



RACEGUIDE

2023 FIA WEC



Round 2
2023 FIA World
Endurance
Championship
(FIA WEC)

6 HOURS OF PORTIMÃO



SUNDAY, APRIL 16



First European outing for the new Porsche, Ferrari, Cadillac and Vanwall hypercars

Numerous teams traveled to Portimão for private winter testing

Portimão's first six-hour FIA WEC race (the 2021 race lasted eight hours)

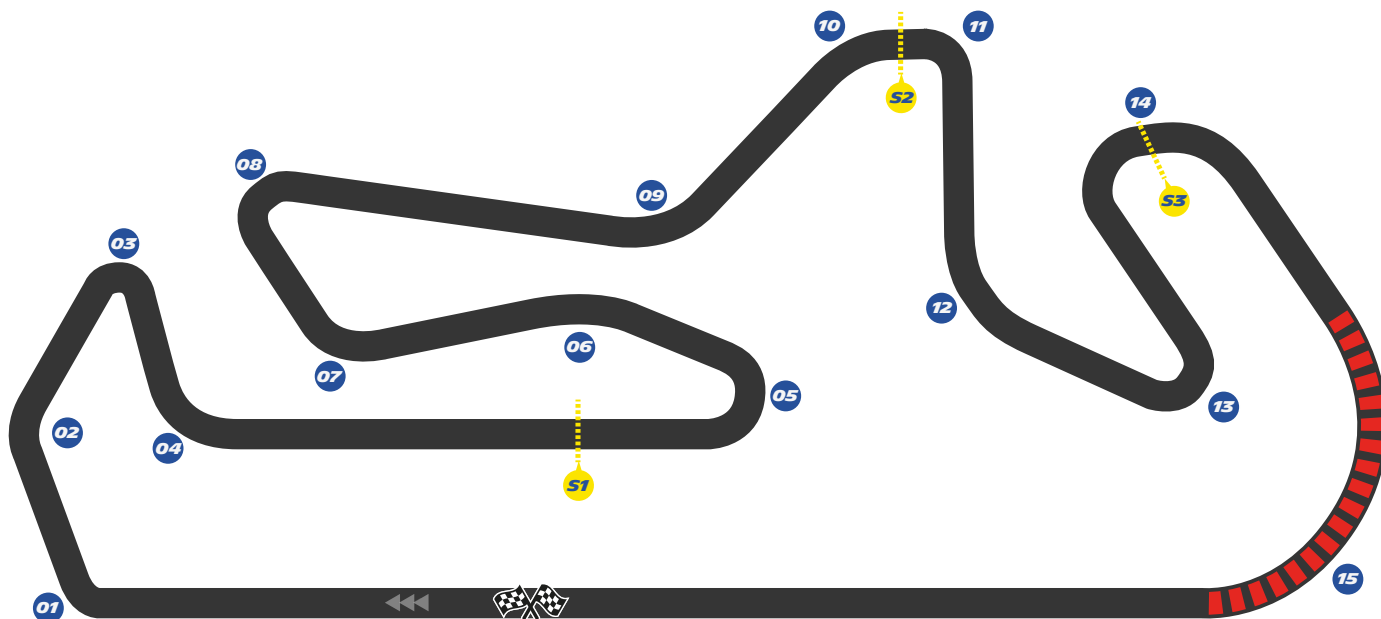
80th FIA WEC round

#PERFORMANCE MADE TO LAST



THE CIRCUIT

AUTODROMO INTERNACIONAL DO ALGARVE



» OPENED
NOVEMBER 2008

» TECHNICALLY
CHALLENGING,
HILLY

» VERY DEMANDING
ON TIRES

4.653KM

**15
TURNS**

CLOCKWISE

MICHELIN STATISTIC

The long, downhill final turn at Portimão is particularly hard on the cars' left-hand tires. Once per lap, they have to withstand a load of 1,200kg here over a distance of 150 meters for a duration of around 2.5 seconds as their temperature climbs to 150°C! A complete hypercar stint is around 36 laps.



EXPERT OPINION

ALLAN McNISH

Three-time Le Mans 24 Hours winner
2013 FIA World Endurance Champion

The Sebring weekend was a Sportscar festival

The Sebring weekend was a Sportscar festival with close racing throughout the categories, but it was Toyota taking top honours after the 8 hours in the Florida sun. However, with Ferrari stealing the qualifying show and strong run from Cadillac and bursts of speed from Porsche, it said to me that the rest of the season will just keep getting better and better.

Portimao: car and tire balance is important

Portimao is a relatively new track being built in 2008, but it has a lovely feel and character more similar to an older style circuit, with its natural flowing corners following the contours of the land.

It starts with a fast, downhill slightly bumpy entry to the first corners where you need to be careful of the inside kerb, it has caused some damage in the past, before feeding into a fast kink then hard braking to the hairpin where you need to be careful not to lock up a slightly unloaded right front tire as you release the brake trying to spot the apex. Then a change of direction immediately loading the rear tires as you accelerate hard through a flat out uphill left. This tends to have caught a few people out at race starts and restarts with cold tire temps and low pressures and I expect this years race will be no different.

The middle sector, turns 7 and 8 are fast entry right handers before the tightening radius with a late apex that gives the opportunity of varying lines which depend on your car balance and rear stability, that gives some good overtaking opportunities but you still need to be opportunistic and confident to pull it off.

Then the roller coaster ride starts as you hit the throttle asking all the grip the left rear tire can give as you plunge downhill into the flat out turn 9 before another fast but tightening entry at turn 10 and 11. Again hard on the throttle over the crest of the hill giving the left rear another hard time before diving down through Turn 12. I really like this section of track, it reminds me



CAR AND TIRE BALANCE IS IMPORTANT



of two of my favourite corners in Suzuka and Laguna Seca where you can attack the corner but still need to have sensitive steering and throttle inputs to get it right.

Then the pace of the track changes with a hard uphill braking into the slow turn 12 before a quick hit of the throttle trying to carry some speed into a slightly downhill longer hairpin where the front tires are always searching for grip before the rear take the load transfer as you get on full throttle trying to maximise the exit speed.

The final corner is fantastic, on new tires you have the grip and can carry so much speed through the mid corner, but on older second stint tires, your car and tires are hanging on as you gently get the front of the car to the apex keeping all the momentum while not running wide onto the marbles to maximise exit speed which is key to the end of the lap.

Car and tire balance is important as the stint develops, in the fast corner high entry speeds giving lap time but also confidence to overtake in traffic, however, for this you need good very consistent traction out of the slower corners to keep the tire life and that needs the help of a delicate right foot, easy to say, hard to do.

I expect to see a much tighter battle in Portugal

After a relatively straight forward win in Sebring for Toyota in the new Hypercar class, I expect to see a much tighter battle in Portugal with Ferrari, Porsche, Cadillac, Peugeot and Glickenhaus having critical race experience under their belt and joined by the Vanwall. But Toyota is a very well functioning car, team and driver line up, so the competition will have to be on absolutely top form to battle them over a race distance, with Ferrari most likely taking up the fight.

GTE AM, well again, another very open race but with the Porsche crews looking for a strong performance after a slightly under par Sebring, I see a strong challenge coming from the Weissach cars to Ferrari and Aston Martin.



THE 2021 RACE



- » **Winners:** Buemi/Hirakawa/Hartley (Toyota GR010 Hybrid/Michelin), 300 laps
- » **Pole position:** Matthieu Vaxivière (Alpine A480/Michelin), 1m30.364s
- » **Fastest race lap:** Nicolas Lapierre (Alpine A480/Michelin), 1m30.919s
- » **Top speed:** Brendon Hartley (Toyota GR010 Hybrid/Michelin), 318.6kphh
- » First FIA WEC race at Portimão
- » First pole-position for Alpine/Michelin in endurance racing in 44 years
- » A 1-2 result for Toyota/Michelin after a superb scrap with Alpine
- » Victory for Ferrari/Michelin in GTE Pro and GTE Am thanks to effective tire strategies
- » The MICHELIN Pilot Sport range combined performance with consistency at the highly demanding Portuguese venue

6 HOURS OF PORTIMÃO

2ND EDITION

» **ROUND 2 - 2023 FIA WORLD ENDURANCE CHAMPIONSHIP (FIA WEC)**



START

SUNDAY, APRIL 16 AT 12:00 NOON

TIMETABLE

Local time

FRIDAY, APRIL 14	
10:30am	Free Practice 1 (90 minutes)
5:30pm	Free Practice 2 (90 minutes)
SATURDAY, APRIL 15	
11:15am	Free Practice 3 (60 minutes)
3:30pm	LMGTE Qualifying (10 minutes)
4:20pm	Hypercar Qualifying (10 minutes)
SUNDAY, APRIL 16	
12:00 noon	6 Hours of Portimão

SOURCE: f1awec.com
Informations susceptibles d'être modifiées



PIERRE ALVES

Endurance Racing Manager, Michelin Motorsport

“Portimão is a hilly, old-school circuit that is technically challenging and extremely tough on tires because of the long straight and the variety of corners it features. They need to soak up both high longitudinal forces - especially under heavy braking for Turns 1 and 5 - and lateral forces, notably as the cars accelerate through the long Turn 15. The track itself is quite wide, permitting different lines, which facilitates overtaking in several places. Tire warm-up performance without the aid of warmers, which are now banned by the regulations, shouldn't be a big issue here because this is one of the circuits on the calendar that generates the most energy. As our build-up to June's Le Mans 24 Hours continues, it will be good to see how our Soft-Hot and Medium-Hot options perform during the race.”

TECHNICALLY
CHALLENGING
AND EXTREMELY
TOUGH ON TIRES



THE MICHELIN RANGE 6 HOURS OF PORTIMAO

**25 OF THE 37 CARS
RACING ON MICHELIN TIRES**

HYPERCAR

LM GTE AM

A new range of MICHELIN Pilot Sport Slicks.

Michelin tires are the preferred choice of all the LMGTE Am teams



SLICKS
SOFT HOT, MEDIUM HOT

SLICKS

Soft hot: for average-wearing or 'rubbered' track surfaces, temperatures in excess of 15°C (core range tyre).

Medium hot: abrasive track surfaces, demanding track configurations, temperatures in excess of 30°C.



WET
FULL WET

WET-WEATHER TIRES

Tires for light to heavy rain..



SLICK
SOFT HOT, MEDIUM HOT

SLICKS

Soft hot: core range tyre, temperatures between 15 and 35°C.

Medium hot: for abrasive track surfaces and/or temperatures in excess of 30°C.



WET
DRYING WET AND FULL WET

RAIN TIRES

'Drying' Wets and Full Wets: a broad operating window and the same tread pattern, but a different construction.

SIZES AVAILABLE:

29/71-18 • 31/71-18 • 34/71-18

Width (cm) / exterior diameter (cm) x interior diameter (inches).

SIZES AVAILABLE:

Front: 30/68-18 • Rear: 31/71-18

Width (cm) / exterior diameter (cm) x interior diameter (inches).

SLICKS ALLOCATION

	HYPERCAR	LM GTE AM
Free Practice	12 tires	16 tires
Qualifying + Race	18 tires	26 tires




HYPERCAR


N°2	CADILLAC RACING	Cadillac V-LMDh	BAMBER/LYNN/WESTBROOK	
N°4	FLOYD VANWALL RACING TEAM	Vanwall Vandervell 680	DILLMANN/GUERRIERI/VILLENEUVE	
N°5	PORSCHE PENSKE MOTORSPORT	Porsche 963	CAMERON/CHRISTENSEN/MAKOWIECKI	
N°6	PORSCHE PENSKE MOTORSPORT	Porsche 963	ESTRE/LOTTERER/VANTHOOR	
N°7	TOYOTA GAZOO RACING	Toyota GR010 Hybrid	CONWAY/KOBAYASHI/LOPEZ	
N°8	TOYOTA GAZOO RACING	Toyota GR010 Hybrid	BUEMI/HARTLEY/HIRAKAWA	
N°50	FERRARI AF CORSE	Ferrari 499P	FUOCO/MOLINA/NIELSEN	
N°51	FERRARI AF CORSE	Ferrari 499P	PIER GUIDI/CALADO/GIOVINAZZI	
N°93	PEUGEOT TOTALENERGIES	Peugeot 9X8	DI RESTA/JENSEN/VERGNE	
N°94	PEUGEOT TOTALENERGIES	Peugeot 9X8	DUVAL/MENEZES/MULLER	
N°708	GLICKENHAUS RACING	Glickenhaus 007 LMH	DUMAS/BRISCOE/PLA	

LM GTE AM








N°21	AF CORSE	Ferrari 488 GTE Evo	CONSTANTINI/MANN/DE PAUW	
N°25	ORT BY TF	Aston Martin Vantage	AL HARTY/DINAN/EASTWOOD	
N°33	CORVETTE RACING	Corvette C8/R	KEATING/VARRONE/CATSBURG	
N°54	AF CORSE	Ferrari 488 GTE Evo	FLOHR/CASTELLACCI/RIGON	
N°56	PROJECT 1	Porsche 911 RSR	HYETT/JEANNETTE/CAIROLI	
N°57	KESSEL RACING	Ferrari 488 GTE Evo	KIMURA/HUFFAKER/SERRA	
N°60	IRON LYNX	Porsche 911 RSR	SCHIAVONI/CRESSONI/PICARIELLO	
N°77	DEMPSEY-PROTON	Porsche 911 RSR	RIED/PEDERSEN/ANDLAUER	
N°83	RICHARD MILLE AF CORSE	Ferrari 488 GTE Evo	PEREZ-COMPANC/WADOUX/ROVERA	
N°85	IRON DAMES	Porsche 911 RSR	BOVY/GATTING/FREY	
N°86	GR RACING	Porsche 911 RSR	WAINWRIGHT/PERA/BARKER	
N°88	PROTON COMPETITION	Porsche 911 RSR	HARDWICK/ROBICHON/TINCKNELL	
N°98	NORTHWEST AMR	Aston Martin Vantage	DALLA LANA/TBA/THIIM	
N°777	D'STATION RACING	Aston Martin Vantage	HOSHINO/STEVENSON/FUJII	



HYPERCAR
FIA WORLD ENDURANCE HYPERCAR CHAMPIONSHIP

MANUFACTURERS		 17/03	 16/04	 29/04	 10-11/06	 9/07	 10/10	 4/11	TOTAL
1 st	TOYOTA	 38							38
2 nd	FERRARI	 24							24
3 rd	CADILLAC	 18							18

DRIVERS		 17/03	 16/04	 29/04	 10-11/06	 9/07	 10/10	 4/11	TOTAL
1 st	JOSE MARIA LOPEZ	 38							38
1 st	KAMUI KOBAYASHI	 38							38
1 st	MIKE CONWAY	 38							38
2 nd	BRENDON HARTLEY	 27							27
2 nd	KAZUKI NAKAJIMA	 27							27
2 nd	SÉBASTIEN BUEMI	 27							27
3 rd	ANTONIO FUOCO	 23							23
3 rd	MIGUEL MOLINA	 23							23
3 rd	NICKLAS NIELSEN	 23							23

LM GTE AM
FIA ENDURANCE TROPHY - LMGTE AM

TEAMS		 17/03	 16/04	 29/04	 10-11/06	 9/07	 10/10	 4/11	TOTAL
1 st	CORVETTE RACING	 38							38
2 nd	DEMPSEY - PROTON RACING	 27							27
3 rd	KESSEL RACING	 23							18

DRIVERS		 17/03	 16/04	 29/04	 10-11/06	 9/07	 10/10	 4/11	TOTAL
1 st	BEN KEATING	 38							38
1 st	NICKY CATSBURG	 38							38
1 st	NICOLAS VARRONE	 38							38
2 nd	CHRISTIAN RIED	 27							27
2 nd	JULIEN ANDLAUER	 27							27
2 nd	MIKKEL PEDERSEN	 27							27
3 rd	DANIEL SERRA	 23							23
3 rd	SCOTT HUFFAKER	 23							23
3 rd	TAKESHI KIMURA	 23							23

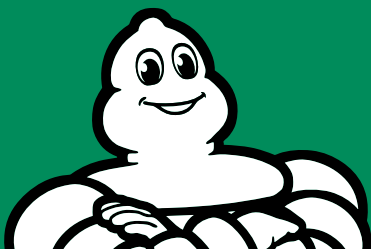
PORTIMÃO AND THE ALGARVE



- > Portimão is a port and acclaimed holiday resort noted for its Praia da Rocha beach
- > Located in southern Portugal's Algarve region, Portimão is a popular tourist destination
- > The Algarve's capital is Faro (population: more than 100,000) which boasts numerous Moorish and Roman heritage sites

MICHELIN GREEN GUIDE

Explore the delights of Portugal – from its whitewashed hillside villages, to its pristine beaches, gastronomy and unique cultural heritage – with the Michelin Green Guide. Don't forget to plan stays in wonderful Porto and Lisbon.



MICHELIN AND AUTODROMO DO ALGARVE



- » Michelin won the 2009 1,000km of Portimão (Le Mans Series) with the Pescarolo C60-Judd of Boullion/Tinseau
- » The same year, Michelin won Portugal's FIA GT round at Portimão, with Corvette
- » Michelin is a frequent winner of the World Rally Championship's Rally de Portugal which was based in the country's Algarve region for a long time
- » Last month, Portimão hosted the opening round of the 2023 MotoGP™ World Championship which Michelin won with Ducati

ENDURANCE RACING: AN ACCELERATOR OF INNOVATION FOR MICHELIN

Michelin has long seen motorsport in general, and endurance racing and the Le Mans 24 Hours in particular, as a valuable means to speed up the development of its technological innovations. Michelin X radial tires, for example, raced at Le Mans for the first time in 1951...



Following the release of the Michelin X in 1946, Michelin believed that motor racing was the ideal arena for

the continuing development of its landmark innovation. Accordingly, a Lancia Aurelia B20 GT equipped with commercially-available Michelin Xs was entered for Le Mans in 1951. In the hands of Don Giovanni Lurani and Giovanni Bracco, it completed more than 3,000 kilometers without a problem to win the two-liter class and finish 12th overall! Michelin radial X technology was taken up around the world for all types of vehicle (cars, trucks, motorbikes, etc.) and went on to become the norm in motorsport, boosted by its successes in rallying, at Le Mans, in Formula 1, in GP500 motorcycle racing, etc.



2023

WEC CALENDAR



MARCH 17
1,000 Miles of Sebring



APRIL 16
6 Hours of Portimão



APRIL 29
6 Hours
of Spa-Francorchamps



JUNE 10-11
Le Mans 24 Hours



JULY 9
6 Hours of Monza



SEPTEMBER 10
6 Hours of Fuji



SEPTEMBER 4
8 Hours of Bahrain



FIA WEC TIRE REGULATIONS

Michelin has been appointed as the exclusive tire supplier for the FIA WEC's Hypercar prototypes.

Teams competing in LMGTE Am may work with the tire manufacturer of their choice. Michelin has been nominated by all the competitors in this class.

TIRE ALLOCATIONS

	Free Practice	Qualifying + Race	
		6-hour races	8-hour races
HYPERCAR	12	18	26
LM GTE AM	16	26	34

SLICKS

Hypercars:

Three types of slick for the season for all of the cars, with two types of slick to be nominated 48 hours before the Prologue test. Two types of slick to be nominated 48 hours at the latest before the start of scrutineering (three types for Le Mans).

- Tire manufacturers must draw up identical usage indications (tire pressures, camber) for all competitors. Non-compliance with these indications will result in the competitor being reported to the Sporting Stewards.
- In the case of 29/34 tires, tires will be allocated to each competitor at meetings by a random process carried out by the Technical Delegates. These tires to count for the Qualifying + Race allocation. Procedure established by the WEC Committee.
- In the case of 31/31 tires, a procedure to collect and redistribute tires established by the WEC Committee.
- The WEC Committee may make changes to the random tire allocation and/or tire collection/redistribution procedures at any point in the season.

LM GTE Am:

Only those tire specifications nominated for the 2022 championship may be used in 2023.

All the specifications for the season must be declared to the Technical Delegate before the start of the season.

Three types of slick for the season for all of the cars. Two types of slick for each race (three types for Le Mans).

RAIN TIRES

Rain tires may only be used if Race Control declares the track to be wet (Free Practice, Qualifying, Race). No per-event quotas.

LM GTE Am: One type of rain tire and one type of intermediate tire per model entered 48 hours prior to the Prologue. The re-cutting of tread patterns is not authorized.

Number of authorized specifications

	Slick tires			Wet-weather tires
	Le Mans 24 Hours	Other races	Total for the season	
HYPERCAR	3	2	3	1
LM GTE AM	3	2	3	2

Altering the property of a tire by either chemical or mechanical means is not permitted, except for the removal of debris picked up on the track.

The tires' (fil ou) profile may not be modified or re-cut.

Processes involving a direct or indirect test aimed at modifying the temperature of a tire (in relation to ambient temperature) are not permitted.

In the course of the season, a competitor may change tire supplier no more than once.

Infringement of the tire allowance: Stop & Go of 2 minutes per tire.

Breach of tire-warming rules: three-minute Stop&Go during the race.

A maximum of four mechanics and two tire guns for wheel changes during pit stops. Tire changes are not authorized while the car is being refueled.

1 tire technician authorized to check tire temperatures and pressures.

Tire changes are only authorized a) on the grid up to the five-minute board, b) in front of the car's garage during a pit stop or inside the garage if more extensive work on the car is required, or c) on the track if the race is suspended.

Tires are identified by RFID chips and bar codes. All tire serial numbers must be provided to the Technical Delegates 48 hours in advance.

HEIGHTEN YOUR SENSES



Enjoy all our latest
tire ranges.



MICHELIN
Pilot Sport 5



MICHELIN
Road 6



MICHELIN
Power Cup



MICHELIN