



MICHELIN

e•PRIMACY

Eco-Responsible, made to last

JANUARY 2021

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MICHELIN

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What began as a growing awareness, with the first low rolling resistance “green” tire in 1992, has now become one of Michelin’s core convictions. The All-Sustainable vision, which informs the Group’s strategy, is based on growth that is equally balanced between the financial and operating performance that secures the company’s sustainable viability, the respect we show for the planet, and the attention we pay to people, without whom no accomplishments or transformation is possible.

This is the vision that inspires every one of our new tires. This is the vision that has inspired the MICHELIN e.PRIMACY tire.

MICHELIN e.PRIMACY is the first eco-designed MICHELIN tire whose life-cycle assessment has been incorporated into its design, to address all of its lifetime environmental impacts. Thanks to the innovative technologies involved, the MICHELIN e.PRIMACY tire delivers the most efficient performance in its category in terms of rolling resistance,⁽¹⁾ making it more environmentally friendly, while also guaranteeing the safety, grip and durability performance benefits for which MICHELIN tires are so famous.

Michelin has taken steps to neutralize the CO₂ emissions impacts of the MICHELIN e.PRIMACY tire during the production phases, from raw materials extraction to tire transportation (delivery of the tire to the customers).⁽²⁾ This is a first for Michelin that will open the way to a new generation of products.

(1) Rolling resistance tests performed on test benches by Applus Iklada, at Michelin’s request, on new tires in June 2020 and on tires milled to 2mm tread depth in August 2020, on size 205/55 R16 91V, comparing MICHELIN e.PRIMACY (new: 5.58 kg/t – worn: 5.13 kg/t) to MICHELIN PRIMACY 4 (new: 7.74 kg/t – worn: 6.25 kg/t); BRIDGESTONE TURANZA T005 (new: 7.17 kg/t – worn: 5.81 kg/t); CONTINENTAL ECOCONTACT 6 (new: 6.39 kg/t – worn: 5.49kg/t); CONTINENTAL PREMIUM CONTACT 6 (new: 8.93 kg/t – worn: 6.94 kg/t); DUNLOP BLURESPONSE (new: 7.97 kg/t – worn: 5.54 kg/t); GOODYEAR EFFICIENT GRIP 2 (new: 7.01 kg/t – worn: 5.38 kg/t); PIRELLI CINTURATO P7 BLUE (new: 6.96 kg/t – worn: 6.30 kg/t); PIRELLI CINTURATO P7 (new: 8.79 kg/t – worn: 6.97 kg/t). Results may vary depending on driving practices, vehicle and tire pressure.

(2) Carbon neutral at the time of purchase – Michelin has reduced the CO₂ emissions from its production plants by 25% since 2010 and is aiming to reach carbon neutrality by 2050. A portion of the carbon credits that Michelin is earning by helping to finance projects designed to absorb or avoid carbon emissions will be used to offset the residual emissions from the production of MICHELIN e.PRIMACY tires (from raw materials extraction to customer delivery). This program is being carried out in partnership with the Livelihoods Carbon Funds, which finance projects to replant trees or install less energy-intensive cookstoves in a number of countries around the world.

As you can see, environmental issues are central to our strategic priorities. To reduce its environmental footprint more quickly, Michelin has pledged to lower CO₂ emissions from all its production facilities by 50% by 2030 compared with 2010, with the ultimate goal of achieving carbon neutrality by 2050. Michelin is also developing solutions to use renewable or recycled materials to manufacture its tires, while enhancing their performance even more. By 2030, MICHELIN tires will be 20% more energy efficient than they were in 2010.

**Tomorrow,
everything will be sustainable!**



Scott Clark

*Executive Vice President,
Automotive, Motorsport,
Experiences, and
Americas Region –
Member of the Group
Executive Committee*



1

MICHELIN e.PRIMACY: A COMPELLING BLEND OF ENVIRONMENTAL BENEFITS, FUEL ECONOMY AND HIGH PERFORMANCE

Reducing environmental impacts has been the core thrust of Michelin's innovation strategy for nearly 30 years. Back in 1992, the Group brought to market the world's first "green" tire. Its lower rolling resistance helped to reduce CO₂ emissions and improve fuel efficiency (given that tires account for between 20% and 30% of a vehicle's fuel use⁽³⁾).

In 2021, the Group is crossing a new milestone by bringing to market the MICHELIN e.PRIMACY tire, offering not only the lowest rolling resistance in its category⁽⁴⁾⁽¹⁾ but so much more...

THE ROLLING RESISTANCE CHAMPION

Thanks to its superior rolling resistance, MICHELIN e.PRIMACY is rated A in energy efficiency and B in wet grip, making it one of the best tires on the market considering that fewer than 1% of tires deliver a winning combination of A-rated rolling resistance and A or B-rated wet grip.⁽⁵⁾

Energy efficiency and wet grip ratings split for summer passenger car tires sold in Europe⁽⁵⁾.

		ENERGY EFFICIENCY					
		A	B	C	E	F	G
WET GRIP	A	0.39%	1.71%	7.92%	4.48%	0.60%	0.06%
	B	0.46%	1.96%	12.79%	14.42%	3.58%	0.37%
	C	0.09%	0.64%	11.70%	21.88%	6.30%	0.83%
	E	0.01%	0.07%	1.36%	4.36%	2.51%	0.27%
	F	0.00%	0.03%	0.07%	0.18%	0.89%	0.04%
	G	0.00%	0.01%	0.01%	0.00%	0.00%	0.00%

MICHELIN e.PRIMACY's low rolling resistance means that drivers burn around 0.21 liters less fuel per 100 kilometers and save around €80 over the road life of the tire.⁽⁶⁾⁽⁷⁾

(3) Internal calculations made at Ladoux Technology Center in Clermont-Ferrand, France: technical bulletin dated September 27, 2016 on raw materials, fuel consumption and CO₂ emissions linked to early replacement of passenger car tires.

(4) MICHELIN e.PRIMACY is a premium summer tire in the same category as those marketed under the CONTINENTAL, GOODYEAR, BRIDGESTONE, PIRELLI and DUNLOP brands, which may be purchased by consumers from a retailer. The category does not include tire lines designed to meet the specific original equipment specifications of automobile manufacturers.

(5) Analysis of summer passenger car tire ratings, based on the June 2020 Lizeo database.

(6) When new, the MICHELIN e.PRIMACY tire generates an average 2 kg/t less rolling resistance than competing tires, which feeds through to an up to 0.21-liter reduction in fuel burned per 100 km. This is equivalent to up to 5 g of CO₂ emissions avoided for a VW Golf VII 1.5 TSI or an up to 7% increase in range for a VW e.Golf.

(7) Over its useful life, the MICHELIN e.PRIMACY tire generates an average 15 kg/t less rolling resistance than competing tires, representing an equivalent €80 reduction in the total fuel bill and an equivalent 174 kg reduction in CO₂ emissions. These gains were estimated by averaging data from new tires and used tires milled down to 2 mm to reflect real-life performance. They were calculated on the basis of 35,000 km and a fuel price of €1.46/l (https://ec.europa.eu/energy/data-analysis/weekly-oil-bulletin_en at January 6, 2020, weighted for the top 10 countries for motor vehicle movements on national and foreign territory - <https://ec.europa.eu/eurostat/web/transport/data/database>). Fuel and cost savings may vary, depending in particular on driving practices, vehicle and tire pressure.



Using less fuel also results in a reduction in CO₂ emissions. For the planet, this gain can be estimated at 174 kg over the tire's road life,⁽⁷⁾ corresponding to the avoided CO₂ emissions from a vehicle traveling more than 1,600 km.⁽⁸⁾

MICHELIN e.PRIMACY is also encouraging the transition to electric mobility or hybrid powertrains. Its rolling resistance performance in the premium replacement tire market improves an electric vehicle's energy efficiency, thereby increasing its range by an estimated 7% or around 30 km for a vehicle with a range of 400 km.⁽⁶⁾

LASTING PERFORMANCE

Consistent with the reputation of MICHELIN tires, **MICHELIN e.PRIMACY** delivers the same superior performance from the first to the last kilometer. In fact, the performance remains so steady that even after 30,000 km on the road, it can pass the European R117 standard wet braking approval test.⁽⁹⁾

Available in spring 2021 in 56 versions from 15 to 20 inches, the **MICHELIN e.PRIMACY** tire can be fitted on the market's most popular internal combustion and electric vehicles.

⁽⁸⁾ 174 kg of CO₂ corresponds to 1,611 km traveled by a VW Golf VII (2) MY2020 1.5 TSI EVO 130 BLUEMOTION TECHNOLOGY 7CV CARAT BV6 SP ([https://www.lacentrale.fr/fiche-technique-voiture-volkswagen-golf-vii+\(2\)+1.5+tsi+evo+130+bluemotion+technology+7cv+confortline+bv6+5p-2020.html](https://www.lacentrale.fr/fiche-technique-voiture-volkswagen-golf-vii+(2)+1.5+tsi+evo+130+bluemotion+technology+7cv+confortline+bv6+5p-2020.html)) (Source: <https://www.iea.org/areas-of-work/programmes-and-partnerships/the-iaa-mobility-model>).

⁽⁹⁾ The 205/55 R16 91V MICHELIN e.PRIMACY tire in new and worn condition (worn meaning machine-milled down to the maximum permissible wear indicator according to the European wear indicator regulation ECE R30/O3f), is capable of passing the European R117 wet braking certification test.



**DESIGNED FOR CITY CARS,
SEDANS AND COMPACT SUVs,
THE MICHELIN e.PRIMACY IS BEING
MANUFACTURED IN EUROPE,
RIGHT WHERE IT WILL
BE MARKETED.**

2

TAKING A CLOSER LOOK AT AN ENERGY EFFICIENCY CHAMPION

To meet its energy efficiency targets without compromising any of its other performance factors, the **MICHELIN e.PRIMACY** tire incorporates the latest technologies developed by researchers and engineers at the Group's Ladoux research and development center near Clermont-Ferrand.

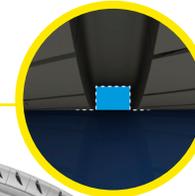
CoolRunning Sidewalls

Thanks to a next-generation component, these sidewalls absorb less energy when flexing, thereby reducing energy consumption and increasing electric vehicle range.



U-Shape groove

This Evergrip technology has proven its capabilities on the MICHELIN PRIMACY 4 tire, which is renowned for its performance on wet surfaces in both new and worn condition. The grooves' unique shape ensures that water is effectively evacuated regardless of the depth of tread wear.



MaxTouch Construction™

This Evertread technology maximizes tire contact with the road and evenly distributes braking, acceleration and cornering forces. This helps to extend tread life, underpinning **MICHELIN e.PRIMACY's** excellent durability.



Slim belt

These thinner crown belts have a specific design that delivers the same resistance while requiring less raw material. As a result, they generate less rolling resistance compared to traditional designs, which helps to improve fuel efficiency and reduce vehicular CO₂ emissions.



Energy Passive compound

This technology, which is the primary source of the **MICHELIN e.PRIMACY's** low rolling resistance, is based on a high elasticity elastomer. Inside the compound, improved elastomer-filler coupling reduces energy loss, which lowers rolling resistance and therefore reduces the amount of fuel or electricity needed to move the vehicle.



Energy AirShield

The Energy AirShield is a highly hermetic belt that lowers energy loss, which also helps to reduce rolling resistance.



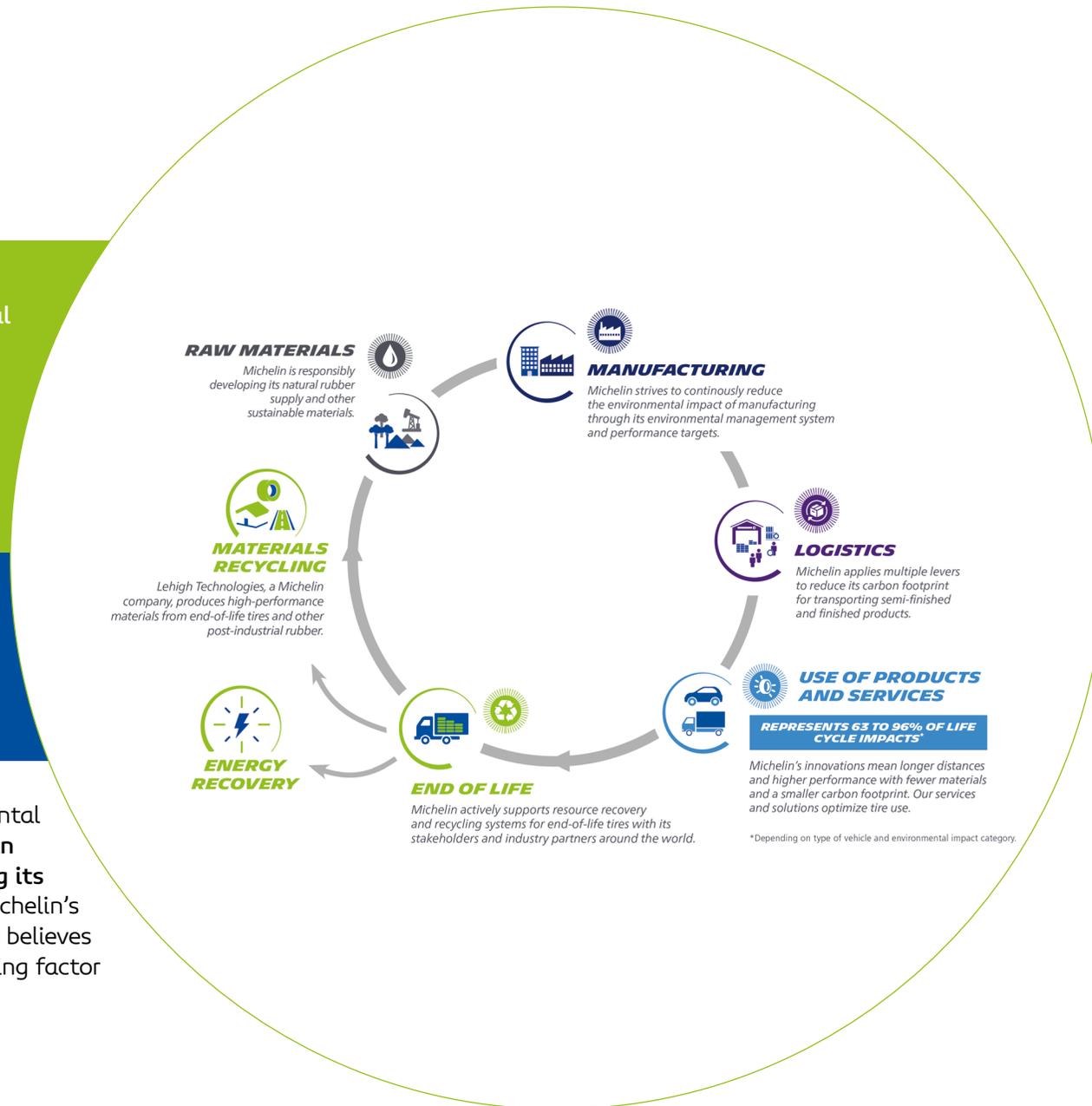
MICHELIN e.PRIMACY, AN ECO-DESIGNED TIRE BASED ON LIFE-CYCLE ASSESSMENTS

This is the first MICHELIN tire line-up designed using environmental impact simulations as part of the decision-making process. Standardized life cycle assessment methods were applied to calculate and optimize all of the MICHELIN e.PRIMACY range's impacts, from raw materials extraction to tire manufacture, distribution, use and recycling.



THE MICHELIN E.PRIMACY TIRE IS THE FIRST TIRE ON THE MARKET FOR WHICH AN ENVIRONMENTAL PRODUCT DECLARATION (EPD) HAS BEEN PUBLISHED.

The life cycle assessment findings have been compiled in an Environmental Product Declaration (EPD), which is readily available online.⁽¹⁰⁾ **Michelin is the first tire manufacturer to fully disclose a document quantifying its tire's impact on the planet and on people.** This initiative illustrates Michelin's commitment to promoting more sustainable mobility. The Group firmly believes that steps taken to reduce environmental impacts will be a differentiating factor in consumers' purchasing decisions.



*Depending on type of vehicle and environmental impact category.

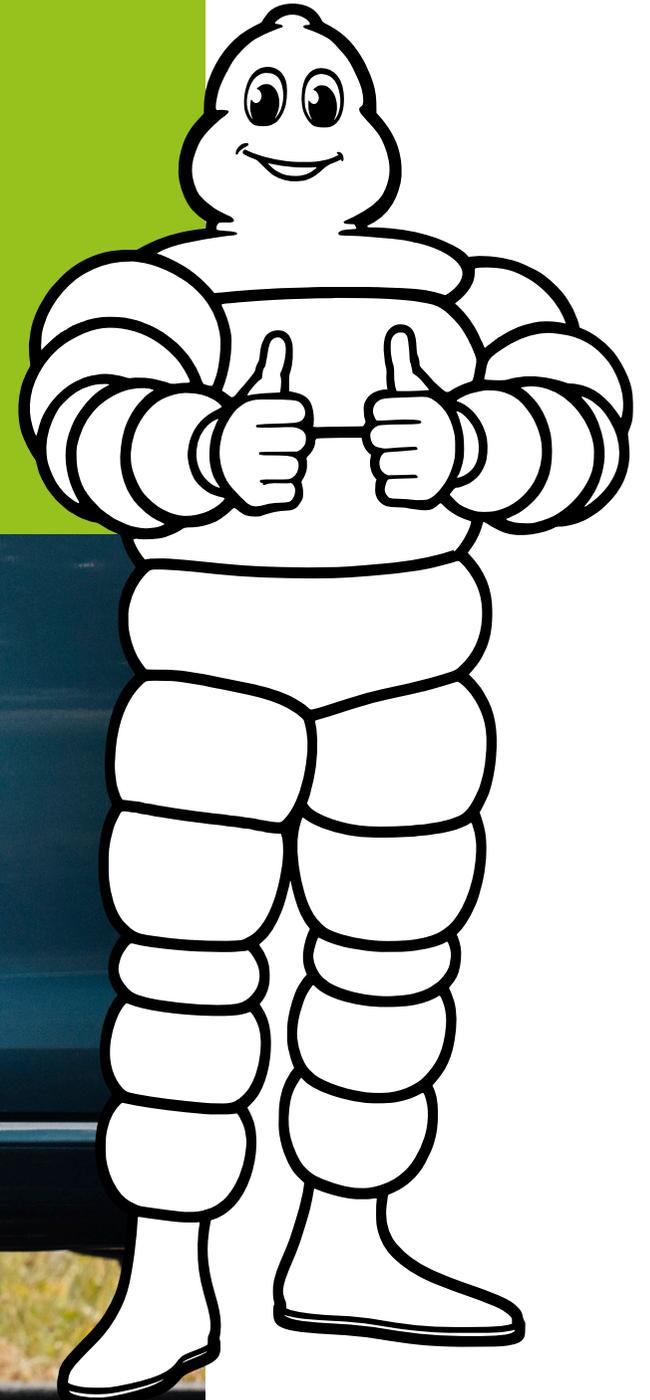
(10) www.environdec.com/Detail/epd2119



CO₂

FIRST CO₂-NEUTRAL MICHELIN TIRE AT THE TIME OF PURCHASE⁽²⁾

Manufacturing a tire involves extracting raw materials, producing the tire and transporting it to customers – all of which uses energy and emits CO₂. In striving to achieve carbon neutrality throughout a tire's lifetime, Michelin has made headway in two areas: (i) designing **MICHELIN e.PRIMACY**, a tire that is a champion of energy efficiency in use; and (ii) investing in projects that avoid or absorb the residual carbon emissions relating to its production, from extracting the raw materials to transporting the product to the end-customer. These include projects to replant trees and install less energy-intensive cookstoves in several countries around the world (via the Livelihoods Carbon Funds).⁽²⁾ The projects will continue until all of the residual emissions have been completely eliminated. The **MICHELIN e.PRIMACY** tire line-up will be the first MICHELIN range that is CO₂ neutral at the time of purchase.⁽²⁾



4

MICHELIN e.PRIMACY IN FIGURES

27%

REDUCTION IN ROLLING RESISTANCE
WITH THE MICHELIN e.PRIMACY TIRE
COMPARED TO ITS CATEGORY⁽¹⁾⁽⁴⁾⁽⁶⁾

0.21 l/100km

AVERAGE FUEL SAVINGS⁽⁶⁾

€80

COST SAVINGS AFTER 35,000 KM⁽⁷⁾

174 kg

REDUCTION IN CO₂ EMISSIONS OVER
THE ROAD LIFE OF THE TIRE,
FOR THE HEALTH OF THE PLANET⁽⁷⁾

7%

INCREASE IN ELECTRIC VEHICLE RANGE⁽⁶⁾

56

NUMBER OF VERSIONS
FROM 15 TO 20 INCHES

March 1, 2021

LAUNCH DATE FOR THE FIRST
PRODUCTS ON SALE



About Michelin:

Michelin, the leading mobility company, is dedicated to enhancing its clients' mobility, sustainably; designing and distributing the most suitable tires, services and solutions for its clients' needs; providing digital services, maps and guides to help enrich trips and travels and make them unique experiences; and developing high-technology materials that serve a variety of industries. Headquartered in Clermont-Ferrand, France, Michelin is present in 170 countries, has more than 127,000 employees and operates 69 tire production facilities which together produced around 200 million tires in 2019. (www.michelin.com)

