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Michelin at Intermat Paris

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New MICHELIN XTXL E4 L4 and MICHELIN BIBLOAD Hard Surface tyres: for even better worksite productivity



Press Kit

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Increased productivity on worksites

At INTERMAT Paris, Michelin is demonstrating its capacity for innovation in every domain.

Worksite operators, like every other economic player, need to face up to the productivity challenges that are getting harder and harder to meet.

To obtain these **productivity gains**, worksite operators need to move forward and use the most advanced solutions available. Michelin has always been at their side, providing tyres with the best that technology has to offer.

So it is that Michelin now presents two new tyres: the MICHELIN XTXL E4 L4, designed for loaders; and the MICHELIN BIBLOAD Hard Surface, designed for backhoe loaders, telehandlers and compact loaders. Both offer our customers better operational efficiency, and this has required across-the-board innovation: innovation with regard to the materials; with regard to the tyre design, as illustrated by the B² technology and the new-generation carcass used for the MICHELIN XTXL E4 L4; or with regard to the capacity to tear up the rule book by inventing new forms of tread like those shaped like a 7-sided cut diamond featuring on the MICHELIN BIBLOAD Hard Surface, with identical performance in every direction.

At Michelin, the notion of service is also in the DNA of the company, and has been since its very creation. In the earthmoving activity, Michelin has put in place a team of specialists whose mission is to deliver the best advice to users, on building sites for example, and provide the distribution network with every possible key to delivering optimal service. This is what led to the creation of the "Michelin Earthmover professionals" label.

"The best tyre with the best service": this is the winning formula that is demonstrated daily on the ground.

**By Jean-François FORISSIER, Business Segment Manager, Earthmover Product Line,
& Cédric LECOESTER, Business Segment Manager, Agri & Compact Line, Michelin**

MICHELIN XTXL E4 L4: the tyre for carrying an even heavier load.

Key facts

The MICHELIN XTXL E4 L4 tyre enables a 15% greater load to be carried than the previous generation, thanks to its cable-reinforced carcass ***.

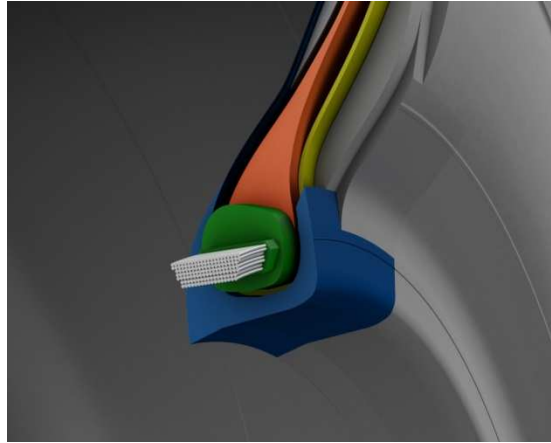
B² technology offers greater torque transmission without rotation on the rim.

Damage resistance has been increased by 20% on the tread area and 10% on the sidewalls: the MICHELIN XTXL E4 L4 tyre offers greater on-site operational robustness.

Greater load capacity, increased power transmission with no rotation on the rim, increased resistance to damage: with the new MICHELIN XTXL E4 L4 tyre, Michelin exceeds all expectations of worksite operators by offering them improved operational efficiency.

It is through technology that Michelin succeeds in satisfying its customers on several fronts at once.

The new MICHELIN XTXL E4 L4 tyre is equipped with B² technology, which reduces rim slip thanks to a new bead architecture. B² technology uses a 30% wider bead wire which strengthens the clamping force on the wheel and increases its contact surface with the rim, compared to the previous-generation MICHELIN XLDD1. Also, the new MICHELIN XTXL E4 L4 tyre benefits from more solid cables, 40% increased mass of metal, 50% thicker sidewalls and a new steel belt, offering 20% increased protection against punctures in the tread area. Lastly, the design of the shoulders of the tyre helps it to cool more quickly, while the central zone and its large tread blocks improve both its damage resistance and its traction capability.



Capable of operating at pressures of up to 8 bar, this reinforced structure, thanks to the use of "****" cables which are thicker and 30% more damage resistant (compared to the previous generation MICHELIN XLDD1 tyre) enable it to carry a greater load while being capable of 20% more torque transmission with no rim slip. The tyre load capacity has been increased by 15% compared to the previous generation, and can carry 32.5 tonnes (for the 35/65 R33 tyre size). This enables worksite operators, who are investing in new generations of ever-more powerful loaders, with the latest models capable of developing more than 400 bhp, to face their productivity challenges with a guarantee of being able to maximise the operating time of their loaders.



Longevity and productivity: the two assets offered by this tyre that are sure to win over any operator.

The new MICHELIN XTXL E4 L4 will have its market launch at the end of summer 2015, in the following sizes:

- 26.5 R 25 XTXL E4**** L4**** TL
- 29.5 R 25 XTXL E4**** L4**** TL
- 35/65 R 33 XTXL E4**** L4**** TL

MICHELIN BIBLOAD Hard Surface: the tyre designed for working on hard surfaces

Key facts

Michelin unveils two new sizes for the BIBLOAD Hard Surface tyre, designed for backhoe loaders, telehandlers and compact loaders: 400/70 R20 and 500/70 R24.

MICHELIN BIBLOAD Hard Surface is a tyre specially designed for working on hard surfaces and roads.

Its specific design and its 96 tread blocks with 7-sided, bevelled "diamond" shape endow it with performance that is unmatched on the market.

Michelin extends its range of MICHELIN BIBLOAD Hard Surface tyres, unveiled last year for telehandlers, to include two new sizes designed for compact loaders and backhoe loaders: 400/70 R20 and 500/70 R24.

MICHELIN BIBLOAD Hard Surface has been especially designed for working on hard surfaces, whether dry, wet or greasy.

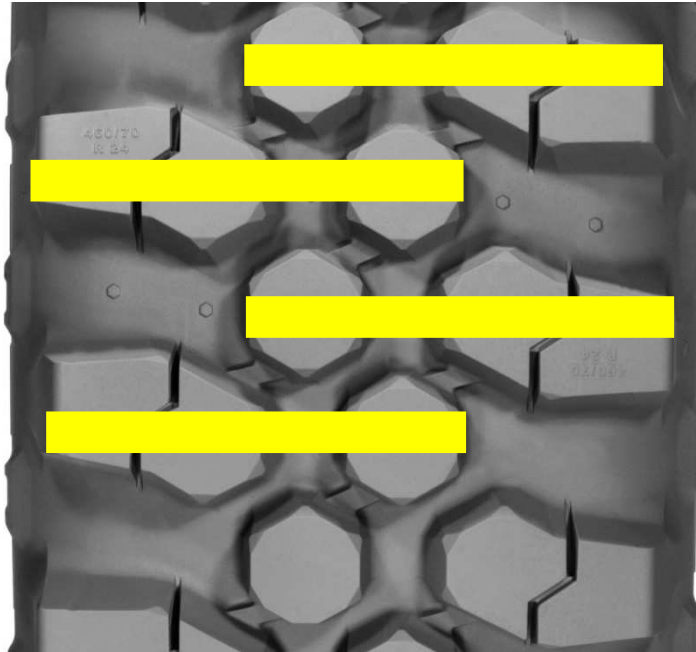
Before going into detail about its performance, MICHELIN BIBLOAD Hard Surface is firstly about design: its tread area is made up of unique, diamond-shaped tread blocks. The patented tread surface of the new MICHELIN BIBLOAD Hard Surface tyre is associated with a carcass that has already demonstrated its supreme robustness on the MICHELIN XMCL tyre.

Five benefits are to be derived from the design of the tread area on the MICHELIN BIBLOAD Hard Surface:

1. **Better roadholding on hard surfaces, whether dry, wet or greasy**

The multi-directional tread area produces a "step-by-step" effect. This means that the tread blocks situated on the shoulders of the tyre (on the outside, therefore) and those situated more towards the centre, with a diamond shape, form one coherent line. This provides a constant grip between the centre and the shoulders of the tyre.

This roadholding is important when using a backhoe loader, when you want to fill the bucket with gravel. This tread configuration also improves driver comfort (see *below*).



2. **Greater stability, for efficient working through 360°**

Each diamond-shaped tread block has seven sides and 12 distinct bevelled edges. This means that whatever the direction of the compact loader, the tread block is always in the right position for working efficiently. Stability is constant and uniform, and available through 360°. The patented pattern of the tread area of the MICHELIN BIBLOAD Hard Surface tyre is multidirectional.

Alongside the diamond block tread there is the lug tread pattern. This, too, has a carefully-worked pattern, narrowing down from the centre toward the shoulder of the tyre. This makes it possible to evacuate more quickly away from the tyre any debris that may have got caught in the tread grooves. The lug tread also incorporates a groove, providing greater transverse adherence on slippery ground.

3. **Greater operator comfort**

The improved operator comfort results from two properties of the tread area: firstly, the rigidity of the tread and, secondly, reduced vibration when driving.

This is because, for each revolution of the wheel, 24 tread blocks on each side of the tyre and 48 in the centre - i.e.: 96 tread blocks in total - come into contact in offset fashion with the ground. This reduces the number of tread blocks simultaneously coming into contact with the ground. This means that there is no pounding phenomenon, thereby reducing vibrations and noise, particularly at high speed.

In the case of backhoe loaders which, unlike the smaller compact loaders and telehandlers that mainly cover smaller areas, are sometimes required to drive

significant distances on the road. This road performance constitutes an additional argument in its favour, compared to conventional lug tread tires.

4. Better resistance to damage

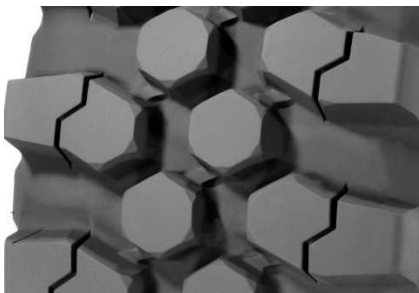


The improved resistance to damage is characterised by two "mechanisms" implemented on the new MICHELIN BIBLOAD Hard Surface tyre: sidewall protection against the most commonly observed wear and tear (see illustration opposite in yellow).

The wheel rim stone guard prevents damage to the edges of the rims when working on difficult terrain, and prevents stones getting in between the rim and the bead.

5. Increased service life

The increased service life can be put down to two reasons: firstly, it results from a larger tyre area in contact with the ground compared to the MICHELIN XMCL tyre, designed for use on loose ground (44% ground contact compared to 29%).



MICHELIN BIBLOAD Hard Surface
Grooving rate = 56%



MICHELIN for use on loose ground
Grooving rate = 71%

Secondly, it also derives from the lateral bridges that link the diamond-shaped tread blocks and the shoulder blocks to provide rigidity to the tread in the event of lateral forces being applied. This improves resistance to wear-and-tear in the side-slip phase.



The Michelin Group: facts and dates

For more than a century, Michelin has been placing its know-how and its innovation in the service of the mobility of motorists around the world.

- 1889:** Creation of "**Michelin et Cie**"
- 1891:** 1st patents for removable and repairable tyres
- 1895:** Michelin unveils the first motorcar with tyres: the Eclair
- 1898:** Birth of "**Bibendum**", a.k.a. the "Michelin Man"
- 1900:** Publication of the first **Michelin Guide**
- 1905:** The Michelin "**nail tread**" improves the adherence and resistance of the tyre
- 1910:** Publication of the first 1/200,000 Michelin **road map**
- 1913:** Michelin invents the **removable steel wheel**
- 1923:** First **low-pressure tourist tyre** (2.5 bar)
- 1926:** Michelin creates its first **Tourist Green Guide**
- 1930:** Michelin files the patent for the **tyre with built-in inner tube**
- 1938:** Michelin markets the **Metalic: the first steel-carcass tyre for trucks**
- 1946:** invention of the **radial carcass tyre**
- 1959:** Michelin launches the first radial tyre for earthmoving vehicles
- 1979:** Michelin radial tyres are Formula One world champions
- 1981:** The MICHELIN Air X tyre is the number one radial tyre for aircraft
- 1989:** 3615 Michelin, the telematics service for route calculation on Minitel
- 1992:** launch of the MICHELIN ENERGY™ low-fuel-consumption tyre
- 1993:** new tyre manufacturing process invented by Michelin: C3M
- 1995:** the American space shuttle lands on Michelin tyres
- 1996:** invention of the vertically-anchored tyre: PAX System
- 1998:** First edition of the Michelin Bibendum Challenge, the first global event for clean vehicles
- 1998:** centenary of Bibendum
- 2000:** Bibendum, awarded best logo of all time by an international jury
- 2001:** Michelin markets the biggest earthmoving tyre in the world
- 2003:** launch of the Michelin-brand automotive accessories range
- 2004:** "**Michelin: a better way forward**", becomes the institutional signature of the Group
- 2004:** **marketing of the MICHELIN XeoBib tyre**, the first constant-low-pressure agricultural tyre
- 2004:** **first Michelin ExelAgri retailer certifications.**
- 2006:** Michelin launches a revolution for truck tyres with: "Michelin Durable Technologies"
- 2007:** Michelin launches the new MICHELIN ENERGY™ Saver tyre which saves nearly 0.2 l of fuel every 100 km and avoids the discharge of nearly 4 g of CO₂ for every kilometre covered.
- 2009:** the Michelin France guide celebrates its 100th edition
- 2010:** commercial launch of the MICHELIN Pilot Sport 3 and MICHELIN Pilot Super Sport tyres
- 2012:** commercial launch in Europe of the new MICHELIN ENERGY™ Saver+ and MICHELIN Agilis+ tyres
- 2013:** the MICHELIN AxioBib IF 900/65 R46 is the biggest tractor tyre in the world
- 2014:** Michelin celebrates 10 years of MICHELIN Ultraflex technology.

The Michelin Group in figures

Creation date:	1889
Industrial setup:	68 production sites in 17 countries
Number of employees:	112,300 worldwide
Research & Development:	More than 6600 people working on R&D, based in Europe, North America, South America and Asia
2014 R&D budget	Over €640 million
Annual production:	178 million tyres produced, over 13 million maps and guides sold in more than 170 countries, and 1.2 billion routes calculated using ViaMichelin.
Net sales 2014:	€19.6 billion

A broad brand portfolio covering every market segment: MICHELIN, BFGoodrich, KLEBER, UNIROYAL, WARRIOR, Kormoran, RIKEN, TAURUS, TIGAR, Laurent Retread, Recamic, MICHELIN Remix,

More than 3500 integrated and franchised points of sale in 29 countries: Euromaster in Europe and TCi in the USA; TyrePlus in Asia, the Middle East, Russia, Australia and Mexico; Michelin Commercial Service Network in the USA; Michelin Truck Service Centre in Asia, the Middle East and Algeria.

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