuits. The 31º banking at Daytona results in very high vertical loads on the tires, much more than at a traditional road course circuit. As a result it will be necessary to take precautions at Daytona and other banked circuits to maximize tire performance with a very strong focus on safety and longevity.

- Static camber must be restricted at both the front or rear axle positions. Negative camber results in more load on the inside sidewall of the tire. Higher negative camber values combined with the high loads resulting from the banking can overstress the inside shoulder of the tire.
- It will be necessary to increase both the cold and the hot pressures due to the load from the banking and the increased deflection of the tire that is the result. It may be necessary to be higher in some cases

because of specific aerodynamic down force loads, roll center heights and other considerations. Use of nitrogen is recommended.

- The tire is most vulnerable to damage during the early laps before reaching its hot operating pressure.
   You <u>must</u> warm-up the tire and build as much pressure as quickly as possible on the out or pace laps.
   During practice sessions do not run flat out on the banking on the opening lap until pressure and temp is built into the tire.
- As always, be very diligent in keeping up with the pressures and temperatures to ensure they are where
  they need to be; you <u>must</u> be very diligent about removing the wheel assembly and inspecting the tires
  off the car after every session.
- Withdraw from service any tires presenting clear signs of aging or fatigue (cracks in the outer tread, shoulder, bead flank, deformation, etc.)

Listed below are the recommended hot pressure and camber settings for the Michelin N2 Slicks on Porsche 996/997 GT3 Cup cars at Daytona.

#### Recommended static camber settings:

	0-
LF: -2.7° to -3.2°	RF: -2.4° to -2.7°
LR: -1.7° to -2.0°	RR: -1.7° to -2.0°

#### Minimum HOT pressures:

LF: 32 psi / 2.20 bar	RF: 32 psi / 2.20 bar
LR: 32 psi / 2.20 bar	RR: 35 psi / 2.40 bar

# PORSCHE YEAR / MODEL DESIGNATIONS

Type 993 (911)	1993 – 1997	last air cooled 911
Type 996.1 (911)	1999 – 2001	first of water cooled 911 models
Type 996.2 (911)	2002 – 2004	
Type 997.1 (911)	2005 – 2008	
Type 997.2 (911)	2009 – 2012	
Type 991.1 (911)	2014 – 2016	IMSA Porsche GT3 Challenge - Gold
Type 991.2 (911)	2017 – current	IMSA Porsche GT3 Challenge - Platinum
Type 981 (Cayman)	2014 – 2016	Cayman GT4 ClubSport or ClubSport MR

#### **MICHELIN MOTORSPORTS ON THE WEB**

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