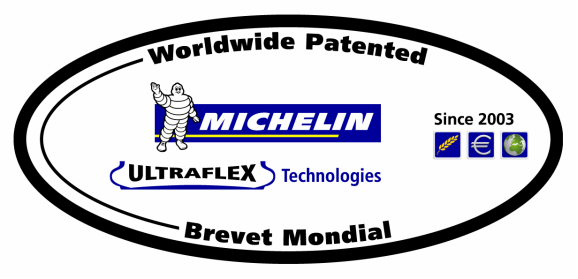
*For harvesters*

**New**

# The MICHELIN CerexBib

## Take a load off at work

**Press Kit**

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MICHELIN
*A better way forward*

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Summary press release

# The MICHELIN CerexBib
# Increases Harvester Efficiency Using MICHELIN Ultraflex Technology

Cereal farmers need more powerful, heavier and wider harvesters to improve productivity. But the demand for more efficient harvesters has drawbacks for manufacturers, who have to factor in soil compaction, load capacity and traffic regulations.

To work around these requirements, Michelin and Claas, Europe's leading combine harvester manufacturer, have developed tires for the latest generation of farm machinery. With these new tires, Michelin is helping manufacturers further enhance harvester productivity.

The MICHELIN Ultraflex technology (see page 7) means that the new MICHELIN CerexBib is the only commercially available tire that can work at a pressure of less than 2 bar. With a higher rate of deflection than existing tires, MICHELIN CerexBib has a footprint that is at least 20% bigger than a conventional tire. That reduces soil compaction. In addition, the MICHELIN CerexBib's longer footprint widens the harvest window, because the tire takes wet weather in its stride.

With larger harvesting headers, higher conveyor capacity and ever more powerful, heavier engines, these new machinery is much heavier overall. Compared to a conventional tire, the new MICHELIN CerexBib and its MICHELIN Ultraflex technology offer an additional 20% load capacity for the same pressure. MICHELIN CerexBib is the tire of choice for the latest generation of harvesters and allows manufacturers to push the boundaries when developing new, even more efficient machinery.

When traveling by road — which happens more often, for longer trips — the MICHELIN CerexBib offers an unbeatable advantage. The new Michelin tire is narrower than currently available tires; for example, the new MICHELIN CerexBib IF 680/85 R 32 has the same load capacity as the current 800/70 R 32. This lets manufacturers build bigger harvesters without exceeding a width of 3.5 meters. That's important, because European Union regulations stipulate that wider harvesters have to be escorted on the road.

The new MICHELIN CerexBib leverages MICHELIN Ultraflex architecture, new materials and an innovative tread design to protect fields and deliver higher load capacity for a narrower width. This triple advantage serves large cereal farmers, agri-managers, farm machinery cooperatives and all industry stakeholders.

## Soil Protection with Michelin Ultraflex Technology

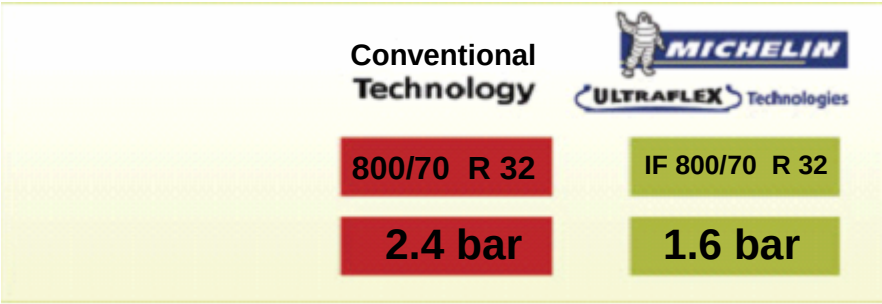
Through the MICHELIN Ultraflex technology, the new MICHELIN CerexBib tire reduces soil compaction caused by harvesters by promoting:

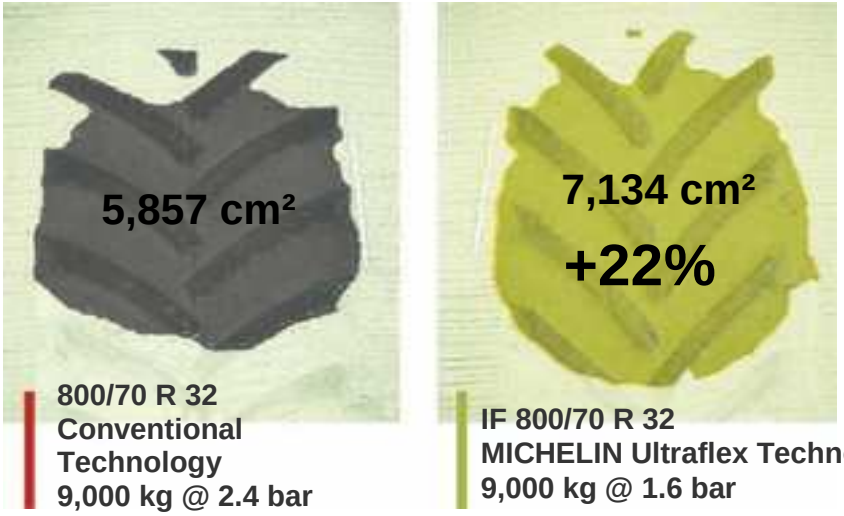
- Good air and water circulation across the cultivated field.
- Uniform crop growth.
- Protected harvests.

MICHELIN CerexBib therefore increases farm yield thanks to a footprint increased by at least 20%. As a result, pressure is more evenly distributed as the harvester works.
This advantage is obtain through greater tire deflection, with a working pressure that is 30% less than for conventional tires.

From a technology standpoint, the unique deflection capacity delivered by the exclusive MICHELIN Ultraflex technology is combined with new, tougher rubber compounds and a new tread design that improves the tire's traction. The MICHELIN CerexBib can climb slopes of 24%, compared with 19% for a conventional tire.

- **Working pressure reduced by 30%, depending on the type of tire (see below), while still offering high load capacity.**
- **Footprint increased by 20% to reduce soil compaction and harvest for longer periods, no matter how wet the weather.**



## Higher Load Capacity, Smaller Tires

Farmers are harvesting crops during the short peak maturity period in an effort to increase yield per hectare, and harvester productivity plays a key role. This is increasingly common practice as farms get bigger and farmers don't want to be caught out by bad weather.

During wheat harvests, today's machinery covers six hectares an hour, compared with just one in 1965. This ramp-up has seen the introduction of bigger, heavier machinery that needs tires that can carry heavier loads.

**Thanks to MICHELIN Ultraflex technology, the new MICHELIN CerexBib offers a 20% higher load capacity for the same pressure.**

This property also makes the MICHELIN CerexBib more robust and reliable, reducing the frequency of tire-related maintenance.

- MICHELIN CerexBib Helps Broaden the Harvester Market

The new MICHELIN CerexBib was developed in cooperation with Claas, Europe's number one combine harvester manufacturer. The new tire allows manufacturers to increase the productivity of their machinery. The latest generation is equipped with:

- Wider headers (16 rows, or 12 meters).
- Bigger capacity conveyors (11 tons in 2010, versus 6 tons in 2003).
- Hybrid systems and bigger axial combines for higher efficiency per hectare, which means they need a more powerful engine.
- Ever more powerful beaters.
- Sieves that level automatically.
- More powerful engines — over 600 hp compared to 140 hp previously — subject to Tier 4 emission standards due to the increased weight of engines and accessories.

Each of these properties increases harvester weight and impedes further development, which is conditional on the load capacity of existing tires.

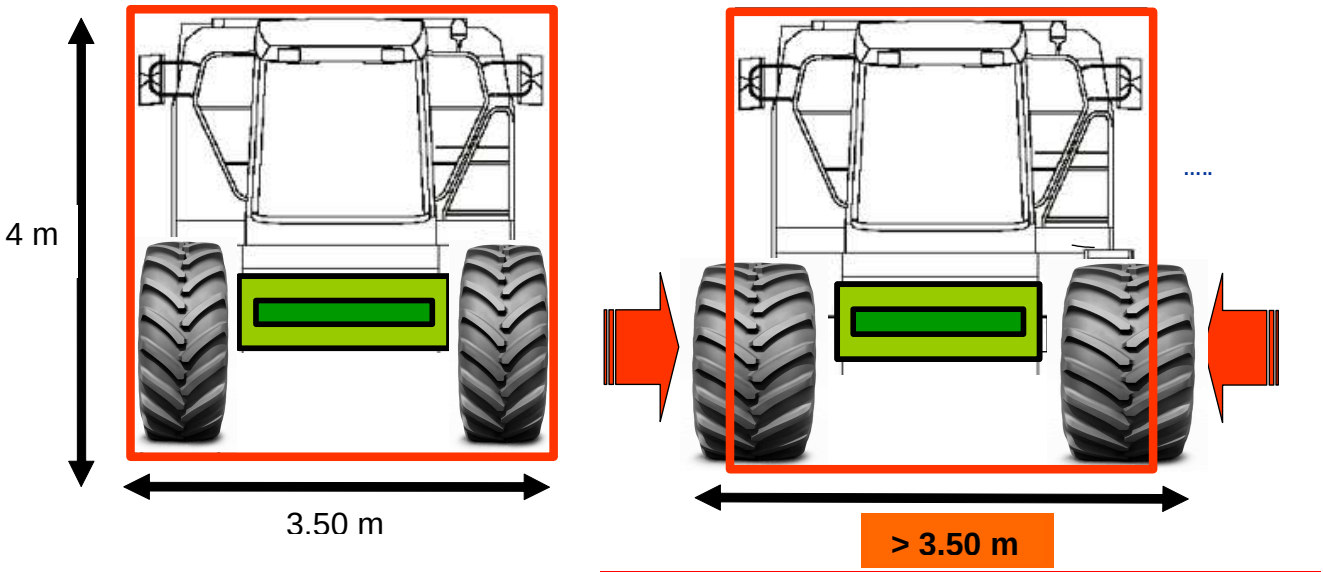
That means that by offering a higher load capacity for the same pressure, MICHELIN CerexBib is helping to advance harvesters and improve yields.

**The new MICHELIN CerexBib is the first tire that can be used on both the front and back axles of combine harvesters. Leveraging MICHELIN Ultraflex technology, rear MICHELIN CerexBib tires also operate at less than 2 bar. They help to protect the soil and enhance the farm's productivity.**

# Bigger, Narrower Harvesters

Advancing harvesters is an oversize challenge. To improve their productivity, they have to be made bigger. In addition to raising mobility-related problems, bigger harvesters are subject to European Union regulations that require an escort vehicle for all machinery more than 3.5 meters wide using public roads. That's why any new tire solution that reduces the width of the machinery is a real opportunity to simplify travel.

**Thanks to a 15% reduction in width, MICHELIN CerexBib tires improve mobility and meet traffic regulations, delivering significant financial savings.**

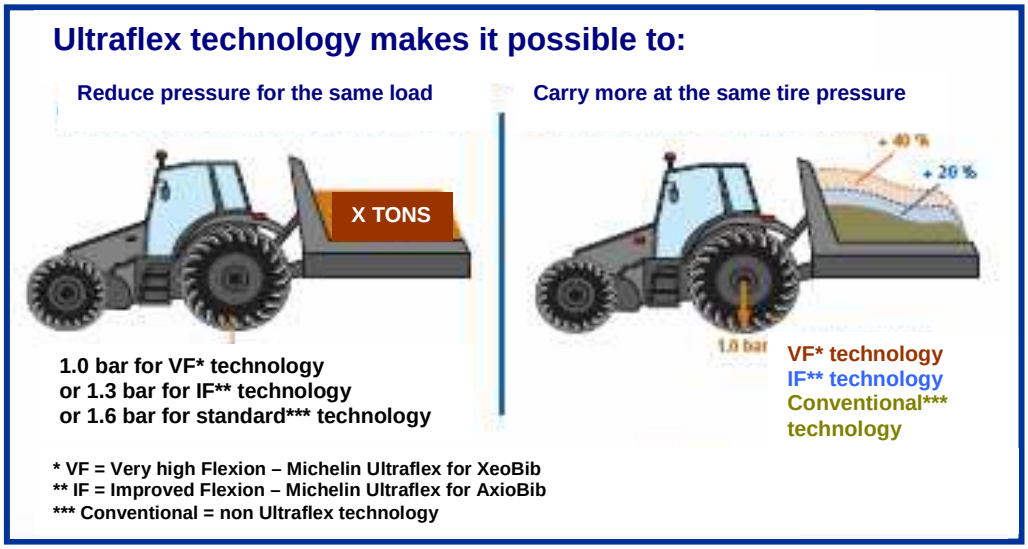



# Exclusive MICHELIN ULTRAFLEX Technology

Developed by Michelin, **Ultraflex** technology provides farmers with a multitude of benefits, including superior soil protection, time savings and a more comfortable ride.

## Superior soil protection

Agricultural tires have to flex as much as possible to be able to carry heavy loads without sinking too far into the ground or compacting the soil. **MICHELIN Ultraflex** technology stands out for its new architecture, which offers a larger footprint. This patented technology means that Michelin can provide agricultural tires capable of operating at the highest rate of deflection currently available on the market, without compromising endurance and tread life.




Traditional tires are governed by a basic rule that determines the recommended pressure according to load and speed, and is illustrated by load/pressure/speed tables:

- If the load increases, the pressure increases.
- If the speed increases, the pressure increases.

**MICHELIN Ultraflex technology, however, has overturned this rule since it is now possible to optimize pressure regardless of vehicle speed. When vehicle load or speed is increased, tire pressure is always less than that used for the same-size tires built with traditional technology. Because soil compaction is reduced, fields are protected and maintain their full yield potential.**

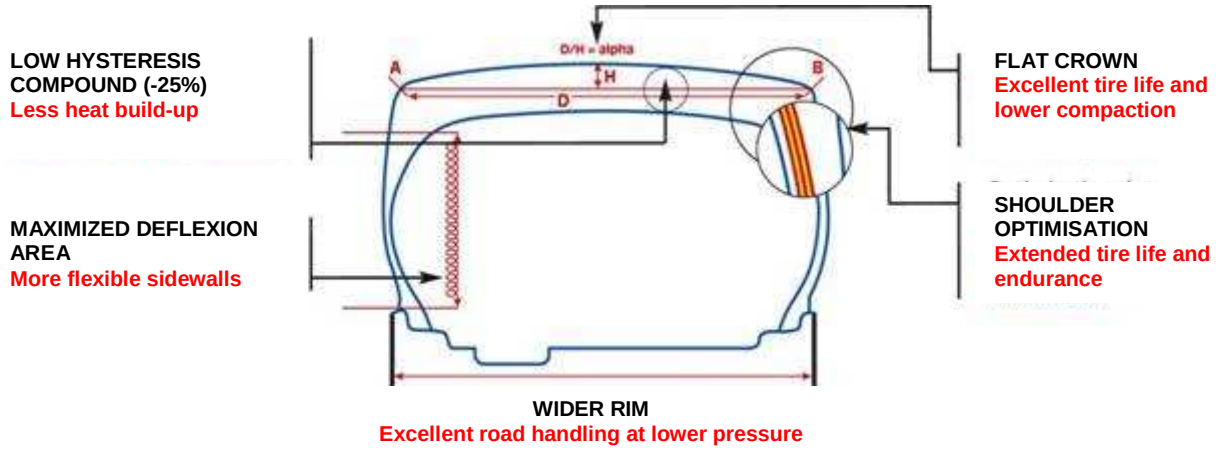
## Time savings and fuel economy

Soil protection is not the only benefit provided by MICHELIN Ultraflex technology. The larger contact patch and lower ground pressure also reduce rut depth and increase traction on wet and dry soil, saving farmers time and increasing fuel efficiency. These performance improvements are aligned with recent farming practices, such as direct seeding.

## A more comfortable ride

Ultraflex technology also means extremely flexible sidewalls, which considerably increase riding comfort.

All of these unrivalled benefits are delivered by a special tire design that incorporates MICHELIN **Ultraflex** technology:




**The shoulders** are reinforced to ensure endurance despite high deflection, thereby enhancing the casing's resistance to severe mechanical stress due to load or speed.

The low-hysteresis rubber compound limits heat generation, which means that the tire lasts longer.

**The flat crown** reduces soil compaction and ensures excellent tread life.

**The flexing area** has been made as large as possible to deliver flexible sidewalls for a highly comfortable ride.

All of these unique features mean that Michelin tires integrating Ultraflex technology can bear the same loads as conventional tires, but with a maximum pressure of 2 bars. Even at these lower pressures, tires engineered with MICHELIN **Ultraflex** technology guarantee safer road driving and demonstrate superior stability. Steering response is improved, while vibrations and noise are considerably reduced.

***At present, three tires benefit from MICHELIN Ultraflex technology: the new MICHELIN CerexBib for harvesters and the MICHELIN AxioBib and MICHELIN XeoBib tires for tractors.***